One-Stop Shops for Energy Communities:

Mapping Service Design Attributes, Synergies, and Challenges

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Sciences Po Paris

April 2024

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Abstract

This report explores the role and service design of Energy Communities One-Stop-Shops (EC OSSs) within the European Union. The focus is on how these OSSs facilitate energy communities' establishment, operation, and growth through centralized, tailored services. The paper proposes the creation of a typology for OSS operational models—***advice***, ***support***, and ***implementation***—to act as a basis for further analysis of the effectiveness of the service design. The research methodology includes semi-structured interviews with stakeholders involved in OSS projects for energy communities and a desk review of relevant literature. The research identifies synergies between OSSs for energy communities and renovation services.

Furthermore, it highlights critical challenges for OSSs for energy communities, mainly due to a lack of consistent legislative and financial support and overlapping functions that lead to inefficiencies. Lastly, the paper proposes policy recommendations for how the EU can help support energy community OSSs and how the OSSs themselves can learn from one another. These recommendations include facilitating national OSSs for energy communities mapping, harmonizing key definitions, supporting energy poverty initiatives, and cooperation between various OSS entities (i.e., renovation).

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1. Introduction

1.1 Energy Communities

Acknowledging the critical role of local actors in the energy transition, the European Commission defined the concept of energy communities in the Renewable Energy Directive and the Internal Electricity Market Directive. Per the Renewable Energy Directive, renewable energy communities are legal entities that are tied to renewable energy sources and provide environmental, economic, or social community benefits rather than profits and are open and voluntary and controlled by shareholders or members who must be either SMEs, local authorities, or natural persons (Art. 2, Art. 22 on renewable energy communities). All generation technologies and entities can be involved in citizen energy communities, including municipal companies, NGOs, natural persons, local authorities, or small enterprises (Art. 16 on Citizen Energy Communities). However, the definitions for renewable and citizen energy communities are not standardized at the EU level, as definitions, associated enabling frameworks, and support schemes are determined nationally.

Energy communities are legal entities that empower citizens, small businesses, and local authorities to produce, manage, and consume their own energy. Theoretically, they can cover various parts of the energy value chain, including production, distribution, supply, consumption, and aggregation. In energy communities, citizens can access low-cost renewable or non-renewable energy by taking ownership of production installations and accessing information on how to increase energy efficiency in their households, which can help them control their energy bills better while keeping individual investments affordable. At the local level, these communities also contribute to creating job opportunities and enhancing social cohesion through annual general assemblies and local activities.

One of the principal attempts undertaken by the European Commission in bolstering energy communities is the establishment of the Energy Communities Repository. This initiative offers comprehensive policy analyses to refine or institute frameworks conducive to energy community development. Moreover, it conducts thorough mapping exercises of energy communities and assesses their tangible contributions to the energy transition. Additionally, the Energy Communities Repository extends technical assistance and facilitates capacity-building attempts for energy communities.

1.2 One-Stop Shops for Energy Communities

In the context of Europe's pursuit of decentralized energy, with approximately 9,000 energy communities currently operational (Arfini, 2023), it has become evident that these entities, often financed by local authorities, small businesses, or individual citizens, encounter significant constraints in terms of time and resources, at the same time this limitation hampers their ability to develop, implement, manage, and expand their energy projects effectively (Directorate General for Energy, 2022). An energy community one-stop shop has emerged as an effective way to support the set-up and development of energy community projects (European Commission, 2024).

The OSSs constitute an integral component of the European Solar Rooftops Initiative within the EU Solar Energy Strategy. This initiative mandates that EU Member States develop resilient support frameworks for rooftop solar systems. Emphasizing the integration of energy storage and heat pumps and the synchronization of solar deployment with roof refurbishments and energy storage solutions, this directive underscores the need for a comprehensive approach. This entails the establishment of a centralized one-stop-shop mechanism encompassing all facets of the initiative's implementation. These entities, operating at national, regional, and local levels, serve as a centralized hub offering services tailor-made to energy communities. Its primary objective is to facilitate overcoming obstacles encountered by energy communities throughout establishing their organizational structures and implementing projects across various stages of development. It is essential to mention that while the focus of this research is on OSS for energy communities, there are also other OSS models aimed at energy efficiency, such as those working in renovation services, which the European Commission is also promoting through the "Smart financing for smart buildings" initiative, which indicates that Member States are required to facilitate access to appropriate mechanisms for accessible and transparent advisory tools, such as OSS for consumers and energy advisory services, on relevant energy efficiency renovations and financing instruments. In the case of OSS focused on building renovation, they usually act as intermediaries between suppliers and users, bringing together the fragmented supply side, as designers, suppliers, installers, or financiers, into one offer to homeowners (Boza-Kiss and Bertoldi, 2018).

1.3 Research Introduction

Despite the conceptualization in the European Commission’s framework and policy about how OSSs for energy communities could function theoretically, there is a gap in the literature regarding updated empirical research regarding the service design of one-stop shops. Furthermore, while typology for service design attributes exists within the literature and internal documents of projects and OSSs alike, there is no indication of an attempt to map service design attributes to a typology for larger operational models. Creating an operational model typology would facilitate a basis for future research into the

service design of one-stop shops for energy communities. Moreover, it would simplify the analysis of the effectiveness of different operational classification types.

In this paper, we analyze the energy community project execution journey and illustrate the leverage points for energy community OSSs. Subsequently, we propose a typology for operational models of OSSs for energy communities. Christophe Milin and Adrien Bullier from the European Climate, Infrastructure, Environment Executive Agency conducted a similar empirical study concerning the OSS model for renovation services, whose model typology was adapted for energy community OSSs: ***advice, support,*** and ***implementation.*** Furthermore, we map service design attributes, presence, and maturity of the energy communities they support to each operational model. Additionally, we propose synergies in the service design and services offered by OSSs for energy communities with OSSs for renovation, including an energy poverty lens. Finally, we include a critical perspective on the challenges and roadblocks faced by OSSs and energy communities alike in project execution and propose policy recommendations to create a more efficient and effective system.

2. Methodology

2.1 Overview

The research for this paper was conducted quantitatively, primarily through semi-structured interviews with stakeholders within European Commission projects focused on building OSSs for energy communities or building capacity within energy communities themselves and with stakeholders from OSSs for renovation. A total of 11 interviews were conducted, including an interview with the Energy Community Repository for contextual information. Table 1 outlines each stakeholder interviewed, their connection to the EU, and the location of their operations. Figure 1 outlines the geographic distribution of stakeholder interviews.

Table 1: Interviewed Stakeholders: Name, Funding, Location

ORGANIZATION/PROJECT NAME	EU-FUNDED?	LOCATION(S)
FAEN: FUNDACIÓN ASTURIANA DE LA ENERGÍA	YES (LIFE PROGRAMME AND HORIZON 2020)	SPAIN
ACCE: ACCESS TO CAPITAL FOR COMMUNITY ENERGY	YES (LIFE PROGRAMME)	FRANCE, ROMANIA, BELGIUM, NETHERLANDS, SPAIN, GERMANY
DISCOVER	YES (LIFE PROGRAMME)	BULGARIA, ITALY, FRANCE, CROATIA, AUSTRIA
RESCOOP	YES (HORIZON 2020)	WORKS WITH EU-FUNDED PROJECTS IN THEIR COUNTRY OF OPERATION
COMANAGE	YES (LIFE PROGRAMME)	SPAIN, POLAND, ITALY
POWER-E-COM	YES (LIFE PROGRAMME)	BULGARIA, GERMANY, IRELAND, SLOVENIA, SPAIN
SCCALE 203050	YES (HORIZON 2020)	BELGIUM, FRANCE NETHERLANDS, CROATIA, GREECE
ENCOM HUB	YES (LIFE PROGRAMME)	ITALY, FRANCE, SPAIN, BULGARIA
UP-STAIRS	YES (HORIZON 2020)	IRELAND, SPAIN, AUSTRIA, BULGARIA
SERAFIN ASSOCIATION	YES (HORIZON 2020)	FRANCE
HDF PASS RENOVATION	YES (ELENA: INVESTEU)	FRANCE

Source: Own elaboration from interviewed stakeholders' attributes, 2024

Figure 1: Geographic Distribution of Interviewed Stakeholders

Source: Own elaboration interviewed stakeholders' attributes, 2024

2.2 Semi-Structured Interviews

The interviews were semi-structured, with five thematic sections of inquiries: ***general, service design, challenges, impact,*** and ***context & future.*** Additionally, a list of questions could be discussed if time allowed. The complete interview questionnaire is included in Annex I. While our questionnaire contained specific questions within each thematic section, each interviewer within the research group was encouraged to guide the conversation and their choice of questions based on the relevant information brought up during the interview. Given the vastly different operating environments across countries and operational models, this interview format gave our research the necessary flexibility to ensure relevant information was collected, and bias was limited. The minutes of the interviews can be found in Annex II. The qualitative data collected through interviews was used to build typology, propose synergies with renovation OSSs with and without an energy poverty lens, synthesize challenges and roadblocks for OSSs for energy communities, and act as the basis for our policy recommendations.

2.3 Desk Review

In addition to the data gathered through semi-structured interviews, we conducted a desk review of relevant secondary sources. These sources included policy documents, stakeholder web pages, project briefs/white papers, and empirical studies. The Works Cited section of this paper provides a complete list of all sources analyzed during the desk review. The qualitative data collected through the desk review was used to understand the general operating landscape of OSSs and energy communities, outline the energy community project execution journey, and propose synergies with renovation OSSs with and without an energy poverty lens.

2.4 Limitations

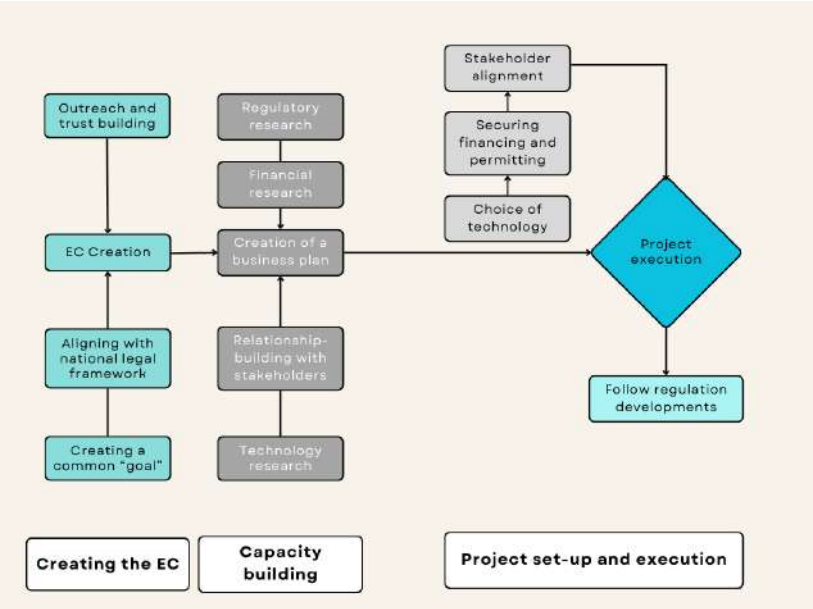
Our research methodology for this paper has limitations and possibilities for improvement in subsequent studies. First, the sample size for interviews is relatively small. This is attributed to the limited time frame allotted for the study and the identified stakeholders' response rate and availability. Within our sample itself, we also acknowledge the possibility of selection bias. Given the lack of data availability for OSSs for energy communities in each country in the European Union, we relied heavily on a list of EU-funded projects as a starting point for our sample. This may have resulted in a biased analysis. Furthermore, given the non-comprehensive geographic spread of our analysis, there may be bias. Due to data availability and time constraints, we could not include data points from each EU country in our sample.

Regarding the data, we acknowledge the possibility of omission due to interview length and the limited time frame allotted for the study. Each stakeholder interview was allotted 20-25 minutes to increase the stakeholder response rate so that limited information could be collected in each interview. Additionally, data omission could have occurred due to our inability to participate in workshops with stakeholders held by CINEA, which would have facilitated our research. Furthermore, we acknowledge the possibility of including "non-effective" service design attributes in our analysis, as our sample included EU-funded projects that could not continue after project completion. An example includes UP-STAIRS project in Ireland, where, given the lack of government cooperation and interest by individuals, the physical information-only kiosks did not continue after the funded project ended.

In subsequent studies on the service design and operations of OSSs for energy communities, we recommend a larger sample size to include a more significant proportion of non-EU-funded projects and data or interviews with stakeholders from every country in the European Union. This will decrease the bias in the analysis. Furthermore, we recommend a larger time allotment for stakeholder interviews to ensure no crucial data is omitted from collection and analysis.

3. Energy Community Project Execution Journey

Figure 2: Energy Community Project Execution Journey



Source: Own elaboration from analysis, 2024

3.1 Overview

Executing an energy community project is highly complex, requiring intensive research and knowledge, relationships with external stakeholders, and technical expertise. Our team has divided the process into three phases: ***creating the energy community, capacity building,*** and ***project set-up and execution.*** The subsequent sections will outline the necessary steps included in each phase and how OSSs can intervene and provide assistance.

3.2 Creating the Energy Community

Building the energy community requires extensive outreach and trust-building with neighbors or organizations to encourage them to join. Outreach and trust-building can be done in person via events, town halls, door-to-door campaigning, or online via social media and outreach emails. Interviewed stakeholders have highlighted that outreach and trust-building are especially difficult in specific communities: urban communities with a lack of community with neighbors, post-Soviet countries, or rural communities with large physical distances between neighbors.

One must build the energy community around a common goal, with an agreed structure and general idea for the planned project's execution. This goal can include a project that is non-renewable or renewable-focused. If the group wishes to focus on a non-renewable project, it should align itself with national policy for citizen energy communities. If the group wishes to focus on a renewable-oriented project, it should align itself with national policy for renewable energy communities.

Aligning with policy for a citizen energy community or a renewable energy community is not straightforward, as each European country has varying requirements for the community to earn legal status. As aforementioned, the Renewable Energy Direction (RED II) and the Internal Electricity Market Directive (IEMD) required national governments to enact enabling frameworks, requirements, and national support schemes for citizens and renewable energy communities. However, not all national governments have enacted all the necessary policies instructed by the Commission, making the enabling environment even more difficult for energy communities to navigate in certain countries (ReScoop, 2024).

One-stop shops (OSSs) can support renewable and citizen energy communities in the creation phase. OSSs can leverage their networks and internal knowledge to assist outreach activities in gathering individuals and organizations for the energy community. Furthermore, they can provide essential legislative knowledge to ensure the communities are set up correctly in adherence with national policy and to take advantage of enabling frameworks and support schemes.

3.3 Capacity Building

The central milestone of the capacity-building phase is creating a business plan. This requires extensive research into the regulatory environment of energy systems, the set-up of energy technology, and financial systems or actors that can fund the project. The research may uncover that relationship-building with external stakeholders is necessary to ensure the success of project execution in the subsequent phase.

First, an energy community must ensure that their desired project aligns with the regulatory environment of the national energy system. For example, if an energy community wishes to generate its own energy, it must ensure it understands what permitting or agreements are necessary for execution (Bolle and Giovannini, 2020). This could include building permits or purchasing agreements. If an energy community wishes to own and operate its own distribution grid, it must ensure that it applies for a concession bid when the current ownership expires (Bolle and Giovannini, 2020). These environments are complicated, and may require that the energy community build relationships with local municipalities, energy distributors, or other energy communities to execute effectively.

Second, the energy community must understand the technical requirements of the type of energy project it wishes to execute. For example, if the energy community wishes to generate its own energy from a renewable source, it must understand the available natural resources that can be harnessed for energy production. The availability of natural resources can determine which technology is chosen to ensure the highest return on investment and one that can cover the community's needs (Bolle and Giovannini, 2020; CleanWatts, n.d.). If energy storage is also necessary, the community understands how to set up generation and storage infrastructure properly.

Third, the energy community must understand the financial structures or actors available to finance their project. This will include analyzing public and private financial sources, which can differ depending on the type of project. These sources can include local, regional, national, or EU funding, the creation of an internally managed community energy financing scheme, or private banks or investors.

One-stop shops (OSSs) can support renewable and citizen energy communities in the capacity-building phase. OSSs can leverage their internal expertise in regulatory, technical, and financial knowledge. They can additionally encourage energy community networking, from which new ECs can learn from the success stories of other energy communities operating in their community or country.

3.4 Project-set up and execution

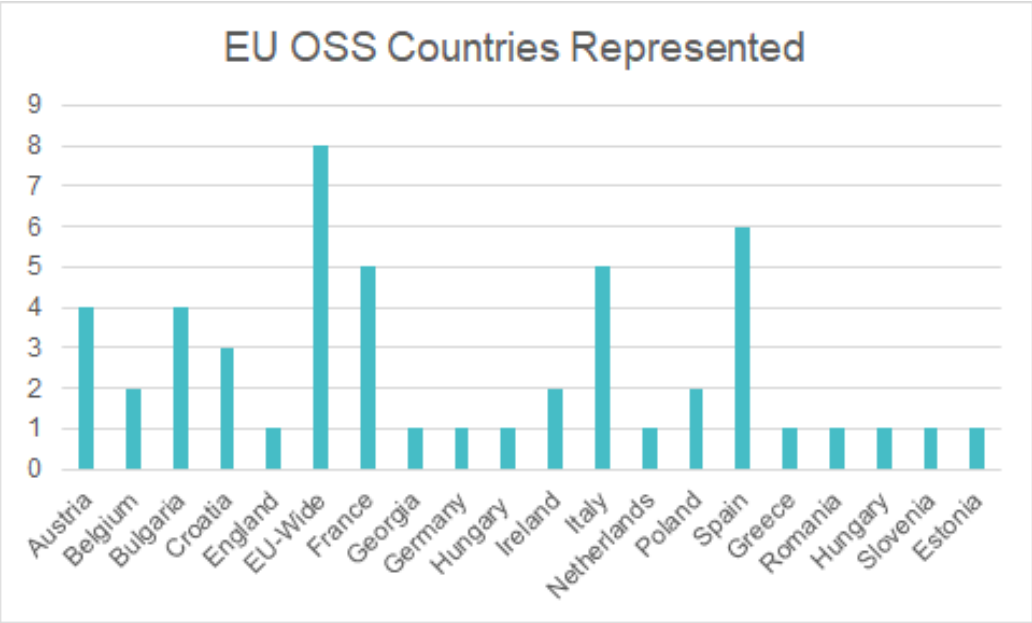
The final phase of the journey is the set-up and execution of an energy community's chosen project. This stage requires synthesizing and analyzing regulatory, technical, and financial research conducted in the capacity-building phase. This phase is time-intensive and requires extensive program management skills. Furthermore, energy communities must stay up to date with changes in the regulatory environment in their country that may impact their project execution. This is particularly important for ECs in countries with nascent definitions of renewable energy communities (RECs) and citizen energy communities (CECs), enabling frameworks, and support schemes, such as Sweden (ReScoop, 2024).

4. EU Energy Community OSS Landscape

While no comprehensive website exists that includes all of the energy community one-stop-shops in the European Union, the European Commission has established an Energy Communities Repository that is designed to support energy communities and OSSs and serves as a hub for information, tools, and guidance to help energy communities connect and grow. In total, the repository exhibits 20 EU OSS projects on its webpage. These featured projects are among the EU-funded initiatives that established or supported the creation of several regional OSSs. Using information on the OSS projects linked by the repository and information from the interviews conducted by the team, a preliminary overview of European energy communities OSSs was created to understand the operating environment. However, it should be noted that the Repository's webpage is no longer actively managed, and this analysis is expected to be outdated. Nonetheless, it serves as a baseline analysis of the operating environment.

In total, 52 OSSs were identified (see Figure 2). Eight of the 52 were EU-wide initiatives. However, the next largest represented geographic area was Spain, with six OSSs, followed closely by Italy and France, with five each. Overall, 27 countries were identified as Western European, and 16 were Eastern European.

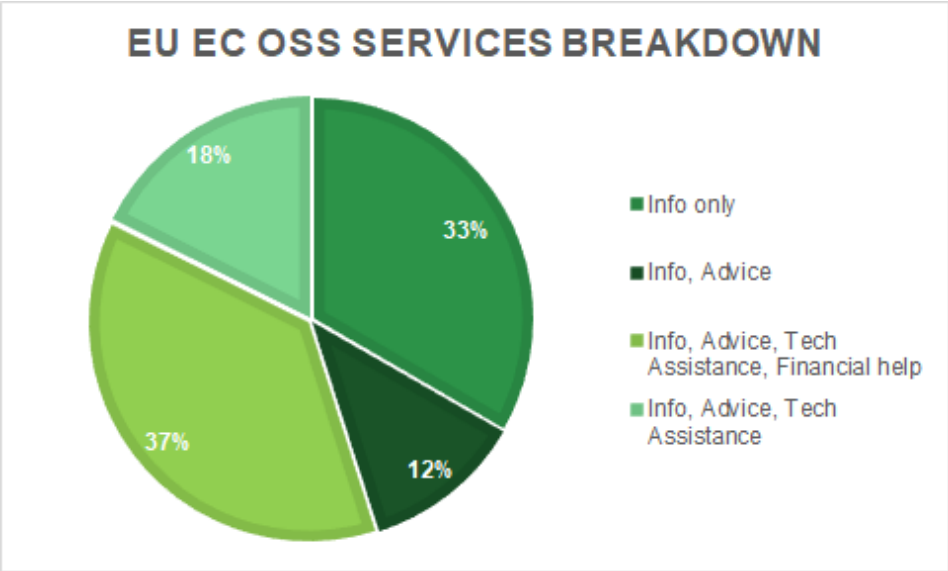
Figure 3: EU countries represented in the OSS Repository



Source: Own elaboration from data analysis, 2024

Information about the identified OSSs was gained from the projects' websites, interviews, or, in some instances, their public LIFE project descriptions. Through these methods, the services offered by the OSSs were analyzed. The services or operations were categorized as follows: providing only information to the customer looking to create an energy community, providing information and customized advice and recommendations, providing direct technical assistance as related to the implementation of the energy community, and finally, financial support in the creation of the OSS. As shown in Figure 3, there is a big divide in services provided under the one-stop-shop umbrella,; slightly over one-third of the OSSs provided all four services described, while a third provided only information. Half of the remaining provided either information and advice or information advice and technical assistance (without financial support). The percentages being so spread out demonstrate how fluid of a concept an energy community currently is. There is no definition of what services ought to be rendered to be considered an OSS.

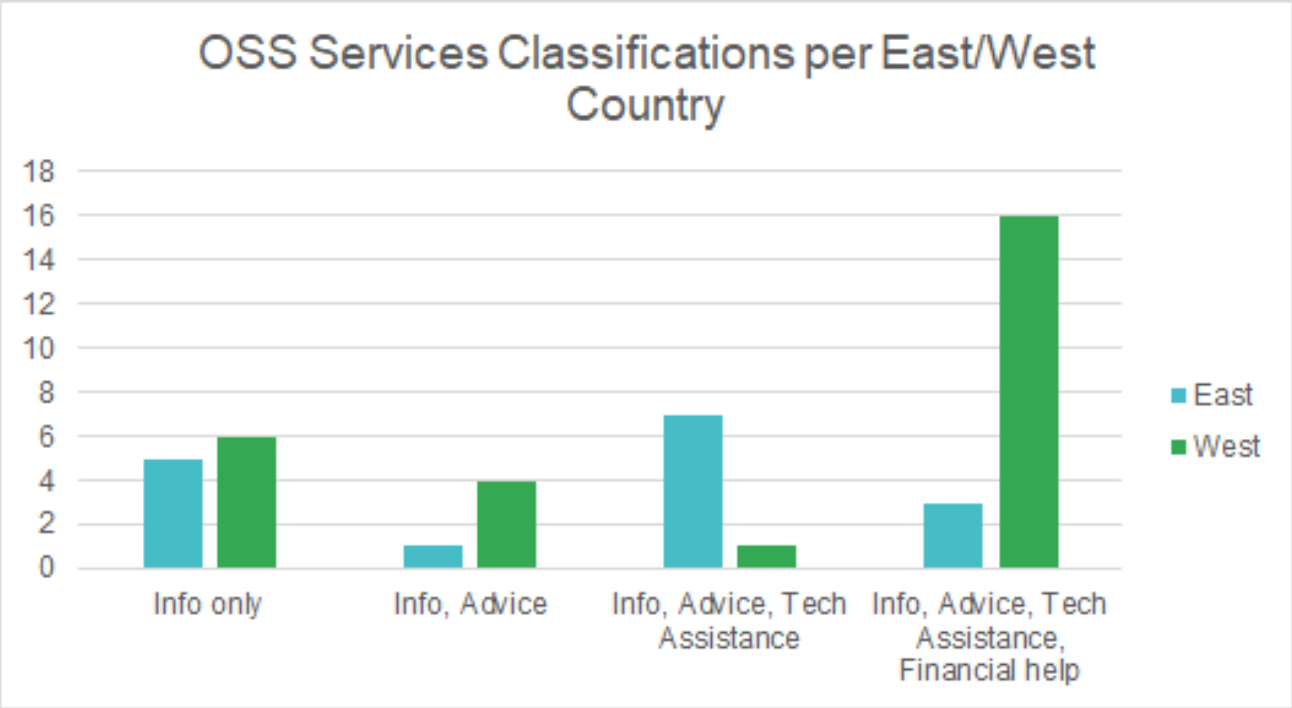
Figure 4: Types of Services provided by the OSS



Source: Own elaboration from data analysis, 2024

Interestingly, the breakdown of types of services offered by the country's geographic location shows a very steep difference in financial offerings, with 16 of the 27 Western OSSs providing financial support compared to only 3 of the 16 Eastern OSSs. While the sample is small and the OSSs highlighted in the repository may not be indicative of the majority of OSSs occurring throughout Europe, there is, in the sample analyzed, a statistically significant difference between the proportion of Eastern and Western countries that offer financial assistance (p-value = 0.0127). One possible explanation for this difference is an interview regarding an OSS in Bulgaria. Part of the success identified by the representative was that 100% of the funding for energy communities came from the state; therefore, the OSS only needed to provide logistical and administrative support as well as information to those wishing to get involved (see Annex II for the interview and addendum notes). This was also said to be the case for other OSSs in Estonia, where the local government footed the bill for energy community creation, particularly concerning energy refurbishment of multifamily/owner buildings.

Figure 5: Types of Services provided by OSS in Eastern vs Western EU countries



Source: Own elaboration from data analysis, 2024

5. OSSs for Energy Communities Service Design Mapping and Classifications

Given the outdated information on the Energy Communities' Repository's webpage, it can not be relied on to accurately analyze the picture of one-stop shops for energy communities operating in the European Union. Through our semi-structured interviews with OSS for energy community stakeholders, we can comprehensively understand their service design, daily operations, priorities, and how they've changed over time. For example, with the DISCOVER project, priorities and service design attributes have been adjusted since the project commenced. Through thematic interview analysis, a desk review of reports, and an analysis of the activities of energy communities, we created three service design attribute groupings: ***services provided, presence,*** and ***maturity of the energy communities*** they support. ***Services provided*** consist of tailored advice (financing, regulatory, legal, labeling), direct technical assistance, provision of resources and information, and creating suitable spaces for networking for energy communities. Additionally, depending on the type and level of

support they can provide, the one-stop shop's ***presence*** can take different forms. It can be done in person, with a physical office. Conversely, services can be provided online, via a website or online tool, or through virtual consults. Finally, OSSs for ECs vary in the ***maturity of the energy communities*** they support. OSSs can focus their activities on building energy communities from scratch, only working with mature ECs with established capacity or a combination of both. Table 2 outlines each service design attribute and its categories.

Table 2: Service Design Attributes Groupings

SERVICES PROVIDED	PRESENCE	MATURITY OF ECS
• TAILORED ADVICE (FINANCING, REGULATORY, LEGAL, LABELLING*) • DIRECT TECHNICAL ASSISTANCE • RESOURCES/INFORMATION/TOOLS • EC NETWORKING* • TRAINING (INTERNAL OR EXTERNAL)	• ONLINE (WEBSITE, VIRTUAL CONSULTATION) • PHYSICAL PRESENCE (OFFICE, KIOSIK)	• EC CREATION • MATURE ECS WITH ESTABLISHED CAPACITY

Source: Own elaboration from analysis; 2024

It is imperative to note that each category within the three service design attribute groupings is non-exclusive. In other words, a one-stop shop may possess several categories from the same grouping. For example, it may have both an online and physical presence or provide direct technical assistance and online resources or tools.

Analysis of service design attributes from interview responses and the desk review indicated that the three operational classifications of OSSs for renovation posited by Christophe Milin and Adrien Bullier were applicable for OSSs for energy communities, so long as the service design attributes were modified for each classification. We posit that the three classifications – ***advice***, ***support***, and ***implementation***— are defined as follows for energy community OSSs:

- ***Advice***: This category involves providing information-based guidance. The advice may not always be explicitly tailored to individual needs; It offers a general diagnosis and supplies open-source tools.
- ***Support***: In this category, OSSs offer personalized advice, often engaging in project design and closely supervising the energy communities they work with.
- ***Implementation***: This category entails active involvement in both project design and execution. OSSs in this category provide direct technical assistance and tailored advice. Site visits and physical presence are more likely with the implementation model.

Service design attributes that closely aligned with its definition and were present within the interviewed stakeholder sample were then mapped to the appropriate operational model. Table 3 outlines all associated service design attributes with each corresponding classification. Furthermore, Table 4 explicitly classifies each interviewed stakeholder from our sample to a corresponding classification.

After stratifying our sample of OSSs for energy communities, it is evident that the majority of them follow an ***implementation*** model. Only 20% of the sample follow a ***support*** model, and only 20% follow an ***advice*** model.

Table 3: Service Design Attributes by Operational Classification

	ADVICE	SUPPORT	IMPLEMENTATION
SERVICES PROVIDED	• RESOURCES/INFORMATION/TOOLS	• TAILORED ADVICE • RESOURCES/INFORMATION/TOOLS	• DIRECT TECHNICAL ASSISTANCE • EC NETWORKING* • TRAINING (INTERNAL OR EXTERNAL) • TAILORED ADVICE • RESOURCES/INFORMATION/TOOLS
PRESENCE	• ONLINE • PHYSICAL LOCATION (KIOSK)	• ONLINE • PHYSICAL LOCATION (OFFICE)	• ONLINE • PHYSICAL LOCATION (OFFICE)
MATURITY OF ENERGY COMMUNITIES	• EC CREATION • MATURE ECS WITH CAPABILITIES	• MATURE ECS WITH CAPABILITIES	• EC CREATION • MATURE ECS WITH CAPABILITIES

Source: Own elaboration from data analysis, 2024

Table 4: Interviewed OSSs for Energy Communities by Operational Classification

ADVICE	SUPPORT	IMPLEMENTATION
• UP-STAIRS (IRELAND) • COMANAGE	• ACCE • POWER-E-COM • FAEN	• DISCOVER • SCCALE 203050 • UP-STAIRS (SPAIN, AUSTRIA, BULGARIA) • RESCOOP • ENCOM HUB

Source: Own elaboration from data analysis, 2024

6. Opportunities for Synergies between OSSs for ECs and OSSs for Renovation and Energy Poverty

6.1 OSS Model Integration

In mapping synergies between OSSs for Energy Communities (EC), renovation, and addressing energy poverty, utilizing a consistent typology comprising support, advice, and implementation is advantageous. It can improve the efficiency of OSS and see the common points and differences between each type of OSS. While the role of an OSS may differ in the type of support projects (renovation and setting solar panels are not the same in terms of implementation), the process of

building an Energy Community and renovating buildings remains relatively stable. Leveraging models like Christophe Millin's framework can apply to the model of OSS for EC:

1. Information Marketing
2. Detection
3. Simplify Diagnosis and Recommendation
4. Project Design
5. Selection of Companies
6. Financing Plan
7. Financing Solution
8. Solar Panel/Wind Turbine/Heating Installation
9. Worksite Supervision/ Reception of the Work
10. Quality Assurance, Guarantees, and Follow-up

The only difference emerging from this model is the project design process; building an energy community and different processes takes longer than simply renovating buildings. Consequently, a critical question arises regarding the extent to which OSS should advise communities on project organization, especially concerning governance issues such as revenue management and production oversight.

6.2 Communication Opportunities and Resource Alignment

Identifying communication opportunities between types of OSSs for resources and addressing gaps is pivotal for maximizing synergies and addressing everyday challenges. Sharing similar issues, such as insufficient stakeholder engagement, lack of holistic, sustainable vision, and resistance from the private sector, are prevalent in both energy community and renovation initiatives. Tackling these issues in common is a critical opportunity to resolve those ones better. First, a shared pool of resources and information is needed to structure OSS for energy communities and renovation. Then, institutions should be built to merge those different types of OSS to develop OSS better.

Furthermore, the emergence of energy renovation as a new profession underscores the need for collaborative efforts to overcome barriers such as fraud and ensure effective implementation strategies. The same is true for the emergence of Energy communities, overcoming these challenges. With the help of OSS modelization and a common framework, the opportunities might be easier than previously thought.

6.3 Tackling Energy Poverty

The Energy Poverty Advisory Hub defines energy poverty as the inability of a household to meet its energy needs due to a combination of low income, low energy performance of the building, and high energy bills (EPAH, 2023). This latter element has gained relevance in the ongoing energy crisis, leading to increasing rates of energy poverty across the EU. In this respect, RECs give members more agency over the price of their energy and protect members from external energy price shocks, thereby holding the potential of taking a key component of energy poverty (BECoop et al, 2023). Europe's ongoing energy price crisis also prompts many individuals to seek alternatives to conventional energy sources and suppliers. Community-owned and managed renewable energy initiatives are emerging as innovative decentralized energy models.

In the same way, OSSs for renovations reduce energy costs by lowering the need to turn up the heating. These initiatives promise cost reduction, enhanced energy security, and expedited decarbonization efforts. Consequently, they offer a potential alternative solution to the current energy efficiency landscape.

7. Challenges

7.1 Energy Poverty is Not a Key Priority

A key incentive for creating energy communities is lowering the energy bill through shared renewable energy. This has resulted in most ECs focusing on energy generation and distribution rather than renovating for increased energy efficiency. This latter activity is crucial to address one of the core causes of energy poverty, as impacted citizens often live in poorly maintained buildings with high energy losses (Koukoufikis et al., 2023). Despite the examples of ECs and OSS that support vulnerable households retrofitting their homes to increase energy efficiency, the prevalent approach to tackling energy poverty remains energy solidarity through microdonations from the electricity bill and the sharing of energy surpluses. This approach shed light on another limitation for ECs to tackle energy poverty: membership barriers for energy-poor citizens to join an EC and actively participate in its governance. These barriers include being unable to afford EC membership fees, lacking the time and knowledge to go through the research and administrative process of joining an EC, and the amount of non-remunerated hours required to participate in the governance process (Proka, 2024). Another critical obstacle is that most resources on energy poverty that mention the potential of ECs do not explore the role of OSS in tackling energy poverty. This is a missed opportunity, considering that their support services can significantly lower the barrier of entry to join an EC.

7.2 Distinguishing Between Supporting Energy Communities and Home Renovation and Defining an OSS Energy Community: Lack of Census Definitions

The Energy Community Repository highlighted two one-stop shops (OSS) initiatives in France, who were subsequently interviewed. However, the first initiative solely focused on supporting home renovations, while the second was abruptly halted due to political conflicts. This underscores the pressing need for a standardized and regularly updated list of initiatives. Moreover, precise definitions are imperative to distinguish between OSS initiatives for energy communities, those for energy renovations, and those catering to both. Without these foundational clarifications, a conspicuous void exists in fostering OSS development and its associated projects.

7.3 Discrepancies in Real-European Outcomes

The democratic ownership model inherent in Energy Communities (ECs) presents challenges in scaling up through OSS support compared to home renovation initiatives. Energy management demands time-consuming behavior and the will to engage in this process. The exchanges and debates between people on building up and managing the project can slow down the increase of those initiatives.

Promoting ECs demands a high degree of flexibility due to cultural nuances, e.g., in ex-Soviet States. In those countries, the term community is often not well perceived because it reminds the people of the communist past.

Another point is the variations in national legislation; the management, authorization, and process for building up those communities vary greatly from one country to another, complicating their development. Consequently, devising a fixed typology of OSS services for ECs proved more intricate than for home renovation initiatives.

The stakeholder landscape for ECs boasts greater diversity, with increased involvement from NGOs and consultancies. In contrast, the network supporting home renovation tends to be more institutionalized, falling mainly under the purview of public authorities.

7.4 Sustainability of One Stop Shops: Challenges Affecting Duration

During our interviews, we observed instances where One Stop Shop (OSS) initiatives ceased their activities, raising questions about their sustainability over time. The following points emerged from our interviews:

1. Economic Model - Policy support plays a crucial role in sustaining OSS initiatives. Teams require adequate projects to secure subsidies, often sourced from entities like the European Union. Without enough support for the OSSs, they cannot find a sustainable economic model to continue operating. Because it is a new sector, it demands a lot of subsidies to develop the technologies, the enterprises, and the will to transform the household.
2. Policy Consistency - Policy inconsistency poses a significant challenge. Subsidies may be granted but followed by new procedures or even subsidy cuts, creating uncertainty for OSS sustainability. Political change slows down the development of projects in terms of rules and funding.
3. Political Conflicts - Political conflicts further complicate the sustainability of OSS initiatives. Whether in private or public management, conflict can arise within OSS boards, often revolving around funding allocation and political will. Example: In New Aquitaine, changes in management perspective followed the merger of regions, resulting in political challenges for OSS and the cessation of its activity. Initiatives like Ile de Frances Énergies faced forced mergers into other structures, impacting their activities and coordination efforts and ceasing their activity.
4. Overlapping OSSs - The presence of overlapping OSS initiatives contributes to inefficiency. From a customer perspective, navigating multiple OSS for processes can be cumbersome, leading to delays and duplicative efforts. Applicants may engage with multiple OSSs to maximize financial support, leading to coordination challenges between those OSSs and project slowdowns. When the different OSSs realize they started supporting the same project, they have to cooperate and make bilateral agreements to pursue the project, creating a lag in implementation. This inefficiency can also affect the amount of subsidies in terms of leverage of money, where a specific multiplier for investments is required. For instance, One can receive €2 million in subsidies but at the same time may need to generate €40 million in territorial investments, which requires a lot of projects. Having overlapping OSS can affect those processes and the receipt of grants, highlighting the importance of streamlining procedures and cooperation among OSS entities.

7.5 The Role of Distribution System Operators

Even though EU definitions clearly state that big companies cannot be part of RECs and CECs, the Electricity Market Design Reform allows third parties to own energy production for energy sharing. Several organizations have raised concerns about how DSOs are developing their energy-sharing services within the electricity market, creating a network of energy communities where the energy generation is financed, operated, and owned by the distributing company (Friends of the Earth Europe,

2018). This a priori facilitates the transition to renewable energy for citizens, who do not need to go through the complexity of setting up and managing their own energy communities. However, in the long run, this leaves consumers vulnerable to energy price volatility, one of the elements the EU tries to avoid by promoting citizen-led ECs (Pappa and Creupelandt, 2023). As DSOs proliferate their energy-sharing products, they become competitors of citizen-led ECs with less capacity to scale up, putting the latter at a disadvantage when negotiating with DSOs for grid access (Muñoz Padrós and Marcos, 2024).

8. Case Study: The Spanish Story of Success

Spain is an excellent example of OSS for energy communities being promoted through a national government program, CE *Oficinas*. This program falls under the Recovery Transformation and Resilience Plan, which is concretely under the renewable energy component, which includes energy communities as one of the reforms. This situates the promotion of OSS within the broader national energy transition strategy. Mobilizing NextGenerationEU funds through the IDAE (*Instituto para la Diversificación y Ahorro de la Energía*), this first call launched at the end of 2023 has given out 19,93 million euros in funding for the development of 79 OSS working under three categories: Information (including resource sharing and training), tailored advice (technical, administrative, economic and social) and direct technical assistance (IDAE, 2023). These OSS are effectively mapped, centralizing in one resource their location and the services they provide out of the three categories (OTC COGITIM, n.d). Financial help is not one of the categories because a parallel program, CE Implementa, has funded 124 energy communities across four calls for 71,79 million euros. This funding is specifically targeted to energy communities owned by citizens, SMEs, or local entities with a minimum of 5 members. The regulatory framework of this project gives a single definition for energy communities rather than differentiating between CECs and RECs, creating a standard set of criteria that reduces confusion around terminology. This direct targeting of citizen-led initiatives has been identified in the EU as key to reducing the risk of corporate capture (Kerneïs and Defard, 2023).

Nonetheless, Spain has seen a proliferation of energy-sharing products commercialized by the handful of DSOs that cover most of the country's energy market. This poses a risk of discriminatory treatment towards ECs trying to access the grid, and there is still potential for IDAE and OSSs to play a more active role in mediating between DSOs and ECs to prevent competition for energy prosumption. One of the ways IDAE can influence the focus areas of OSSs is through the evaluation criteria for fund allocation under the CE *Oficinas* program. For the first call, 20% of the OSS score was evaluated based on the social and gender impact of the OSS (IDAE, 2022). This includes the provision of

services that target energy-poor consumers. Based on our interviews, this incentive has had a limited impact on increasing the OSS services tackling energy poverty. Still, it remains a crucial first step that could be developed in future calls.

9. Policy Recommendations

9.1 Coordination at the National Level: Facilitating the Creation of National OSSs for EC Map

National maps of Energy Communities One-Stop-Shops serve an essential role not only in ensuring a way for investors, policymakers, and the public to access up-to-date information on the development of energy communities and available services but also as a way to centralize collaboration and exchange with national authorities

Through centralized mapping, the national government or an engaged coalition can be empowered to negotiate with national energy authorities and/or distribution system operators to provide more robust financial incentives and rebates for existing and emerging energy communities. OSSs can play a strategic role in streamlining legal and financial frameworks and centralizing OSS information within a country, which can encourage and support these initiatives. The case study shows that Spain has a dynamic mapping national energy community OSS website funded through the EU; similar projects could be implemented throughout Europe.

9.2 Coordination at the EU level: Harmonizing Definitions

Establishing an official definition of One Stop Shop organizations to be codified into EU law is the main priority for the next few years. There is a need to classify and better identify OSS's different actions for renovation and energy communities. Building up an OSS model for Energy communities based on what Christophe Millin has been doing with OSS for renovation is also critical for the future of OSSs. To better bridge gaps between countries, the European Commission should tailor strategies according to regional contexts to address disparities in implementing OSS initiatives and their associated projects.

As the European Union advances its sustainable energy goals, the lack of unified definitions for Citizen Energy Communities (CECs) and Renewable Energy Communities (RECs) across member states remains a barrier. Currently, these definitions vary significantly, leading to regulatory

discrepancies that can stifle the growth and effectiveness of these initiatives. There is a pressing need to harmonize CEC and REC definitions to address this.

Definition inconsistency creates legal and operational challenges, deterring investment and complicating compliance with EU-wide goals. For example, what qualifies as a CEC in one country may be unrecognized in another, preventing a cohesive approach to energy policy. To rectify this, the EU can propose a standardized legal framework drawn from the best practices observed in member states that have successfully implemented clear and compelling definitions. This harmonization would facilitate compliance and enhance cross-border cooperation in energy projects, thereby boosting the EU's green energy sector.

9.3 Tackling Energy Poverty

OSS can play a crucial role in making EC more accessible to energy-poor households, enabling these citizens to retrofit their homes and actively participate in the governance of their energy supply. As seen with Spain in the case study box, these targeted services can be encouraged at the state level. Another way in which OSSs can tackle energy poverty is by acting as a bridge between NGOs already doing work on energy poverty and ECs that wish to address this issue within their activities. This coordination could also include public authorities working on energy poverty policies to develop a more holistic approach to this complex issue. This type of OSS intervention is still largely absent in the OSS landscape. Still, best practices exist, such as Repowering London, which provides training and remunerated opportunities to members of energy-poor communities.

9.4. Enhancing One-Stop Shop Sustainability

9.4.1 Political Support and Long-Term Subsidies

Consistent political support and long-term subsidies are essential to ensure the sustainability of OSS initiatives. Political backing provides stability and fosters an environment conducive to sustained OSS operations. By committing to ongoing financial support, policymakers can demonstrate their dedication to promoting renewable energy initiatives and community-driven projects.

9.4.2 Cooperation Between OSS Entities (ECs and other forms)

Effective collaboration among OSS entities is vital for maximizing efficiency and achieving shared goals. Initiatives like the ORFEE PROJECT, aimed at facilitating resource sharing at the national level, play a crucial role in promoting cooperation among OSS initiatives in France. OSSs can leverage collective expertise to overcome challenges and drive innovation by exchanging methods,

skills, and feedback. Additionally, establishing a standard national model for processes streamlines operations and enhances consistency across OSS platforms.

Implementing a common website, tailored to local contexts, serves as a practical tool for directing projects towards the most suitable OSS based on location, timing, and project requirements. For instance, initiatives such as CINEA's call for projects, supported by the Horizon fund, exemplify the importance of subsidies and projects to support the development of centralized information and resources to support innovation and project development within the OSS ecosystem.

9.5 The Role of Distribution System Operators

Similarly to the role of SCCALE 203050 and REScoop in stimulating dialogue around this issue with the EU institutions, national level OSS could do the same at a national level to support ECs have a more favorable legislative environment, namely having better protection to ensure timely access to the grid and just grid connection fees. Well-established ECs, such as Som Energia, often represent members in the energy market as part of their activities. However, this remains a barrier to entry for communities in setting up an EC. OSS could play a more active role as mediators between ECs and DSOs, ensuring nondiscriminatory treatment and exploring new financing opportunities from energy companies to scale up citizen-led ECs. Despite the risks of corporate capture in the current EC landscape, the fact that big suppliers are interested in decentralized renewable energy is also an opportunity to accelerate the energy transition, which OSSs could harness through mediation.

10. Next Steps for Future Research

Subsequent research could follow varying pathways. First, we recommend empirical research with larger sample size and beyond EU-funded projects to understand if the implementation classification is the most prevalent model throughout Europe. Second, future research could investigate the effectiveness of each operational classification against its set goals. Finally, we recommend an analysis of the potential role of OSSs in addressing structural problems linked to the proliferation of ECs, such as access by energy-poor households and the relationship between ECs and DSOs.

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12. Annex I: Interview Questionnaire

GENERAL

1. When and where did you open the EC OSS?

SERVICE DESIGN

2. What have been your main accomplishments since its creation?
3. Please describe the seven primary services provided (for each, it would be essential to note how far they go in delivering them: info only, advice, direct technical assistance, financial help).
    - Regulatory Advice: One-stop shops can help intervene in this stage by providing expertise on the legal and regulatory context and helping energy communities identify the best legal setup for their organization and/or project.
    - Insurances: Some OSSs are offering insurance contracts to energy communities.
    - Financial support: OSSs can inform energy communities about relevant funding programs and financing schemes to help them identify the scheme most suited for their particular project or organizational form. Some of them also develop financial support mechanisms directly (e.g., grant/loan schemes)
    - Expert advice: Some OSSs deploy experts into energy communities to accompany a project. These interventions can go from supporting the development of a business plan or an investment concept to providing/paying for a project manager for the energy community project.
    - IT support and other shared services: Some one-stop shops provide tools and software to help energy communities with their internal management (both internal organization and member management). In some cases, these tools are open-source.
    - Training: Most OSSs provide direct training to energy communities to help them build their skills.
    - Others (please describe)
4. In which part(s) of the services described above do you invest most of your resources? (discuss each of the ones they have listed earlier)
5. How do you see that focus evolving over time?
6. Are you currently helping your supported communities tackle energy poverty in any way? Do you plan to do it in the future? If so, how?
    - We are considering how to involve the energy poor in the governance of energy communities, especially when it involves a lot of unpaid work. Have you grappled with that?

CHALLENGES

7. What are the main obstacles you face to support energy communities?

8. And to sustain your OSS activity?

IMPACT

9. How do you monitor the impacts of your service? Do you have figures? Is there one specific person in charge?

CONTEXT & FUTURE

10. Has your work with local, regional, or national authorities created a more favorable legal context for energy community projects?
11. What is the relationship between energy communities, and how is the national energy distribution organized in the countries you are involved with?
12. How has the enabling environment around energy communities evolved since your creation, and how has that influenced your activities and structure? (In terms of regulations, access to finance, attitude of energy community members/ interested citizens)
13. Which aspects at the legal/institutional/financial level did you identify as barriers that need to be addressed in the future?

For Umbrella Organizations like the Repository or REACH

14. Why do you think EU countries are still without OSS / energy communities? What are the lessons learned from those countries that have led the way?
15. How has your work with EU and national authorities contributed to creating an enabling regulatory context?

Additional Questions (If time permits)...

16. How has the enabling environment around energy communities evolved since your creation, and how has that influenced your activities and structure? (In terms of regulations, access to finance, attitude of energy community members/ interested citizens)
17. Which aspects at the legal or institutional level did you identify as barriers that need to be addressed in the future?

13. Annex II: Interview Notes

FEDARENE

OSSs for EC Mapping:

- It is very resource-intensive, and in their opinion, it only makes sense if there is a specific purpose; otherwise, it seems redundant.
- They believe it would be more impactful at the subnational level because EC and OSS could resort to the same technical and financial actors and learn from one another.
- Also, at the national level, if mapping reflects on the regional specificities of EC, national authorities can use it to better support those countries with state involvement in promoting OSS and EC.

EC <> Renovation OSSs:

- FEDARENE is involved in OSS for home renovation, which are easier to categorize because…
  - 1. It is more 'institutionalized' across the EU because national authorities have a stronger involvement.
  - 2. The 'community' aspect of EC OSS complexifies the situation because there needs to be a more tailored approach to the regional and cultural specificities (gave the eastern EU example)
  - 3. Actors involved in EC OSS are more diverse, including NGOs, consultancies, etc, while home renovation actors often correspond to the competency of a public authority.
- At this stage, flexibility is necessary to scale up EC OSSs.

In which concrete ways has FEDARENE contributed to an enabling environment for scaling up energy communities?

- For example, we support countries turning EU guidance into national law by holding a workshop with Latvia's ministry to share best practices from other EU countries.
- EU funding of projects gives more credibility at the local level.
- EU definitions will remain flexible, and it's about incentivizing countries to improve their environment by learning from other MS.

Importance of EC Networking/Coordination:

- They said that sharing best practices would be very beneficial, and they have started a project to do this with home renovation OSS. Thus, they expect to see this with EC as well.
- EU Peers Project (https://fedarene.org/project/eu-peers/)

Role of Distribution System Operators (DSOs)

- Similarly to REScoop, they would like to see EC led by citizens, but we have to be pragmatic if the EU wants to reach energy efficiency and decarbonization targets, and DSOs are critical actors in this transition.
- Interviewee reflected on her personal experience as part of an EC - dedicated a lot of time and research (unpaid) even if she works in this field and thus has knowledge- having more prominent energy actors involved makes sense

Energy Poverty

- The interviewee had nothing to say about energy poverty besides recognizing that it's an important issue.

FAEN

Background and Activities

- A public entity that works more broadly on helping the local governments at the regional and municipal level achieve a just energy transition (Asturias is a particularly vulnerable region of Spain due to its historical reliance on coal mining).
    - There are 17 employees, but only four people work on OSS services specifically.
- They follow the EE first principle, encouraging communities to consider renovations before PV installments
- They have helped set up 10 energy communities so far (in the process) and are currently participating in 10 EU projects.
- They receive funding from the national and regional governments, the EU, and private companies.

Energy poverty

1. They are working with mayors to increase EE and install PVs in public buildings to make them self-sufficient and share their leftover energy with vulnerable households. This would also help municipal governments comply with Article 6 of the EE directive.
2. They are working with an association that organizes projects with young people (mostly teenagers) from vulnerable backgrounds to help them learn about energy communities and develop the capacity to participate actively in creating EC in their communities. Concretely, this association does EC simulations in which each person needs to play the role of a stakeholder in the location where the EC is being set up.
3. A map of energy poverty in the region is crucial because there is a lack of data. This is a crucial first step in developing indicators and monitoring energy poverty.
4. They work with the regional social housing entity (Vipasa) to set up energy communities in these buildings.

Enabling Environment Considerations

- Spain's advanced PVs could positively correlate with a stronger interest in energy communities.

ACCE

Background/Activities:

- Davide did not consider this to be an OSS – he called it a research project / "proof of concept" with a concrete timeline (2022-2025)
    - However, for the sake of our research, we will consider it one
- He considers the work very "high" level, with less to do with the operations on the ground (like a traditional OSS would be)
    - Developing a "product" and "mechanisms" for facilitation of CEF
- The creation of CEFs – Community Energy Financing Schemes – that are more compatible with the funding needs of energy communities
- Countries of focus: France, Netherlands, Belgium, Croatia, Germany, Romania, and Spain
    - Building on pre-existing mechanisms of "best practices" in France and the Netherlands

CEFs Function/Operations

- More compatible with a citizen-ownership component of energy communities
- All services are looking to engage with energy communities to finance themselves
- CEFs are usually either…
    - 1. Owned/embedded into by energy communities
        - Energy Samen - Federation of Energy Communities in the Netherlands; Operating as a "fund manager" but not a fund itself
        - Energy Partagee – Fund manager in France

        - Bringing together 150 community energy projects but raising $$ from citizens themselves (this can be different than other CEFs)
    - 2. Or, actually, energy communities themselves?
    - Are usually supported by OSSs/support organizations

How does ACCE engage in this project?

- Pure **financing** – facilitating debt, equity, and hybrid financing
- **Capacity building/technical support/community building** (linked to mechanisms)
- ACCE itself is working with ECs that already have a capacity-building mechanism in place
    - All partners are ECs themselves already
    - ACCE is building the financial mechanism NEXT to it
    - Built alongside a private/public partner for financing (depending on the country) – i.e. managing authority for public funds, public banks, private financiers
- **ZERO IN – FINANCING MECHANISMS**
    - It's missing in the movement
    - But to get this movement going, there needs to be a standard way of getting the financing moving (feedback loop into capacity building)

What projects/updates on what they're doing right now

- Spain, Germany, Romania, Croatia, Belgium – they are building the financial structure itself
    - Consortium members are trying to create a systematic way to provide specific products to energy communities
        - Belgium Consortium Member (ECO Power) - how to mobilize cooperatives across funders to create a "heat fund" (publically financed fund) for district heating
            - ECO Power would become the fund-manager
            - Pre-development and development costs (most risky)
        - Spain Consortium Member: Construction and realization phase – focus on debt
            - How to mobilize debt?
            - Building a bank pool to interact with them to fast-track loan requests at the local level
        - Romanian Consortium Member
            - No banking sector lends $$ to renewable projects
            - Trying to create stable business models for energy communities to invest in rooftop PV
            - How to streamline private but non-professional investors (fundraising)
        - Croatia
            - Same as Romania
            - But more focus on partnering with managing authorities on the Intellect Fund to try to take advantage of the "Small Project Fund"
            - Emergence to pre-development costs

Timeline

1. Croatia (emergence/pre-development)
2. Romania (fundraising)
3. Belgium (development cost)
4. Netherlands (development costs)
5. Spain/Germany/France (construction phase; reaching financial close in partnership with banks)

Roadblocks

- Systematic issues with funding come later in the pipeline (instead, early on, there are more issues that are just inherent to energy communities themselves)

    - **Due diligence costs for private financiers is just too much for return on investments** with a lot of these smaller energy communities
    - There are **no guarantees of return when private financiers can't gain control** in exchange for their money (because ECs have to stay in the hand of the community/ community adjacent)
- The energy sector is seen as risky for private investment, especially with recent events

DISCOVER

Background/Activities:

- 6 partners for the project (1 partner for the hub in each country, and then one focused on the European as a whole dimension)
    - Italy, Croatia, Bulgaria, Austria, France
    - No country priority for funding/resources
- LIFE programme-funded, but hopes to secure funding for continuation after funding ends
- Will have a physical and virtual presence
- Focus on the execution of the project
- Expected focus on PV panels and delivering technical support for them
- Activity timeline
    - Still in the research phase: research what is already happening, understand how to improve services or integrate into them
    - Common English handbook with services offered / language-specific handbook for each country
    - Creation of physical hubs in each country in 24 months
    - Unsure if the focus will be on building ECs from the ground or working with already established ones
    - "Exploit and replicate"

Energy Poverty:

- Not a planned focus for the project

Challenges/Roadblocks:

- Legislation: Croatia particularly with the legal definitions of RECs needing 1 full-time employee
- They predict that securing financing for the EC projects is a roadblock in the future
- Do not see working with DSOs or utilities as a roadblock for project execution

REScoop

Background/Activities

- The European Federation of Citizen Energy Cooperatives
- A staff of 15 people working from Brussels
- Activities
    - **Advocacy and policy work**
    - **Foster collaborations between actors and support projects-** SCALE started in 2021 and has developed oss for energy communities and centralized information in the Energy Communities Platform
    - The future strategy of REScoop is to liaise and provide capacity building to OSS at the national/subnational level to expand and strengthen the network. This is already happening in countries with a long track record of ECs

Roadblocks in Eastern Europe

- Eastern EU has been provided with cheap gas historically, but they have less financial means; it's not just about the 'community' related language that is a roadblock, but is important to change the language towards "energy businesses" so it is better perceived
- COMETS (Collective Action Models for the Energy Transition and Social Innovation) is an EU project that helps interested actors create energy communities and national coalitions in Eastern Europe, filling the knowledge gaps around citizen engagement in the energy transition to renewable sources.

Roadblock/Challenge for Energy Communities: Corporate Control

- Effective control should remain with the citizens
- If SMEs want to team up - they should call themselves energy clusters but not benefit from the support given to ECs
- A more robust EU definition would create less leeway for interpretation by member states
- How can we ensure distribution system operators (DSOs) set a just price when ECs want to consume or feed to the electrical grid? An EU body could mediate between ECs and DSOs to ensure cooperation, and before this, the EU can explicitly ban/call out disproportionate discrimination against ECs in network charges.
- DSOs will always have a conflict of interest vis a vis ECs, but the grid infrastructure is so vital that cooperation is essential; mini-grid initiatives exist but will not scale up anytime soon.

Energy poverty

- SCALE project has an inclusivity guide
  - Ex: in Brixton (London), where young unemployed were trained as energy experts - gives more agency than just energy solidarity
- There is a misconception that ECs are not for profit. They need to operate as a business to function long-term, and some members will just invest and not purchase the energy. The key is that profit should not be the main driver and should remain in the local economy. To ensure money is reinvested locally to advance energy poverty alleviation, a cap on the dividends shareholders receive could be set. This already happens in Belgium.

COMANAGE

Background/Activities

- The EU-funded COMANAGE project works on this OSS (Barcelona: centralized OSS at metropolitan level) and two other pilots in Italy and Poland to ensure that energy communities stay afloat after the subsidies for the setting up stage run out.
- Creation of an open platform to centralize information and generate answers to common questions automatically (Chat GPT style), an Energy Communities Governance Toolkit, and an online discussion forum

Eastern European Enabling Environment Considerations

- Asymmetry between pilot projects - Barcelona was already developed under the UP-STAIRS project, and Poland lags behind.
- Perception of the term 'energy communities' differs between countries and cultures. In ex-Soviet countries, the term community is often not well perceived. This was also brought up in the POWER-E-COM interview.

Enabling Environment in Spain

- According to the interviewee, the anti-oligopoly sentiment in Spain has played a role in advancing the energy communities narrative, but what has really allowed for a boom in EC has been the IDAE funding (national gov)
- They are trying to address the question of diversity within EC's management structures—how to ensure that not only old men with free time participate in governance.
- He thinks that there is enough data and indicators (ex methodology developed by the EPAH) to start taking action

Considerations for Energy Poverty

- Energy sharing with vulnerable communities (ie, installing PVs in a town hall and donating leftover energy) is a first step for ECs to address energy poverty
- The next step is to ensure the poor communities receiving the energy are actively participating in the governance system - this is challenging bc it requires time and work, which is unpaid, and energy literacy. It is very rare for ECs to reach this step in his experience, but there is a poor neighborhood in Sevilla where it's working really well

General Roadblocks and Challenges

- A key problem they are facing is that OSS frameworks are well developed, but reaching citizens, especially in urban contexts where there are fewer communal ties among neighbors, is difficult.
- Their communications strategy is that rather than relying on official comms by the national authorities, mapping the key actors that can help disseminate information (local organizations, for example)
- They identify as a risk for big energy companies to appropriate the energy communities narrative, as due to economies of scale, they would be able to provide and manage decentralized energy systems for cheaper (to local governments, for example)
    - This is happening in the north of Spain (Navarra)

POWER-E-COM

Background/Activities

- They support and guide municipalities, existing energy communities, and engaged citizens.
- Dissemination of information and knowledge
    - It is important to educate local authorities/information disseminators so they can communicate more efficiently on this topic.
    - In Germany, dissemination is embedded in raising sustainability awareness. The interviewee states it is going well.
- Future stage: to facilitate the exchange of knowledge and experience between their OSSs in each partner countries
- They have physical locations in operational countries: They call their OSS ECTOs (Energy Community Transformation Offices) for no particular reason; in Spain, they are also called community transformation offices in Spanish, but in English, they stick to OSS
- Don’t necessarily take an EE-first approach; it depends on the country
- Pilot countries: Ireland, Germany, Austria, Spain, Slovenia, Bulgaria

Roadblocks/Challenges

- OSSs need to help create sustainable business models for ECs to stay afloat after the subsidies wear away.
- The fundamental problem is that each **country interprets the EU definition and regulations differently.** Some regulations are awkward and make things unnecessarily complicated.
    - Ex: In Croatia, ECs need to have at least one employee hired full-time
- His personal belief is that regulations could not be harmonized at the EU level
- In Germany, ECs are called energy cooperatives, and members need to be shareholders and be able to provide energy to satisfy all shareholders' energy demands. (this can impede energy-poor citizens who can’t afford to buy shares from joining and may work against incorporating energy poverty into the mission in the future, though it isn’t a current focus)

ENCOM Hub

Background/Activities:

- Countries of focus:
    - Italy, France, Spain, Bulgaria

    - The interviewee is based in Italy, and most of the information given was from their project their
- Focus on small towns/rural communities with less than 15,000 inhabitants
- Activities
    - The first iteration of ECOM Hub: Legal/regulatory support, financing projects (more so focused on awareness and expertise building for financing, not providing financing itself), advice and expertise, training and skills development, IT support, services, and partnerships (providing/negotiating with insurance/management services/technical services for the ECs)
    - The second iteration of ECOM Hub: Legal/regulatory support, financing projects (more so focused on awareness and expertise building for financing, not providing financing itself), advice and expertise, training and skills development, online tools/ resource center, EC networking, labeling
    - Third (proposed) iteration of ECOM Hub: Legal/regulatory support, financing projects (more so focused on awareness and expertise building for financing, not providing financing itself), advice and expertise, training and skills development, IT support, services, and partnerships (providing/negotiating with insurance/management services/technical services for the ECs), online tools/resource center, EC networking, labeling
- ECON-HUB is big on EC networking and bringing together stakeholders
    - founder of the Italian Forum for Energy Communities
    - also, a forum for ECON-HUB to learn from other EU projects and (potentially) continue their work after their projects are done
- The interviewee sees REScoop toolbox as a best practice + a tool that they leverage

Roadblocks/Challenges:

- New and Incomplete Legal Framework in Italy
    - There is no framework that outlines how one could share energy beyond the energy community, which the interviewee sees as the "eventual phase" that should be strived for
- Some have never had an EC operating there because the legal framework is so new – ex: Emilia Romagna
    - Trust building + huge upfront costs at the beginning
- Cooperatives vs. energy communities definition
    - Many energy communities in practice are cooperatives, and he sees this as the ideal phase that should be strived for all ECON-HUB projects, esp. because of the "funding" members

UP-STAIRS

Background/Activities:

- **Regions:** Cork, Ireland; Barcelona, Spain; Upper Austria; Asenovgrad, Bulgaria; Rhodope Region, Bulgaria
- Ireland
    - information only, mostly tied to retrofitting. They had a physical kiosk for people to come to get information. It is no longer operational
- Spain
    - information, advice, and training throughout the installation of renewable energy systems. They had a digital platform, which seemed like a good idea, but sometimes, since people invest so much of their own money, they would rather have a face-to-face conversation because there is more trust that way. Also, digital is better for younger generations, but older folks would rather be in person. Still ongoing OSS.
- Austria

    - advice sessions on regulatory, technical, financial, and organizational aspects. Helped with financial support by convincing the government to launch a specific REC financial support program.
- Bulgaria: Asenovgrad
    - advice and support on org, admin, legal, tech, and financial aspects. Had digital and in-person locations. Will continue on.
- Bulgaria: Rhodope
    - Advice and consultation (legal, technical, financial)

Barriers and Roadblocks

- Ireland: no personal/physical presence was bad because establishing trust is important.
    - Ireland's limited success was due to the rich's interest in retrofitting. There was no government cooperation, so it was hard to sell the EC idea.
- Spain was successful because the government is supportive and there is already a big focus in the country on EVs and alternatives to market energy.
- It was successful because the Austrian government negotiated with system operators to drop the network charge for ECs, thus giving them lower rates.
- Bulgaria also has government support, and they organized a big information campaign to explain the benefits. There was a program that was 100% funded by the state that allowed co-owners of multi-family buildings to refurbish the entire property
    - Bulgaria has to overcome the obstacle of mistrust between co-owners in multi-family buildings (cooperatives), but because it was paid by the government, there ended up being more applicants (citizen energy communities) than the money allowed for. The government would like to provide more money for the program, but there are parliamentary elections soon, so things are up in the air. → See Tartu, Estonia, for a similar success story of overcoming these challenges

Interview transcript:
(Transcribed by https://otter.ai)

PL:
So the one stop shops in Spain, in Barcelona are actually going to continue. The one stop shop in Bulgaria will probably maybe not move on too much. And they're probably looking to secure more funding, the one stop shop in Ireland has stopped. And, you know, hopefully we can maybe potentially resurrected, we do have a follow on project in a related area. What we did find in Ireland was that one stop shops, we had we actually had a physical one stop shop, or maybe you seen some images and stuff, we had like a kiosk in the middle of the city. And like we huge interest from people on the retrofit side of things in terms of what what can we do to retrofit our house and what resources can we access to enable retrofitting of our homes, the Community Energy stuff was probably in Ireland was for one snapshot, point two was wasn't as successful. And that's because they don't think the the this the processes, the systems, the regulatory environment is developed. When each country there is, is it, there's a different outcome really, you know, it's not the same outcome on all of them. So I think it'd be really successful and in Austria, to an extent the One Stop Shop has been quite successfully with the have a very, very facilitatory environment towards energy industry. So in our that we think this, the one stop shop for Nestle property and close to the one stop shop for retrofits still has a lot of legs. The one stop shop for energy communities is actually not there yet, in that the environment is not conducive to it. It doesn't mean it's a bad idea. It just means that you know, the mornings, like, you know, if we hadn't Woodstock for electric vehicles 10 years ago, it will be complete failure. If we had, like, you know, maybe read a one stop shop today, supporting people making the transition to electrify transport, and actually be quite successful. So it can be the right idea, but at the wrong time.

AC:
Yeah, that's interesting.

PL:

I think that's the key takeaway, so that it can be the right thing at the right time. It's like life, you know, I'll be the right person, but it's the right time got it.

AC:
True. So you said that there was a related one that has continued is that the retrofit one?

PL:
Yeah. So with some of our colleagues upstairs, which are in Bulgaria, they Bulgarian partner read the pilots, they were they basically were the more practice three. And so we're working with them on a follow up project, which is looking at spreading the gospel of WhatsApp, WhatsApp shops across Europe. So I think that that project, I find that to an extent, it's about our project to extend snap, because it's not actually communities. But it is, is using the One Stop Shop concept to facilitate another really important part of the puzzle to enable decarbonisation in the personal logistics sector.

AC:
And then I know, some of these questions will be about either the cork one stop shop, or some of the things that are no longer happening, but just you've already sort of touched upon the retrofitting and some of this, but what would you say were some of the the the main accomplishments of either the upstairs initiative or the specific Cork?

PL:
biggest achievement is I would say, biggest achievement is understanding that. Like, you know, all these things are pilots. Right. And, and, you know, that the key thing, and I know people, I feel sometimes people who say this, you know, you're you're evaluating the pilot, and I think the big learning and I've actually touched it is that the one stop shop does have value. Yeah, it does have value, whether it's commercially valuable or if it's valuable to enable particular outcomes the government are interested in that that's a different matter. But as you know, like, what we're trying to do as a society is that we're trying to enable an acceleration achieve decarbonisation occur us all the different sectors, and providing the security of supply and security of the things that we value. Like, I want to be able to be transported from my home to my workplace, if I choose to do so, on a given day, I want to be able to turn on a light when I want, I want to be able to cook when I want electricity, for example, or gas or whatever it might be, are are Victor's to enable that book. But basically, it's the utility that we're all interested in. So that we're still interested in that I call that a kind of a security, security of utility. Finally, but we want to do this as economically as possible, because we don't want to, first of all, you know, cost effectiveness is really important, because we don't want to be bankrupt. But also, we need to achieve it cost effectively and do in a cost effective way. Because we here in Europe, we are going to be leading the way to net zero, you know, okay, other countries are probably other areas of the world will probably do something similar. But you know, your your does have a significant leadership role. And it has tried to do a significant take a significant leadership role in achieving and leading decarbonisation across the world. So what we do here, we need to be able to do a cost effectively, because other countries don't have our access to other regions, and we're gonna have our access to our financial mechanisms, etc. So doing it cost effectively. And the other thing we're doing prospectively is that if we don't do a cost, effectively, the naysayers and those who wish to derail the progress towards that zero, they're going to it's going to provide them a more ammunition. We do need to make it as painless as possible. We have everything from it, technology and policy and process point, if we make this as painless as possible, within the constraints of what I was talking about there to security and stairs, sustainability is the goal really, like you know, the constraints are security and cost, in some ways, you know. So I believe that the One Stop Shop is a valuable tool in anyone's our armory to to enable it because one of the big barriers to the adoption of any new technology or process, etc, is the availability of someone that you can trust. You know, so let's say let's say I'm selling you a hip hop, I'm selling you equal similar interests, whether to you know, Evie manufacturers or they're, they're selling you electric vehicle. These are, these are, these are big items. And like a retrofit of a house is another example. Getting involved in an energy community is another example. There could be considerable financial outlay, there could be considerable time out there, right? Do you want to be beholden to a commercial entity with significant we call it skin in the game? During when

we get involved in a heartbeat, or does a trusted third party where you can talk to trust and provide you with information on it? You know, not, you know, you know, friendly information and information that you can trust, you know, who you want to talk to, you know, if If knowledge is the important thing. And understanding and education. So, why we think that, you know, documenting, improving, that is not that easy, but I do believe that, you know, some of the results that we've seen upstairs demonstrate that the one stop shop approach that we're trying, right is the one stop shop has been a lot of different things, a lot of different places. But the one stop approach that we're trying, there's a lot of road in that to enable decarbonisation and enables the adoption of technologies, processes and policies that may not achieve the same gains or an attraction that, you know, if we just basically use macro based approaches, because the alternative really isn't. So that, that what I think is probably more the more significant thing. And you know, obviously there was stuff shock was more successful in some places than others. But that's that's mostly down to the overall environment.

AC:
And when you say that, are you referring to Spain?

PL:
What's the new environment for Community Energy was very conducive. economics are different. You know, it's against the law. The focus in Spain was on TV, doing collective action with respect to PB, whether a parent is a I've said this a few times in the past few weeks the weather apparently is better explained in an earlier was, I see what it was I like all those things. And I think there's significant support from the logo. state authorities as well as sports are not really there yet. We're not really there yet, we're still getting our heads around it. And you know, every country has has a different environment. You know, a lot of the focus of our government has been on wind and greed developer late on showing. And we're brilliant two that are brilliant to that. And and the next thing that we're going to be really interested in looks like will be offshore wind. Or, you know, the retrofit industry and retrofitting is, is a big challenge for this country in our community energy is still a challenge, and it's maybe not getting the attention that it deserves. In terms of incentives and legislation. Austria is another good example, Austria, they have really engaged with the DSO. So that's the work operator, the grading engaged with this system operator gain in Austria, which is a huge advantage, one of the big barriers to community energy is the amount of engagement you can get with the, the system operator. And that's borne out some of the things that we found in, in upstairs, because they can do it see if you want to install large numbers of PV or you want to wherever you need electricity. And you need to be everything and a lot of electricity operators are not really set up to do an NG communities in Austria, and they've, they've done a huge amount of work and engaging and understanding electricity operators very helpful there. And furthermore, the energy communities benefit from lower rates of distribution network charges. So for example, you know, I think in this country, 20% of my cost of my electricity is made up with nickel charges. And on Austria, if your marriage will enrich communities initiative, you're never charged as strong. So so like, that's a big difference. That's big difference. And, and they're the kind of things that limit the effectiveness of a particular or subjects to produce. The thing is, irrespective. So we found that there was an upshot was very useful for the retrofits odd things. So obviously, the the environment is more conducive to it. So you know, if you can, if you're spending maybe 100,000 a year on your on your one stop shop, and that one stop shop results in another couple of million in investments, that's only when spent into it, rather than if we spending it on incentives, greater incentives, you know, so as a policymaker, one needs to think about the the different arrows in your quiver that you could fire to enable that what you want to achieve as a policy goals. Just Does that answer the questions?

AC:
It does. That was? And beyond that was very helpful. Thank you. Um, I did I mean, you already mentioned it, but obviously, OSS, it looks different in every country, and even within that, so I had some specific questions about the services that you provided that you got court provided. So I have about seven main services. And then for each of them, I'm sort of looking to hear, okay, was it information that was delivered? Was it more advice, technical assistance? Or was it financial help? And, you know, you want to illustrate any of it?

PL:
To give you a specific answer to each them, but actually what happened, each of the jurisdictions was slightly different. Okay. Okay. In Ireland, it was more information and advice. It was very light touch.

AC:
Okay. So for all I mean, the the seven categories that we have just let you know, for contacts is regulatory advice, insurances, financial support, expert advice, and IT support trainings. And then if there was any other main services that you provided,

PL:
I would think, like, I might have to check with someone, we might have to maybe write it down to understand exactly what but in Ireland was very light touch in Spain, Austria and Bulgaria, it was much more intensive sport. Okay. So like, you know, the the other the other the other categories that you mentioned there? I'd say they could have been touched on any way in those other jurisdictions in Ireland to as much leverage as we were, I think that was the way it was agreed that we work with our we have that Sustainable Energy Authority in Ireland and that was, I think that was agreed how we would we would interact because I think there was a feeling that we might step on their toes. So again, it there. There's no one answer for all the jurisdictions. It's different in different jurisdictions.

AC:
Okay. So in Ireland, that was more you have the physical key asked Can people could come up to ask questions about their own reference.

PL:
It'd be directed to information, they will be provided with information. But we wouldn't say listen, this is what you need to do. Whereas in, in the older jurisdictions, they would have gotten more advice rather than information.

AC:
And then, so I guess this might be a bit moot. But would you say which which services? Would you say you had invested more of your resources? Would you say it's across the board? Pretty similar? Since it was mostly advice given? Or was there more information on financial help versus on regulatory or trade?

PL:
I couldn't, I couldn't probably speak too much to the other jury, like, clearly, it was just all the information in Ireland, in the other jurisdictions, I would say it was probably, you know, a reasonable combination. Because I'd say there would have been a lot of people who would be just interested in finding out more that maybe they wouldn't push forward with it, you know. The other interesting thing would be that we did have a digital platform. And, and the learning from Ireland was quite pointed in that digital platform sounds like a great idea. But a lot of the people who are interested in retrofitting their homes and doing stuff in their homes typically are older. And so they're actually never interested in digital, they're more interested in the human, a lot of people are more interested in human do, you might find that the digital side of things might become more popular. If, you know, if maybe younger people felt that they had more access to retrofit or community energy initiatives. So that's kind of a complicated one to unpack. So like putting everything online, keep people out. And again, like, you know, you're, you're in Ireland, you know, if you're doing a retrofit an existing home, you might be you might get grants, maybe 50 60,000 euros, but you'd be putting 50 60,000 euros in or so. So that may be something that you would really want to do online as of

AC:
right now, especially if you're missing that trust component that you were mentioning earlier.

PL:

The idea of the digital platform, which didn't really get us an anger, which was first was a good idea was this idea that you basically register onto the platform, and then our implementation champions could put this key group people together. popularities, that was an enabler for forming energy communities. But it didn't really happen in Ireland, because we weren't event stuff. And it didn't happen the other jurisdictions, either because they didn't use all that functionality, or the Spanish, the Spanish pirate leader. They develop their own, they had their own version of the digital platform already. And they kind of augmented their own divinity to the project. So they didn't use the platform at all. So mostly the current pilot that he was a digital platform, and they found that the people involved in institutions.

AC:
Okay, and then, I don't know how much Ireland or the other countries worked on this, but how are you considering energy poverty? Is that something that you went out of your way to provide information on or to support in any way?

PL:
Go, it wasn't kind of like, part of the original remit of the project. We do work on a white paper with our sister projects, which I need to dig out mature or I went to BC with looking at how energy communities can't support energy poverty, and how it can be used to be eventually poverty. So so we looked at that jurisdiction, securities is more about wealthier folk, potentially, in the financial wherewithal to participate. And but, you know, I think, you know, with with a bit of thinking I could share probably that point did I get a chance afterwards. So we did a lot of energy community projects together. And we talked together to put a white paper together above the book, this particular topic, so I could share that with you. Yeah, that'd be very

AC:
interesting. Yeah. internally, we're also do you know, considering? Okay, well, how do you help with governance within energy communities, the energy pours lot of unpaid work and all that. So I don't know if you touched on that, but personally very curious about it.

PL:
Yeah. Yeah. It's, it's, it's pretty challenging. It's pretty journey. You, you know, it'd be terrible if, you know, I walked in a DSO for a one of the things that even though the Azores like kind of a commercial, arm rgsl was a semi state. So it's like, like, at, like, once a in Aegis in France. And so it's, it's quite you know, it's, it has a lot of put a lot of emphasis on haves and have nots. And so what are the things that did say, for example, if you put a lower to Ospreys on, which is the use of system Jared, from the distribution network operator, for energy communities, all of a sudden, you have, like, all these rich people, basically, from extended communities benefiting from loyalty whilst charges? And then who paid who picks up the slack? While the people who are not? Well, you know, providing, you know, DSL was very, very neat. And I learned from Intuit that there, you know, you make you take money from one, and you're giving money to you give money to someone else, you give money to one person and you're taking money from someone else. So you know, and energy poverty has to consider that and of course, governments put things in place to get there. Team's just covered over your screen. I didn't know what happened. Oh, no. Maybe it was too hard to use Google meet

AC
a competitor? Yeah, I know

PL:
Like yourself says no, but, you know, if you have a winner, you have a loser. Typically, with a distribution system. The costs are sunk. So it's going to cost you this much money to run the distribution network is here. And how you distribute those costs is the only question. You know, it's it's your, you have to decide who's going to be paying for watch. And in this country, for example, for a long time, and this is a little bit off topic, we would have had to door use assistant charges for very large energy, very large energy users. So Microsoft data centers, Google data centers, because it was

felt that it was in the interest of the country to bring to bring these guys in. But you know, is that right? Because they pay less than somebody else is paying more, because the costs are the same. So there's a lot of stuff like that that intersects with energy. Energy, poverty has a huge intersection with energy communities. But I would ultimately share that energy poverty paper and information paper with you, it'll probably explain some of our thoughts on how energy communities can be used to alleviate energy poverty, and that being an accelerator of so that should be that could that could be useful to you?

AC:
Yeah, that'd be great. If you find that paper, I would, I would love to see it.

PL:
You know, it's the result of a race with a number of projects. Yeah.

AC:
I never sort of out of time. I have one just final question. But so the question is just how did how did you end up monitoring the impacts? Was there like a specific person in charge of this, but were there specific figures. So

PL:
when we set up the project, there was a set of KPIs doesn't come up with most other European projects. And then we relied on the individual pilots themselves to report back on their their achievements are there, you know, how they've done with respect to the different KPIs. And then they were reported back to the workpackage, tree manager, where she she would have been other pilots, voice of my colleague would have reviewed those numbers. One of the things that we felt actually was mature if I'm, if I'm kicking myself over here now. Right, but I think there's a lot of emphasis on numbers. It's some of these KPIs. And, you know, I think some of the more quantitative data, providing for impact on, you know, what was your experience of the OSS? You know, these are everything, I think there needs to be as much of a focus on, you know, how much PV did you get installed? And how many kilowatt hours did you save, I think there needs to be to, to understand some of these concepts that we're trying, I think we actually brought in extra KPIs to be honest, because, to my mind, is it as a kind of researcher, or scientist, unless we can understand the impact of the intervention that we piloted, there wasn't really any point in carrying it over. So when I, you know, it can be easy enough to make numbers about, you know, how much PV was installed as a result of your activities. You know, it can be when I think things like surveys and getting interviews and things like that, and running workshops, I think they have a very important role to play in assessing any of these interventions want to do, like, you know, you're, we get money from the European Commission, or something, to train innovation. And you know, that innovation, you know, we should be able to either say, it's good or bad or indifferent, or how can be better or how it can be bad or, and all that qualitative stuff, it's usually more, because that's where the learning will be for, let's say, if you want to take something to market, because that's what we really want to do, you know, you know, what we really want to do is bring that in an OSS or when actually what we really want to do is accelerate the decarbonization of our society. And we're evaluating the tools that enable us to do that. To do that, you really need to think in terms of an experiment and how you qualitatively and quantitatively evaluate the experiment. It's, it's not a journey, you know, what I mean? It's important that the money is spent correctly and that the law of life, we're going to run a pilot and you said, you know, the firewood very well. The coolers anything like you know, yeah, so that's, that's, that's a challenge because, you know, different people.

Pass-Rénovation

Background:

- Created with the help of the ELENA project of the EU and the European Investment Bank (financing and technical support)
- Focus on Renovation
- Regional Level (Hauts-de-France)

Operating mode:

- **Technical and financial support**
- **Provide expertise and workers**
- Pays the workers all in advance of the works
- *Mean of payment* :
  - Loan of 0% for owners (20 years to reimburse the OSS)
- *Duration of works*:
  - 3-5 years of duration of works for co-owned properties
  - 1 year for houses
- *Follow up*:
  - 3 year site supervision after the works

Barriers:

- **Overlapping initiatives from different actors** (cities, department, regions) on renovations slowing down renovation rates.
  - EC asks for several aid programs, and several aids are put in place, but they overlap. There is a need to coordinate with the other actors and sign an agreement to collaborate on the work.
- **New regulations and aids change too fast**; those OSSs always need to adapt to the regulations but also new and delete of program of financial aid

SERAFIN Association

Background

- Created in 2022 (supported by the Horizon fund)
- **Enhancing communication between OSSs on Renovations in France** to have a more significant impact.
- **Mutualizing investments** and **establishing agreed-upon standards**, including sector-wide frameworks and professional benchmarks by all stakeholders.
  - These standards should not be merely regulatory and financial but should constitute a comprehensive entity.

→ Aim to do that at the European level

Problems:

- **Fraud in the renovation sector**: OSSs ensure the quality and control of renovations compared to private-sector renovation companies to combat this.
  - Operators are monitored by public local authorities, who are partners of the OSSs and address this concern effectively.

Barriers:

- **Scaling issues of renovation persist due to**
  - **Insufficient attractiveness for stakeholders**
  - **Lack of holistic vision f**or sustainability in designing homes or buildings**.**
  - Energy renovation is a **new profession**.
  - **Resistance** exists within the construction and renovation sectors.
- Existing businesses prioritize specialization.
- Reluctance to rethink operational methods: incentives and education is needed
- Small business lobbies express concerns over employment.
  - Difficult to win them over.

Relation with the EU:

- CINEA has issued a call for projects in terms of innovations for Projects
  - ***ORFEE*** *project*: **Enable the sharing of resources at the country level, such as methods, skills, feedback, etc.,** to encourage the development of OSS in France.
- *Network of EU OSS for Renovation*: **EU PEERS**

- Establishing a network of OSS at the European level developed at the end of 2022, with implementation starting in September 2023.SERAFIN is one of the key actors in building up this project.
    - The initiative involves engaging EU peers and stakeholders in the project's development. The goal is to provide insights and comments through European implementations and directives, ultimately **facilitating a coherent establishment of OSSs**. It is a crucial instrument to accelerate Residential energy renovation in the EU, building an inclusive and accessible community and Engaging and connecting practitioners for collaborative problem-solving