



Framework for legal support to citizens

Deliverable 5.3



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List of acronyms

AMB-Barcelona Metropolitan Area

ASEN-Municipality of Asenovgrad

BEC – Better Energy Community

CCC-Cork City Council

ESV-Upper Austria Regional Energy Agency

CEC – Citizen Energy Community

EE – Energy Efficiency

IC – Implementation Champions

KPI – Key Performance Indicator

NGO – Non-Governmental Organisation

OSS – One-Stop-Shop

PV – Photovoltaics

RE – Renewable Energy

REC – Renewable Energy Communities

RES – Renewable Energy Sources

ROI – Return On Investments

SEAI - Sustainable Energy Authority of Ireland

SEC - Sustainable Energy Communities

SME – Small and Medium Enterprise

Executive summary

This document has been developed in the framework of the H2020 project UPSTAIRS, Grant Agreement number 92037, within WP5, Task 5.5 “Designing the framework for legal support to citizens”.

This report focuses on looking at collective actions from the citizens point of view. It describes the country-specific legal regulations and One Stop Shops (OSS), that are being developed in 5 pilot regions. It presents enablers that encourage the creation of collective actions, along with the available subsidies. In addition, the document contains the main steps to take in order to create an energy community for collective actions, and the services proposed by the respective OSSs to facilitate these activities.

This document is based mainly on the information contained in other deliverables (deliverable 2.3 and deliverable 5.1) and information obtained from meetings between the leaders of the OSSs and the project coordinator.

1. Introduction

The objective of the UP-STAIRS project is to accelerate the creation and growth of energy communities by providing a common framework.

The concept of energy community is presented in the Clean Energy Package, which includes two definitions of it. One is Renewable Energy Community (REC) and the other Citizen Energy Community (CEC). Both of these communities are legal entities and are based on open and voluntary participation. Both communities may include natural persons, SMEs and local authorities, including municipalities. Their main purpose is to provide environmental, economic or social community benefits for its members or shareholders or to the local areas where it operates.

RECs are allowed to produce, consume, store and sell renewable energy. Additionally, RECs' members can share renewable energy within the community. CECs, on the other hand, may be involved in generation (also from renewable sources), distribution, supply, consumption, aggregation, energy storage, energy efficiency services or charging services for electric vehicles or provide other energy services to its members or shareholders.¹

The project aims to break down the barriers to the formation of Energy Communities. Some examples of barriers are: lack of specialized knowledge, difficulty in accessing energy community information, and lack of communication between citizens and municipalities.

¹ <https://www.compile-project.eu/wp-content/uploads/Explanatory-note-on-energy-community-definitions.pdf>

The structure of the "one stop shop" (a service point, where many services are offered, customers can get all the information they need in one place) intends to overcome existing barriers, contributing to increased cooperation between local authorities and citizens, and constituting a compendium of knowledge on, inter alia, ready-made business models and available forms of support.

Currently, there are 5 pilot areas that intend to create the so-called One-Stop-Shop (in some cases not only in a virtual form, but also in a physical form), thus facilitating the creation of energy communities and supporting collective activities. This type of project will enable citizens to participate actively in the energy transition and will help both residents and municipalities to become prosumers.

This document is intended to provide guidance for citizens who plan to create an energy community for collective action. The document describes relevant legislation, both at the European level, with the approach to REC and CEC, and at the national level, along with the role of energy communities in specific countries.

The aim of the document is to present the experiences of the pilot regions to date during the creation of the OSS, together with the lessons learnt from it. Moreover, it contains useful information for residents who wish to do collective actions and would take such citizens from the idea phase to the implementation phase.

2. Legislations

2.1. European legislations

The most important pieces of legislation in European legislation on energy communities are:

- The Clean Energy for all Europeans Package²
- 2030 climate & energy framework³
- A European Green Deal⁴

The first of these parts (The Clean Energy for all Europeans Package) was adopted in 2019 and contained eight new legal regulations. The package was introduced to help decarbonize the European energy system in line with the European Green Deal objectives. The Clean Energy Package brings tangible benefits to consumers, the environment and the economy. This package makes an important contribution to the EU's long-term strategy to achieve carbon neutrality by 2050.

² https://energy.ec.europa.eu/topics/energy-strategy/clean-energy-all-europeans-package_en

³ https://ec.europa.eu/clima/eu-action/climate-strategies-targets/2030-climate-energy-framework_en

⁴ <https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/>

Another important piece of legislation on energy communities is the 2030 climate & energy framework, which includes EU-wide targets and policy objectives for the period 2021 to 2030. It defines key targets for 2030 as follows:

- at least 40% cuts in greenhouse gas emissions (from 1990 levels);
- at least 32% share for renewable energy;
- at least 32.5% improvement in energy efficiency.

The last cited act is the European Green Deal, which was introduced to reduce greenhouse gas emissions and encourage investment in cutting-edge research and innovation to protect Europe's environment. The first climate action initiatives under the Green Deal include:

- European Climate Law to enshrine the 2050 climate-neutrality objective into EU law ;
- European Climate Pact to engage citizens and all parts of society in climate action ;
- 2030 Climate Target Plan to further reduce net greenhouse gas emissions by at least 55% by 2030 ;
- New EU Strategy on Climate Adaptation to make Europe a climate-resilient society by 2050, fully adapted to the unavoidable impacts of climate change ;
- Designing new ways of producing and consuming, doing research and creating innovation.

The European legislation is successively transposed into national legislation.

For example, in Ireland, the 2021 Climate Action Plan has been integrated into the National Energy and Climate Plan (NECP). This plan will allow the implementation of further reduction of greenhouse gas emissions and an increase in the production of energy from renewable sources.

The implementation of European law makes it easier for residents to act for the benefit of the environment and facilitates the implementation of activities leading to energy and cost savings, e.g. the development of renewable energy sources.

2.1.1. Approach to REC and CEC

The Clean Energy for all Europeans Package focuses on energy efficiency and renewable energy and outlines the impact of residents on the energy transition and their importance for the success of the upcoming changes. It also introduces concepts of Citizen Energy Communities (CECs) and Renewable Energy Communities (RECs).

In addition, this package empowers citizens and communities as follows:

- Renewable self-consumers in multifamily houses to be allowed to generate, store, sell and consume their electricity jointly;
- Exclusion of disproportionate procedures and charges that are not reflective;
- Improved Guarantees of Origin for better consumer information.

The European Green Deal is a tool supporting regional and local communities, including energy communities. The European Green Deal also offers investment and advisory support for RES installations implemented by energy communities. The European Green Deal also provides funding for the promotion and creation of new energy communities.

The creation of new energy communities is supported by e.g. OSSs. Collective actions, such as OSSs, brings a number of benefits to residents, such as financial or legal support and advice and contributes to the increase of environmental awareness of citizens. OSS helps residents to organize themselves in RECs and/or CECs and supports their development. OSS also facilitates residents' access to the necessary information to create collective actions, which in turn will contribute to the creation of specific benefits in the form of, for example, reducing the risk of energy poverty.

2.2. National legislations and role of energy communities

2.2.1. Ireland

In Ireland, there is still no framework for collective self-consumption in multi-tenant buildings. One of the most important pieces of legislation in Ireland is The Climate Action and Low Carbon Development (Amendment) Bill 2021, which will support the achievement of climate neutrality by 2050. The Act contains the following key elements: the establishment of a "National Climate Goal" that commits to pursuing and achieving the transition to a climate-resilient economy by 2050 at the latest, legislates the carbon budgeting process, strengthens the role of the Advisory Board on Climate Change, and requires each local government to prepare a climate action plan.

Such a plan is expected to scale-up and improve the functioning of collective actions such as the SEC (community energy grants scheme), BEC schemes and the National Retrofit Initiative. The last indicated initiative covers a large number of organizations, thus emphasizing its collective approach. The schemes introduced under the National Retrofit Plan are administered by the SEAI.

Ireland is home to the Sustainable Energy Authority of Ireland (SEAI), an Irish government body set up to promote and help develop sustainable energy. SEAI was established by the government as Ireland's national energy agency under the Sustainable Energy Act 2002. SEAI is a body of more than 600 units for energy communities. As part of their services, SEAI offers advisory support, assistance in developing an Community Energy Plan and assistance in finding financing for its implementation.

2.2.2. Spain

In Spain there is no detailed legislation on energy communities, but partially transposes EU directives on energy communities. The Royal Decree Law 23/2020 introduced and defined the definition of RECs in Spain for the first time. Although Spain has not yet transposed EU

directives, it has a very advanced framework for shared self-consumption. The Royal Decree 244/2019 regulates the administrative, technical, and economic conditions. It contributes to the simplification of administrative procedures and mechanisms for compensation of energy fed into the public grid. Such a framework opens the door to the citizens by giving them tools and by supporting cooperative organizations.

The Royal Decree 244/2019 completes the regulatory framework on this issue, driven by Royal Decree-Law 15/2018, which repealed the so-called “sun tax” and provides increased certainty and security to users. Users with surplus electricity can export it to the grid. Additionally, this decree opens the door to shared production facilities, with a radius limit of 500 m (between the point of generation and consumption) and participants located in the same cadastral area.

Consumer / prosumer may join only one compensation scheme, e.g. surplus compensation scheme. Collective self-consumption schemes using the public distribution network infrastructure are generally excluded from the compensation scheme.

Production facilities up to 100kW related to surplus will be exempt from the obligation to register as an electricity supplier. They will only be governed by technical regulations. For these facilities, regulations may be developed regarding a simplified mechanism of compensation for prosumers' deficits and surpluses from related production facilities. For installations above 100 kW, surplus energy has to be traded on the wholesale energy market.

Production facilities with a capacity of up to 15kW located in urbanized areas and meeting the requirements of municipal law, will be exempt from the need to obtain access and connection permits in terms of access to connections and low voltage grid infrastructure.

In Spain, one of the factors supporting the implementation of local RES projects is the framework for Energy Consumption Cooperatives. These cooperatives are entities responsible for managing activities in the local energy environment. They can also implement integrated renewable energy projects. The existing cooperative framework suits the energy communities, due to their wide range of activities. They include activities ranging from distributed energy resources to citizen / end-user consumption with legislation that enables and eases their operation.

This cooperative framework may therefore set the ground for the organization of energy communities, shared ownership of assets and collective self-consumption.

2.2.3. Austria

On 7th July 2021 the Austrian Parliament adopted a document (Erneuerbaren Ausbau Gesetz – EAG) which enables the creation of energy communities. The legislative provisions for RECs in Austria currently primarily focus on electricity. Although the current rules focus primarily on the electricity sector, the technological neutrality of the REC is taken into account by anticipating the possibility of operating district heating networks.

Specific provisions were presented for the financial support of district heating networks in RECs. The EAG, on the other hand, defined the legal conditions for the creation of RECs. Network tariffs for RECs complement the legal regulations for RECs in Austria.

Members of Renewables Energy Community can be (according to the legal framework): residents, municipalities and SMEs. There are specific actions foreseen to be performed by RECs. These are: production, storage, use and sale of energy obtained from renewable energy sources. In addition, the conditions that must be met by RECs were also specified. Those are:

- generation and consumption must be within the concession area of the same Distribution System Operator (DSO);
- they must be connected via a low-voltage distribution network and down-stream from the same transformer station (for local energy communities) or
- via the medium-voltage distribution network and down-stream from the same medium voltage transformer station (for regional energy communities).

Each energy community should meet the following conditions: in each energy community, there must be at least 2 members; members must be legal entities and the community should not have a financial profit as its main goal.

Austria also has the Green Electricity Act 2017. The act aims to support the production of electricity from renewable energy sources through subsidized feed-in tariffs and investment subsidies. The act also sets targets for energy from various renewable energy sources.

Citizens energy communities may be established all over Austria. They can provide services in the field of generation, storage, sale and aggregation of electricity; and services relating to energy efficiency or the charging of electric vehicles. The effective control is, in line with the Electricity Market Directive(EMD), limited to natural persons, local authorities, and small companies.

2.2.4. Bulgaria

Bulgaria has implemented a framework enabling self-consumption, but still have no detailed legislation. One of the pieces of legislation relating to energy is the Energy from Renewable Sources Act (ERSA). The act aims to create better conditions for investment and to create a legal framework for the participation of residents in the energy sector through energy self-consumption. This act was implemented to promote individual self-consumption of energy from renewable sources up to 30kW. It simplified administrative processes and introduced a new compensation system for electricity (not self-consumed).

The improvement of the framework for self-consumption of energy from renewable sources is planned through improved legislation and better regulation of consumer rights. Support will be provided through: the possibility of being part of the energy system, facilitating market integration, creating favourable conditions to generate public interest in the initiative and the

development and implementation of improved administrative procedures, that take into account the specific needs of renewable energy communities.

In order to support low-income consumers and vulnerable residents, available financing for projects and activities that will provide them with access to renewable energy, will be sought in 2021-2030.

Collective actions in the field of energy efficiency are regulated by the Decree of the Council of Ministers No. 18 of 02.02.2015, which provides for the mandatory establishment of homeowners' associations to participate in the initiative.

There is also a financial mechanism (currently on hold due to lack of funds) to support energy efficiency in multi-family buildings. Under this program, many homeowners participate in the National Program "Energy Efficiency of Multi-Family Residential Buildings" providing grants to homeowners associations. This program aims to implement modernization measures and improve energy efficiency in buildings. Potentially, it could also concern support in the field of renewable energy sources in multi-family buildings, e.g. rooftop PV. Currently, however, the funds from the program are intended only for earmarked for building material and structural reconstruction measures.

The program is expected to be continued in the future.

2.2.5. Germany

The German energy transition (Energiewende) is a policy that had very strong public and cross-party support. This initiative grew out of grassroots anti-nuclear movements, which are now a wide-ranging national policy that has profound consequences at the national level due to the country's initial dependence on mining fuels.

Although the Energiewende promotes the use of greener energy and technology, Germany cannot completely abandon the use of coal. The energy transition in Germany is to rely to a large extent on renewable energy, in particular wind energy, photovoltaics and hydroelectric power plants, which are currently unable to cover the demand for energy generated so far in nuclear reactors.

In Germany, in the legislative area, a "tenant model" has been introduced. This model allows house-/multifamily-building-owners to implement a photovoltaic installation with a capacity of up to 100 kW on the roof and to sell energy to their tenants. The total supported capacity per year is 500 MW throughout Germany. The introduced model tries to emphasize the key importance of roofs for photovoltaics. The installation of photovoltaic panels in 3.8 million households would generate up to 14 TWh of energy per year. The German law explicitly states that where electrical energy storage is used, the self-consumption subsidy is defined by the self-consumed electricity after storage, rather than the stored electricity.

Although, Germany has yet to transpose the EU Directives, the German government believes the tenant model is a measure by which EU Directive is sufficiently transposed into the national law. However, it does not allow citizens (tenants) to be an active part of RECs or CECs.

3. Descriptions and experiences from the OSSs in pilot regions

This deliverable is a two-part deliverable. This chapter will be completed/updated in the second part of deliverable. Already noticed barriers, lessons learnt, pros and cons will be updated after setting up the OSSs.

3.1. Cork City – Ireland

3.1.1. Targets/ objectives

Main objectives of the Cork City OSS are :

- support citizens in becoming part of an energy community, engaged in modernization or in applying for funding for individual energy efficiency improvement measures;
- providing the necessary information and guiding residents in the process of joining or creating an energy community;
- to increase citizens' environmental and energy efficiency awareness.

The KPIs for the Irish pilot are :

- to reach 20 000 citizens;
- to have 3 000 users registered on Up-Stairs Platform;
- energy savings targets : 1,1 to 2 GWh/yr;
- to reach at least 167 houses or 13,330 m² of floor space.

3.1.2. Implementation Champions (IC)

There are 8 professionals working in the OSS in Cork. Three of them are ICs chosen from the community. The rest of workers are Cork City Council employees, who also act as ICs (namely engineers and a clerical officer to directly assist the potential users). These 8 employees are believed to be enough to provide services to the 3 000 citizens expected to register to the digital platform.

Ahead of the OSS opening, ICs would have had the appropriate training in terms of energy rating, building regulations, financial instruments, business models etc.. Additionally, the

training takes into account providing support to citizens during the whole process, which is an important part of ICs work.

3.1.3. Region and situation

The City of Cork accounts for around 13% of the energy consumed across Ireland and is responsible for supplying approximately 25% of Ireland's energy consumption. This municipality has achieved 31,6% energy efficiency reduction by the end of 2018 and aims to reach the target of 40% CO2 emissions reduction by 2030.

The idea of an energy citizen is quite new to the Cork Region. However, there are currently 28 energy communities operating in Cork already submitted to SEAI. Cork Borough promotes citizen empowerment projects such as The Cork Smart Gateway Initiative, which aims to strengthen Cork's reputation as a region that is attractive to live, work and invest in. The project aims to identify and implement solutions for emerging opportunities in key sectors such as energy and innovation. Together with nine other project partners from across Europe, Cork Municipality is participating in the EMPOWER project, which aims to reduce carbon emissions by monitoring energy efficiency. As part of the project, good practices regarding the monitoring of energy efficiency in buildings are exchanged, with particular emphasis on the use of innovative financial instruments.

The Cork City community has a strong environmental awareness. The community often uses travel by bike or on foot, is interested in reducing costs and runs a low carbon lifestyle. The community eagerly creates social networks and participates in local initiatives. Cork City has 210,000 inhabitants, and it intends to reach at least 20,000 residents. However, in the future, it might be possible to reach more inhabitants, if the scope is expanded to the Cork county.

3.1.4. Experiences (Barriers, lessons learnt, pros and cons)

Barriers

- lack of legislation on SEC = end-user not organized
- creating an energy community as a relatively new structure can be problematic to set up, due to the different needs and expectations of residents
- lack of citizens trust
- perceiving OSS services as hindering progress towards achieving specific goals, and not as facilitating

Lessons learnt

- do not focus on the number of houses, but set individual targets depending on the activity

Pros

- large number of potential participants

- eco-friendly lifestyle of citizens
- many aspects of the advisory services depend on external actors – support from different entities

Cons

- lack of physical presence in the region

3.2. AMB – Spain

3.2.1. Targets/ objectives

In the Barcelona Metropolitan Area, there are going to be at least 25 OSSs set up in various municipalities, some focusing on energy efficiency and some on renewable energy sources. However, the overall goals of all the OSS are similar:

- development of RES technologies;
- increasing the trust of citizens and social cohesion;
- familiarizing residents with the idea of energy communities;
- creating lists of trusted providers and legal experts for citizens.

The KPIs of the Barcelona Metropolitan Area are:

- to reach 10 000 citizens;
- to have 1 000 registered users on the Up-Stairs platform;
- 5 GWh of primary energy savings (energy produced).

3.2.2. Implementation Champions (IC)

In The Barcelona Metropolitan Area, the ICs are employees from each of the 25 municipalities. The aim is to have 5 ICs in every OSS and all of them will follow a very thorough training about technical, financial and business models particular to their region.

The structure of the IC in this pilot consists of 2 types of professionals:

1. technical staff – staff from AMB and municipalities : 4 team members of the AMB Energy Transition Office, communication team from AMB, public servers of the metropolitan municipalities (who already work on the energy information points, housing offices, etc.) and other public institutions in the area (e.g. housing agencies)
2. volunteers – people already involved in previous projects (from cooperatives and NGO's)

Each municipality will be able to count on the support of one expert, cooperating with all local authorities and AMB, and which will provide consultative assistance.

3.2.3. Region and situation

The Metropolitan Area of Barcelona is a densely populated area with multi-family homes as the predominant residential building type (89,82%). Most of these houses are not modernized. However, many residents are interested in renewable energy sources, e.g. PV systems. Energy communities have a high chance of development in Barcelona, considering that the community in this area is willing to aggregate into associations.

Many activities are carried out in this area, and the region is well known for its cooperative sector. Activities are carried out for: residents at risk of energy poverty, supporting the development of local energy policies, increasing awareness on the energy transition (e.g. educational materials, energy saving and electricity supply optimization advice), supporting activities for EE. In Barcelona, the Energy Information Points provide advice and information to citizens on energy rights and savings opportunities.

Ultimately, 25 OSSs (each in a different municipality) will be set up in Barcelona. Depending on the municipality, the OSS approach will be different due to the different needs of the inhabitants (most will focus on RES, while others on EE). OSS activities will be conducted both through the website and through physical offices, which will be located in the existing housing offices or the energy information points or, in some municipalities - Citizen Attention Offices.

3.2.4. Experiences (Barriers, lessons learnt, pros and cons)

Barriers

- households, which have produced a surplus of energy, can only share this energy with other consumers within a 500m radius
- RECs and CECs legislation has not been developed yet
- lack of mediation, what may cause difficulties in the implementation of an energy community
- due to the large number of different OSSs, the process of creating OSSs may be difficult (different needs in different municipalities)
- lack of social cohesion and trust due to the lack of predecessors
- limitation in scope due to EE services offered already through AMB offices

Lessons learnt

- ICs could be responsible for collecting data on technical aspects, behavioural changes and business models for each municipality
- take into account also single family buildings to expand the area addressed

Pros

- municipalities have freedom to design their own strategy and structure

- many OSSs instead of one, having the advantage of providing services which will be tailored to the needs of residents of the specific communities
- growing interest of residents in renewable energy sources

Cons

At this stage of the OSS development, no cons have been observed. This part will be updated after setting up this OSS.

3.3. Upper Austria – Austria

3.3.1. Targets/ objectives

The main objectives of the Upper Austria OSS are :

- development of renewable energy sources to increase their share in local / national energy;
- approaching carbon neutrality;
- promoting RECs development and establishment, and supporting residents in familiarizing themselves with the new legislation framework regarding energy communities.

The KPIs of the Upper Austria are:

- reaching 20 000 citizens;
- have 3 000 engaging Upper Austrian OSS services;
- have 4 GWh/yr of primary savings/ energy produced.

The above mentioned targets apply to RECs in Upper Austria. The energy produced is therefore considered energy that is saved/not required from the electric network, as it is not necessary to transport it from the production plant to the end-user.

3.3.2. Implementation Champions (IC)

ICs represent, support and assist in the development of energy communities.

There are 5 ICs in the Upper Austrian OSS, who have different profiles. They are all ESVs employees and they have high qualifications, therefore they do not need any additional training.

The current number of ICs is considered sufficient to provide services to the region's targeted population.

3.3.3. Region and situation

In Austria, many methods of clean energy development are being used, which allowed, among other benefits, to reduce greenhouse gas emissions from buildings. Renewable plants, biomass, hydropower, solar and wind energy are currently being used and PV systems intend to be further developed.

Upper Austria is the leading region of the country's 9 regions in terms of climate protection and the energy transition. Renewable energy and energy efficiency have been a priority for a long time and much has already been done towards achieving carbon neutrality (which Austria plans to achieve by 2040). In the country, around 77% of the electricity consumption is covered by renewable energy, mainly hydropower. However, wind and solar technologies (PV generation systems to complement the already existing renewable plants) are also promoted and developed.

In Upper Austria over 30% of the primary energy demand is supplied by RES, which is more than twice the EU average. Moreover, about 60% of all space heating comes from renewables.

The local community shows interest in both renewable energy sources and participation in local initiatives. The sessions of stakeholder engagement events (e.g. workshops) conducted in the region by ESV have attracted a lot of interest, due to the comprehensive approach of leaders to the theme of RECs.

3.3.4. Experiences (Barriers, lessons learnt, pros and cons)

Barriers

- unknown new legal framework, which may be confusing to citizens in the beginning
- energy community must be its own legal entity, may be troublesome for citizens
- some members might join the energy community for financial gains only
- limitation in scope due to already existing Energy efficiency OSS in Upper Austria

Lessons learnt

At this stage of the OSS development, no lessons learnt have been drawn. This part will be updated after setting up this OSS.

Pros

- different channels of communication (in person, by phone, virtual platform, online seminars, etc.)
- contributing to the development of clean energy investments
- experienced OSS employees
- no need of additional trainings for ICs, as they are already trained as ESV workers
- society with high environmental and clean energy awareness

- defined potential customers are wide groups, so they may include all citizens

Cons

At this stage of the OSS development, no cons have been observed. This part will be updated after setting up this OSS.

3.4. ASEN – Bulgaria

3.4.1. Targets/ objectives

The main objectives of the OSS are:

- drawing citizens attention to the energy efficiency;
- helping citizens in organizing themselves together as the legal body called Association of Owners;
- support for citizens exposed to the risk of energy poverty;
- development of renewable energy, favouring the decarbonisation of energy.

OSS located in the municipality of Asenovgrad intends to (KPIs):

- reach 6 000 citizens;
- have 1 000 registered users on the UP-STAIRS platform;
- refurbish area of buildings equals to 35 000 m²;
- contribute to energy savings on the level of 3,4 GWh/annum.

The Bulgarian OSS is aiming to address mainly measures and technologies to external insulation (walls, doors, windows), building utilities (e.g. new water supply) and integration of RES (e.g. PV in rooftops, biomass boilers).

3.4.2. IC

There are 5 ICs working for the Bulgarian OSS and they are considered enough resources to provide advice to the targeted population of 1 000 people.

Asenovgrad municipality has a physical office in order to have a bigger impact with the participants, through direct contact with employees. Employees have a civil engineering and economics background, so they can provide advice and describe the technical solution proposed. Knowledge in these areas is essential in the course of EE actions, as customer involvement requires both, the technical solutions and the further need to raise awareness of the energy solutions implemented.

Moreover, the Asenovgrad municipality aims to employ ICs with communication and/ or social service environment experience, which will also contribute to better assisting the main target group of this pilot, which are people in situation of socio-economic vulnerability (energy poverty in particular).

3.4.3. Region and situation

For Bulgaria, which is heavily dependent on coal, meeting the EU's ambitious goals is quite demanding. The development of renewable energy sources and greater attention to energy efficiency are intended to contribute to the fulfilment of these goals. There is already, a non-profit association in Bulgaria – Bulgarian Photovoltaic Association, which currently includes over 400 companies from the renewable sector. This association fosters the creation of a market environment to promote investments in renewable energy. In addition, Asenovgrad itself, thanks to its cooperation with SEC, will benefit from the knowledge gained from the OSS Rhodoshop project (a pilot programme for financing sustainable energy projects in Rhodope Region).

The dominant type of buildings in the municipality is multi-family buildings, whose inhabitants are often exposed to the risk of energy poverty. In large cities in Bulgaria e.g. Sofia and Varna a good solution is district heating, however in smaller municipalities such solution cannot be tackled. It is related to the need of new pipeline installation.

The municipality community is willing to engage in activities for RES and EE, but they often lack financial resources and the necessary knowledge. They would like to save money and energy, but they often do not know where to start.

3.4.4. Experiences (Barriers, lessons learnt, pros and cons)

Barriers

- the lack of the National Law on Energy Cooperatives (expected soon) and potential discrepancies with the existing legislation (e.g. Law of Cooperatives, Law on Promotion of Renewable Energy Sources)
- the lack of direct funding mechanism for the investments in RES application
- not specified and detailed role of OSS Asenovgrad in the financial support due to the lack of operative funding programme
- the requirement of aggregation in energy communities (Associations of Owners) to access the programme of funding of energy efficiency refurbishment of multifamily residential buildings
- RES and EE activities are not very common

Lessons learnt

- difficulties in finding an appropriate number of IC with the proper background
- awareness raising is needed

Pros

- energy and cost savings
- actions to decarbonise energy
- protecting vulnerable groups from energy poverty
- increasing public awareness of energy efficiency issues

Cons

- activities focused on multi-family prefab buildings, may lead to neglecting citizens living in other types of buildings

3.5. Brunnthäl – Germany

3.5.1. Targets/ objectives

The main objectives of the OSS are:

- reaching mainly single-family households, as they represent the most widespread type of housing in the municipality of Brunnthäl;
- increasing energy efficiency;
- promoting the use of renewable energy production and technologies.

The KPIs of the Brunnthäl Municipality are:

- to reach around 5 000 citizens, which is equivalent to almost all citizens in all households in the Municipality. Brunnthäl Municipality will do mailings to approximately 2500 households (almost 100%).
- It was assumed that about 5% of all adult residents will become registered users (about 190 residents);
- to refurbish a building area of 4025 m², when combined with EE activities, which are still under discussion - the Brunnthäl Municipality activities are currently expected to focus mainly on PV;
- to contribute to the production of 532 MWh of energy (66 PV projects with 0,8 MWh RE production per year).

3.5.2. IC

Discussion are ongoing at Brunnthäl OSS with the Climate Protection Officer, who already works as the municipality staff and who takes care of the regional/ local activities to protect the climate in the municipality, assessment of carbon reduction potential in municipal buildings and initiation of informational events for citizens covering RE, EE and others .

3.5.3. Region and situation

Brunnthal is located in the third wealthiest state in Germany. It is characterized by a relatively low population density, and thanks to the high sense of community, citizens are eager to cooperate with each other e.g. to increase the energy efficiency of the entire community.

Due to the fact that German energy transition policy is very developed compared to other EU countries, there are already local community-owned generation projects in the country that use wind and solar technology. The anti-nuclear movement played a large role in German energy policy, which contributed both to the development of RES and to the mobilization of local communities to create a community-owned energy cooperative (e.g. the ElektrizitätsWerke Schönau (EWS) created in 1994, which distributes clean energy all over Germany).

The majority of residential buildings in the Brunnthal Municipality are single-family houses. Most inhabitants of the Municipality, who are targeted groups of the project, have a relatively high level of environmental consciousness and about 150 single family houses, that can be directly involved in the energy action activities, have been already identified. People are getting interested in getting involved in RES and EE measures implementation, because of the current rising in energy prices.

Brunnthal OSS assumes customer support both through an online platform and a physical office located in the town hall. It is assumed that most residents will use the online platform to contact the municipality or to receive specific information, while the physical office will only complement the online platform. It will give the customer the opportunity to meet the employee directly and receive ad-hoc information.

3.5.4. Experiences (Barriers, lessons learnt, pros and cons)

Barriers

- ceasing of all grants for all programmes (e.g. heat pumps – subsidized up to 10-15%)
- hindered cooperation with the municipality
- lack of legislation regarding REC based on the EU-directive 2018/2001 (hinders the creation of RECs)
- local resistance to the planned project of wind park construction
- modernization activities, which are not attractive to all citizens due to the large differences in the housing infrastructure

Lessons learnt

- difficulties in finding ICs with proper background
- need for public consultation
- proposal to provide the consumer protection services to help with energy consultancy

Pros

- energy and cost savings
- assistance in the aggregation of residents willing to cooperate with the neighbourhood into energy communities
- development of energy communities in new areas of the country – supporting the common movement of greener energy

Cons

- exclusion of citizens with low environmental awareness and energy culture
- possibility of not achieving assumed effects, due to the society, which is already highly energetically developed

4. Information useful for creating a collective action

This deliverable is a two-part deliverable. After opening of the OSSs, information in this chapter will be completed/updated.

4.1. Motivations and incentives

Ireland

- Participating in collective actions contribute to reducing energy-related costs and increasing energy savings
- OSS provides financial and legal information and general technical information
- Participation in OSS facilitates activities related to the development of renewable energy sources
- Available funding programmes (SEAI) facilitate creating energy communities for collective actions

Spain

- Organizing energy communities and collective self-consumption is easier, because of the existing framework for the energy consumption cooperatives
- Participation in OSS facilitates activities related to renewable energy sources
- Participation in the energy community would help in modernizing homes – leads to energy and money savings
- Collective actions can be co-financed, thanks to the cooperation of AMB with several financial institutions
- Residents do not need to have technical knowledge or ideas – the OSS provides comprehensive technical advice

Austria

- Creating a renewable energy community is easy with the existing legal framework
- Participating in the OSS enable participants to be part of the energy transition
- OSS provides comprehensive advice on regulatory, technical and financial issues in the field of RECs
- Prior to the start of activities, information relating to RECs could be obtained at workshops conducted by ESV
- Collective activity funding is guaranteed

Bulgaria

- During the aggregation of citizens under the Association of Owners, assistance is offered by the municipality and the OSS
- OSS support participants through the whole process of auditing, energy and cost saving assessment and choosing the best technical solution
- OSS offers support and advice on obtaining funding (when the financing program is launched)
- Participating in collective actions leads to energy and cost savings by modernizing old buildings - helping people at risk of energy poverty
- So far, all modernization works have been carried out under the national program
- Mediation with contractors can be conducted by the OSS

Germany

- OSS provides information on technical and financial aspects
- Process is easy to set-up and administration burden is reduced, thanks to the existing legal framework of cooperatives
- Participating in collective actions for RES is possible, thanks to the OSS support - despite the lack of a legislative framework for energy communities

4.2. Available services to citizens

Ireland

Advising in technical proposals and financial options is the main purpose of Cork City Council, however OSS also provides advice in different areas. OSS Cork City provides support to citizens in areas of:

- **financial advice:**
 - to detail the tax incentives available in the area, that can be blended with other financial instruments;
 - to detail the grants available at local, regional and national level, that can be mixed with other financial instruments;

- to detail if other financial instrument are available in Ireland, that can be used or combined with end-users' own funding or private financing

Models that OSS support for citizen cooperatives: equity models based on issuing shares or online crowdfunding/ crowdlending/ equity crowdfunding.

- **organizational support :**

- the municipality – creating communities – the digital platform, which should ensure single household initiatives are joined and similar sustainable investments/ needs are matched
- ICs – support and bring together initiatives

- **technical support**

- gaining comprehensive knowledge of the participant's home in order to plan specific actions, that would improve its energy efficiency;
- an indication in the technical analysis of the necessary costs of the proposed solutions along with an indication of the available subsidies or loans;
- collecting each homeowner's data and sorting them by location;
- advice on standards and available guides to ensure a high-level modernization (including building regulations, technical guidance documents, retrofitting methodologies and ISO EN standards);
- informing about the necessity to use contractors with an agreement certificate for specific tasks;
- providing the list of authorised project coordinators, and the CIRI (Construction Industry Register of Ireland) list of approved contractors

- **legal support**

- advice on the creation of collective actions;
- informing about administrative aspects and dispelling doubts about the obstacles, that arise during the process of creating a sustainable energy community

- **follow-up services** – organization of workshops and other meetings of residents with ICs; users data collection along the post-service phase (to assess quantitative effects of the project)

- **facilitation & mediation**

- free facilitation services - providing advice and guidance to citizens;
- encouraging citizens to form energy communities;
- information on shared facilities between participants

Spain

The OSSs in Barcelona, due to their large number and the diverse needs of different communities, would be under the control of the municipalities themselves. They will differ slightly in the services they provide, while the main structure of services is the same:

- **financial advice**

- producing and developing an economic analysis of the Project (e.g. payback period, ROI, etc.);

- connection with several financial institutions to support projects (Catalan Public Bank, Risk funds specialized on energy, Crowdlending platforms);
- encouraging: synergies with other H2020 projects, exploit already existing financial solutions (provided by PV contractors), The Barcelona Mechanism for Sustainable Energy

AMB is not involved in the negotiation with the financial institutions.

- **organizational support** – attend individuals, SMEs and citizens belonging to already organized collectives
- **technical support** :
 - ICs - propose available solutions to the citizens; technical support in choosing the right solution among a wide range of energy efficiency actions and shared PV with the description of mentioned actions according to the specific conditions, where the action will take place; keeping track of the technical aspects of projects through visits on the installation and dispelling doubts about specific aspects of the work; support during the phase of connection of the PV system
 - AMB - provide a cost assessment and advice on the schemes that citizens might take advantage from; creating a list of technical providers based on the results of a public tender
- **legal support** :
 - AMB – providing information and standardized documentation to ICs and citizens on cooperative business models
 - TERSA – support the municipalities
 - legal services – third parties, chosen in public tender regarding experience and know-how in the creation of citizen cooperatives. Such tender will result in the list of legal experts
- **follow-up services** – no follow-up services – only conducting assessment to learn from barriers and obstacles during project development (AMB will not follow projects from the beginning to the end)
- **facilitation & mediation** – free facilitation services, throughout the whole process of accompaniment, but no mediation service

Austria

OSS Upper Austria, operated by ESV, provides the services that have been already available, together with the new renewable energy community support service:

- **financial advice** – make use of regional program, which provides financial support (every customer can access financial resources up to 10 000€ or 80% of the costs

covering legal and administrative procedures); continuation of the observation of changes in regulatory framework

- **organizational support**
 - assistance in organizational issues related to RECs;
 - initiation of activities conducive to energy communities, e.g. through cooperation with companies, which can help in the development of the energy community investments, e.g. by renting a roof space;
 - finding the most motivated actors and contacting them via the website (citizens can submit an online form)
- **technical support** – close contact with the grid operators and providing support in technical issues such as grid connection issues, balancing supply and demand, different renewable energy solutions and energy efficiency options
- **legal support**
 - providing a guidance to answer questions about current regulations, in particular regarding energy communities;
 - providing a guidance on the different options available for creating an energy community and contract content – services provided via phone, e-mail, website, publications and onsite
- **follow-up services** – no follow-up services
- **facilitation & mediation** – no facilitation and mediation services

Bulgaria

The OSS in Asenovgrad helps citizens in various areas of creating collective actions, related to renewable energy sources and to increasing their energy efficiency. These areas of support include:

- **financial advice**
 - support in filling the documents for funding, taking into account the requirements of the National program and local banks (the end user is responsible for submitting the application);
 - reviewing the documents of the Association of Owners for funding (depends on the funding program, its legal framework and the rights that are warranted to the Municipality);
 - assisting in opening tenders for the public procurement of energy service and refurbishment works of the building (if possible);
 - support in the financial reporting and control
- **organizational support**
 - supporting the emerging energy communities and strengthening them through the process of organization;

- support of legal representatives during the process of the legal body creation;
- providing and filling the necessary administrative documentation;
- collecting the personal information of the customer through both front-office and the web platform
- **technical support** – using national resources (collected by the Bulgarian Sustainable Energy Agency), Asenovgrad supports customers in steps leading to the implementation of collective actions:
 - Assistance in finding a suitable company to conduct an energy audit (company from the list of licensed companies, based on conditions such as price, staff skills and equipment) – the conduction of the energy audit is fully covered by the national program funding
 - Support in understanding the technical and economic information of the energy audit

Until 2021, national funds fully covered the modernization costs, but currently the portion of the EE investments covered by the national programs are unknown.

- **legal support**
 - providing information on the creation of an association (as aggregation under the Association of Owners is necessary to create a community energy);
 - providing information contained in the Decree of Council of Ministers;
 - carrying out public tenders regarding the selection of contractors on behalf of the Association of Owners
- **follow-up services** – assessment of consumers attitudes and their energy-related behaviour
- **facilitation & mediation** – maximum two sessions of facilitation per building (free) and mediation between citizens and contractors

Germany

OSS Brunnthal provides support to citizens in the following areas:

- **financial advice** – providing information on financing and funding programmes
- **organizational support**
 - use of existing networks in the municipality and marketing activities to reach out to the citizens of Brunnthal;
 - organizing meetings or workshops on the online platform or establishing networking on-site;
 - promotion of self-organization and proactive groups
- **technical support** – adapted to the customers with a considerable environmental awareness and energy culture level

1. providing information and initial cost-assessment – customers chooses one specific solution, described on the online platform and then the OSS staff develop an indicative cost assessment
 2. finding suppliers to implement the investment – OSS is an actor between the customers and suppliers. It supports customers in the decision-making process
 3. OSS Brunthal is not in charge of the process of technical development and follow-up (this is the role of suppliers)
- **legal support** – as there is no legal basis for REC in the German legal framework, there is no requirement of a legal body for projects such as e.g. PV-Systems installations, EE measures. Setting-up process offered by the legal framework of cooperatives is easy and well-known.
 - **follow-up services** – monitoring and supporting customers after the implementation of the technical solutions (evaluation and assessment of project activities)
 - **facilitation & mediation** – free facilitation, but no mediation service

4.3. Costs and funds

Ireland

The City of Cork OSS will focus mainly on grants for EE and RE for homeowners (eg. National Retrofitting Scheme, renewable energy support scheme, etc.) and tax incentives available in Ireland.

The Irish Government introduced a new national modernization program in February 2022, which replaces all previous programs and will be managed by SEAI (Sustainable Energy Authority of Ireland). The new National Home Energy Scheme offers grants of up to 50% to cover the cost of deep retrofitting to bring the home to the B2 BER standard. The modernization is supported by One Stop Shops, offering a comprehensive project management service from start to finish.

Under the National Retrofitting Scheme, there are three options for receiving grants:

- Free energy modernization services for eligible homeowners, who receive certain benefits, and whose home was built before 1993 and has a BER E, F or G class. Upgrades under this scheme include insulation of the attic, external walls or internal walls, insulation shields, or installation of energy-efficient lighting.
- One Stop Shop, which offers complete retrofit solutions for homes, resulting in half the cost of retrofit financing. This scheme applies to homes built before 2011 and they must achieve a minimum BER rating of B2 through energy improvements.
- Individual Energy Upgrade Grants that offer a choice of subsidies for the energy modernization of the house, provided that the owner of the building supervises the thermo-modernization. Individual Energy Upgrade Grants offers compensation for 80% of the cost of retrofitting if the house was built before 2011.

Ireland has also introduced a support scheme for renewable energy schemes. The system encourages the creation of energy communities. In addition, in 2022, Ireland is introducing a support system for the micro generation support scheme.

Spain

In case of this pilot, the efforts allocated to financial advice are high. The main objective of the Barcelona Metropolitan Area is to develop economic analyses of the project, addressing issues such as the payback period, ROI and other economic parameters characterizing the attractiveness of the investment.

Barcelona Metropolitan Area also works with several financial institutions to support and promote OSS-related projects:

- Catalan Public Bank (ICF)
- Risk funds specialized on energy (i.e. SUMA)
- Crowdlending platforms (E-Crowd, Fundeen)

The OSS may also encourage:

- Synergistic activities with other H2020 projects such as FPI (Financing energy efficiency using Private Investments) can increase financing opportunities
- Use of existing financial solutions proposed by photovoltaic companies. Many photovoltaic companies have their own financial solutions integrated with EPC.
- The Barcelona Mechanism for Sustainable Energy (or MES Barcelona "Mecanismo para la Energía Sostenible") is an instrument to support and accelerate the city's energy transition.

It should be noted that the BMA will not take part in negotiations with financial institutions.

Austria

In Austria, there is The Energy Community Support Service, whose task is to provide support and guidance to energy communities in order to obtain appropriate subsidies and regional and national funding (e.g. subsidies, feed-in tariffs, market premia for PV). The organization also helps to achieve the requirements for reduced tare for energy communities.

ESV benefits from its regional program, which provides financial support to the established energy community. As part of the program, the client can obtain funding of up to € 10,000, i.e. up to 80% of the costs associated with legal and administrative procedures (signing contracts, procedures related to legal entities).

Bulgaria

The main purpose of the OSS in Asenovgrad is to provide support in completing documents in order to ensure compliance with national programs and the requirements of local banks. The

applicant will ultimately be responsible for submitting the application and for ensuring the formalities.

The previous support was based on the National Energy Modernization Program for multi-family residential buildings. This program offered a tax credit of 50% local property tax. This program is currently not functioning, and the approval of the new government is needed to launch it.

Depending on the adopted framework of the program, Asenovgrad may give opinions on the documents of the Association of Owners in order to obtain funding. In the future, if it is possible, Asenovgrad will continue to provide assistance to the Association in opening tenders for the public for the purchase of energy services and renovation works of buildings. Asenovgrad will not use Energy Procurement Contracting or other types of integrated energy contracts, instead they will use separate contracts for each of the suppliers involved in energy efficiency activities.

Germany

One of the objectives of the OSS in Brunthal is to provide information on obtaining possible funding and programs to interested customers. Possible financing includes loans for photovoltaic installations or for specific devices using renewable energy sources. The national bank KfW-Bank, owned by the state, offers financial programs to reduce economic efforts. It is also possible to obtain financing from regional banks.

Unfortunately, at the current stage of the project, all financial possibilities have been drained:

- Co-financing for the purchase of heat pumps (co-financing up to 10-15%)
- Co-financing for the purchase of photovoltaic panels and an energy bank (co-financing up to 10-15%)
- Additional savings in the case of a collective purchase (usually 5-10 owners: savings from 5% to 10%)

It is not known when the individual financing programs will resume their activities, due to the political changes in the German government.

4.4. Step by step Guide for citizens to create Energy Communities

Ireland

OSS Cork City provides information, guides and advice on collective actions. Additionally, it provides lists of suppliers and estimates the costs of planned activities. The financial and legal support and the implementation of the technical design is the responsibility of external entities.

1. Have a technical plan in place

2. Contacting OSS via the online platform or in a physical office. Eight employees will be available at OSS (*people from community and Cork City Council employees*).
3. Consultations with OSS on planned technical solutions (*OSS provides only general advice, does not implement the technical plan*)
4. Creation of a legal entity (*with support from the OSS*) or just an energy community (*task of municipality*)
5. Selection of suppliers (*with support from the OSS*)
6. Cost evaluation (*with support from the OSS*)
7. Obtaining appropriate funding available (*OSS employees will direct residents to appropriate institutions*)
8. *Possibly* - obtaining the necessary permits / licenses
9. Implementation of technical project by suppliers

Spain

OSS in Barcelona intends to use existing communities to develop and expand them. The support offered by this OSS will be mainly based on technical and financial advice. AMB will not track the progress of projects throughout their duration and will not provide legal services. The latter will be available by selected third parties (the list of legal experts will be available to residents).

1. Contacting OSS via the online platform or in a physical office. Five employees will be available at each OSS (*volunteers, AMB, public servers of the metropolitan municipalities and other public institutions in the area*)
2. Selecting the most appropriate technical idea from among those proposed by OSS or discussing a previously selected technical plan (*AMB will provide a detailed description of each proposed solution, taking into account current / available conditions*)
3. Economic analysis of the project, mainly payback period, ROI and other economic parameters, in order to determine the attractiveness of the investment (*carried out by AMB*)
4. Obtaining appropriate funding available (*AMB employees will direct residents to appropriate institutions, and it will not be involved in the negotiations with the financial institutions*)
5. Selection of contractors (*with support from the OSS*)
6. Implementation of technical project by contractors
7. Creation of an energy community (*with support from the OSS*)

Austria

OSS in Upper Austria provides support in technical, regulatory, financial and organizational aspects of RECs. It provides guides and information needed by energy communities and conducts training increasing the awareness of residents about RECs. This OSS focuses on activities related to renewable energy sources and is an extension of the activities carried out in this area.

1. Preparation of a plan of technical solutions
2. Contacting OSS via the online platform, in a physical office or onsite. Five employees will be available at OSS (*ESV's employees*).
3. Consultations with OSS on planned technical solutions (*OSS provides guidance on technical aspects e.g. grid connection issues, balancing supply and demand, different renewable energy solutions and energy efficiency options, it does not implement the technical plan*)
4. Creation of an energy community (*with support from the OSS*) – as legal entity
5. Obtaining appropriate funding available (*with support from the OSS*)
6. Selection of contractors
7. Implementation of technical project by contractors

Bulgaria

The OSS in Asenovgrad focuses on helping residents to improve their situation and understanding the benefits of collective actions. This OSS supports residents in creating a legal entity and guides them through the entire process of creating a collective action. It provides financial, organizational, technical and legal advice and support. This also applies to the preparation of the necessary documentation.

1. Contacting OSS in a physical office. Five employees will be available at OSS (*employees of the municipality*).
2. Getting organized in the energy community (*with support from the OSS, which will provide and fill the necessary administrative documentation*) – as legal entity
3. Conducting an audit - the costs are covered by the national funding program - which will provide information on the various available and possible technical solutions, and an assessment of energy and costs savings (*OSS provides a list of energy audit companies and helps to understand the results of the audit in technical and economic terms*)
4. Obtaining available funding (*with support from the OSS – if funding program will be operative*)
5. Selection of contractors (*with support from the OSS*)
6. Implementation of technical project by contractors

Germany

OSS Brunntal assumes that residents who request support and advice already have technical ideas. Due to the fact that in Germany there is no legal framework defining energy communities, OSS intends to support self-organization and proactive group formation. Participants will receive advice and information on financial and technical aspects in OSS, and the municipality will carry out an evaluation after the implementation of the project.

1. Preferred - vision of technical/ investment solutions

2. Contacting OSS via the online platform (preferred) or a physical office. In the physical office, there will be the Climate Protection Officer (*who is IC in this OSS*).
3. Selection of the preferred technical solution on the basis of information about individual solutions provided by OSS (*with support from the OSS*)
4. Cost assessment (*OSS will provide the indicative cost assessment based on suppliers offers*)
5. Obtaining available funding (*with support from the OSS – if funding program will be operative*)
6. Selection of suppliers (*OSS will not only provide a list of suppliers, but also will function as an intermediary actor between the customers and suppliers handling detailed quotations and supporting in the decision-making process of the supplier to be contracted*)
7. Implementation of technical project by contractors
8. Assessment of project activities (*by the municipality and suppliers*)

5. Conclusions

The conclusions will be drawn and described in the document, that will be updated, when the OSSs opens.

6. Annexes

Annexes sent by partners after the opening of the OSSs will be placed here in the updated version of the deliverable.