

D2.3.

Energy Communities

Governance Toolkit - Prototype



Deliverable Information Sheet

Version	1
Grant Agreement Number	101076753
Project Acronym	LIFE21-CET-ENERCOM-COMANAGE
Project Title	Developing a transnational governance and holistic integrated services framework supporting the sustainability of European energy communities
Project Call	LIFE-2021-CET
Project Duration	36 months
Deliverable Number	D2.3
Deliverable Title	Energy Communities Governance Toolkit - Prototype
Deliverable Type	DEM – Demonstrator, pilot, prototype
Deliverable Dissemination Level	PU - Public
Work Package	WP2
Lead Partner	Ecoserveis
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Reviewers	REVOLVE, SPINDOX
Official Due Date	31st July 2023
Delivery Date	31st July 2023

History of changes

Version	Date	Comments	Main author(s)
V1.0	22.05.2023	First version	Federica Giardina (ECO), Paco Jofra (ECO), Marcello Avanzini (ECO)
V1.1	22.06.2023	Contributions, comments and feedback by other partners	Co-opAbility, ANESE
V1.2	30.06.2023	Peer-review	SPINDOX, REVOLVE WATER
V1.3	3.7.2023	Final contributions and comments	Camila Canelas (ECO), Cristina Ramos (ECO), Joana Mundó (ECO)
V1.4	17/04/2026	Revised version	Camila Canelas (ECO), Cristina Ramos (ECO)

List of Acronyms

BM	Business Model
COP	COMANAGE Open Platform
CSO	Civil Society Organisation
DIY	Do it Yourself
DSO	Distribution System Operator
DSS	Decision Support System
EC	Energy Community
ECBM	Energy Communities Business Model
ECGT	Energy Communities Governance Toolkit
ERI	Energy Related Investment

EU	European Union
GSE	Gestore Servizi Energetici (in Italian)
KoM	Kick-off Meeting
LLM	Large Language Model
M	Month
NGO	Non-governmental Organisation
OIS	Operational Integrated Services
OSS	One Stop Shops
PA	Public Administration
PPP	Public-Private Partnership
PPT	PowerPoint Presentation
PV	Photovoltaic
RECs	Renewable Energy Communities
SME	Small and Medium Enterprises
TSO	Transmission System Operator
TSP	Transformative Scenario Planning
VALERI	Valuation of Energy Related Investment
WP	Work Package

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Keywords list

Toolkit
 Template
 Energy Communities
 Tools

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1. Executive summary

Over the past years, several projects boosting energy communities have seen the light around the EU. The launch and implementation of these initiatives carried out, among others, by projects in which the members of the COMANAGE partnership participate, has made it evident that once started energy communities' projects often struggle to take-off. The COMANAGE proposal originates from this experience, with the aim of tackling and counteracting the main governance and management barriers - including a series of legal, administrative, financial, social, and organizational hurdles - faced by citizen-led and public-participated energy communities' projects.

It will do so by creating a methodological and operational **Energy Communities Governance Framework**, and by equipping public authorities involved in energy communities' projects with a set of integrated services, supporting mechanisms and tools aimed at facilitating the management and governance of energy communities and other forms of citizen-led energy initiatives, ensuring their growth and sustainability in the medium and long term: the **Energy Communities Governance Toolkit**.

The final goal of the project will be twofold: first, to ensure that energy communities' projects that have already been set-up can take-off and grow in the medium and long term. Second, to encourage and stimulate the uptake of new community-owned energy projects. With this goal in mind, the project will on one hand operationalize a transnational network of knowledge and competence providers; and on the other, it will mobilize, engage, and operationalize key stakeholders around three Operative Integrated Services Hubs to be established in three Pilot Cases across the European Union (EU) represented in the consortium by the Metropolitan Area of Barcelona in Spain (AMB), the Krakow Metropolis Association in Poland (KMA), the Lazio National Association of Italian municipalities in Italy (ANCI LAZIO).

This document describes the **COMANAGE toolkit prototype** which has the aim of supporting local and regional governments participating in and providing support to energy community projects, by using tools that ensure their mid-term and long-term sustainability beyond their creation. The prototype can be considered as the beta version of the final COMANAGE Toolkit, a baseline that will be tailored according to the specific community, target group and participation context of the three Pilots area, AMB, KMA and ANCI LAZIO. The methodology provided for the development and implementation of the toolkit will guide energy communities through a set of selected tools that will reduce complexities, simplify decision-making, facilitate the management and governance and provide strategies for the mid- and long-term sustainability of existing energy communities and for their replication on the territory.

Specifically, the COMANAGE toolkit prototype has the objective of supporting and equipping local, metropolitan, and regional governments with mechanisms and services that facilitate the collaboration with the citizenship involved in energy projects. The premise of this toolkit is overcoming specific governance barriers of existing energy projects that COMANAGE partners have identified in deliverable *D2.2 Energy Communities barriers, needs and best practices analysis* through desk research and qualitative analysis with experts. The prototype will then be tailored to the pilot cases through the co-development and implementation of three Pilot Executive Plans detailing the specific actions and tools to be tested within the local contexts of the Metropolitan areas of Barcelona, Krakow, and Lazio region.

2. Introduction

On the base of the analysis and research performed through the WP2 and specifically in the deliverables *D2.1 Energy communities' holistic framework and collaborative methodology* and *D2.2 Energy Communities barriers, needs and best practices analysis*, this deliverable aims to propose a flexible and adaptable set of tools, supporting mechanisms and integrated services supporting local and regional government staff and officials in the management of energy communities' projects. The Energy Communities Governance Toolkit (ECGT) prototype will serve as guide when public bodies participate in an energy community providing parameters that need to be analysed. This general prototype will be refined and tailored to the specific pilot case context (WP3) and tested within the COMANAGE Operational Integrated Services (OIS) Hubs (WP4). The general objectives of the ECG Toolkit prototype are:

- To provide background information and guidance on methods and tools needed to successfully run an Energy Community (EC) initiative in the mid/long-term.
- To develop effective engagement strategies to satisfy expectations and ensure continued participation.
- To overcome Legal Barriers for both municipalities and Energy Communities.
- To integrate all tools and services in one single place.

It will include a set of different legal, training, financial and organizational tools and services needed by public administration for an effective management and support of community energy citizen-led initiatives. To achieve the desired project objectives and anticipated outcomes, a diverse network of experts, knowledge providers, and competence providers will be engaged. Their purpose will be to collaborate in the co-design, testing, and implementation of the Energy Communities Governance Framework in three pilot cases, solving the encountered barriers as showed in the image below (Fig.1).

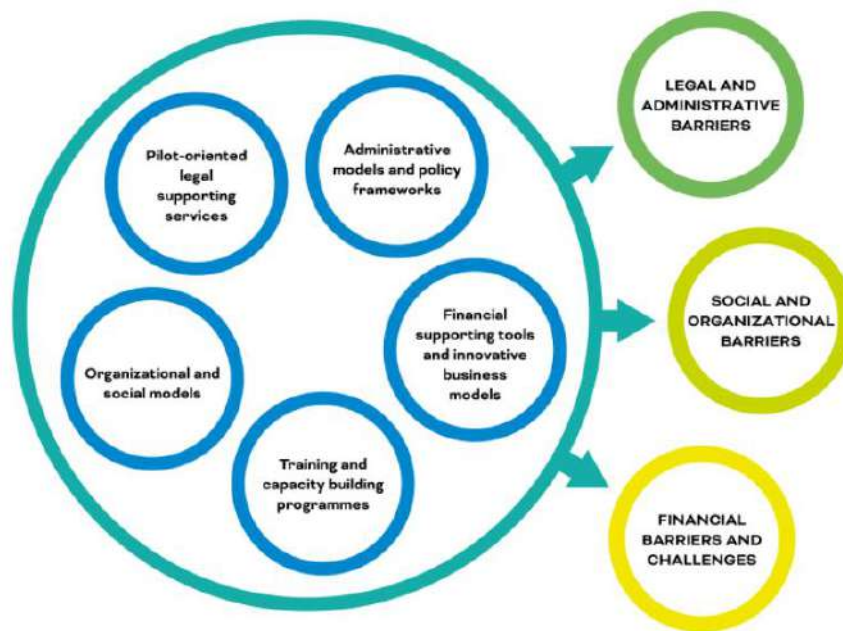


Figure 1. COMANAGE ECGT Tools and Barriers

The tools that will be used to solve these barriers are **mainly five**:

- Legal supporting services that focus on providing legal assistance and guidance to ensure compliance and a proper functioning of energy communities. These services, that will be consistently different according to the context and region of implementation, aim at providing support to municipalities in overcoming specific legal barriers identified, targeted to their local contexts, needs and specific requirements.
- Administrative models and policy frameworks for effective administrative processes and policies that support energy communities' operations. These models allow inter-municipal management of energy projects and an appropriate governance that allow connections between different actors in the value chain through public-private partnerships (PPPs)
- Financial supporting tools and innovative business models to provide financing options and innovative business approaches for energy communities. Their aim is to promote the long-term viability and sustainability of energy projects by enabling citizen financing and bank loans, exploring innovative business models for easier access to public-private partnerships, and offering technical and financial support from the initial stages to the complete implementation of project development.
- Organizational and social models, structures, and governance mechanisms for energy communities, ensuring efficient decision-making and participation. These aim to maximize the social impact of cooperative projects by effectively transforming energy communities into local hubs or platforms for raising awareness, communication, and education. This transformation will enhance social cohesion, citizen participation, and collective activism while also attracting and engaging additional stakeholders and participants.

- Training and capacity building programs that focus on the development and implementation of training initiatives and capacity-building programmes to enhance the knowledge and skills of energy community members. The objective of these tools is to provide public authorities involved in citizen-led energy initiatives with accessible training materials and practical guidance on various aspects of community projects, including establishment, financing, operations, management, and governance. These resources will be developed based on a comprehensive analysis of knowledge and capacity gaps among different stakeholders, specifically targeting the identified areas of improvement. Finally, these programs seek to establish regional and municipal teams composed by technical experts working alongside individuals trained in social sciences and/or communication. This interdisciplinary approach promotes collaboration and knowledge-sharing among team members, enabling a holistic and well-rounded approach to energy initiatives.

The toolkit is designed for municipal staff and citizens who need local government support in the long-term management of energy communities' projects and One Stop Shops (OSS) existing services. As for the research and implementation done specifically within the UP-STAIRS project, which can be considered as part of the COMANAGE baseline, the OSS are dedicated local or regional info points, providing comprehensive support from start to finish to the customer, including information communication, technical assistance, financial structuring, provision of financial support, and monitoring of energy savings. The aim is to foster strong partnerships with local actors such as SMEs, financial institutions, and energy agencies meanwhile facilitating the implementation of energy-saving and sustainable projects for interested but not yet committed energy users/asset owners.

Depending on the initiative, the specific context, and level of development of the EC, a diverse range of stakeholders can be involved in the deployment and usage of the tools. A wide array of stakeholders can be engaged in the process, including energy companies, policymakers, regulatory bodies, research institutions, local communities, and environmental organizations, among others. These stakeholders bring diverse perspectives, expertise, and interests to bear on the implementation and utilization of the different tools, ensuring a holistic approach that considers various dimensions of the energy sector.

Furthermore, the different tools provided cater to different stages of the energy transition, encompassing the early stage, expansion stage, and long-term stability. By tailoring the toolkit to the unique needs and challenges encountered at different stages of the EC's development, stakeholders can optimize its functionality and maximize its impact on promoting sustainable energy practices, enhancing energy efficiency, and mitigating environmental impacts. This tailored approach facilitates a more targeted and comprehensive deployment of each tool, thereby facilitating the achievement of the EC's objectives in a more efficient and effective way. The three possible stages outlined above; early stage, expansion stage, and long-term stability will be tagged in the tailoring part of every tool.

As the **toolkit structure** concerned, will be designed as follows:

- Throughout the toolkit, there are specific tools organized in different categories. Each tool has a sort of worksheet which provides a brief description, the format, the main features (content, sections, and timeline), the target audience (who will use the tool) and the stakeholders involved (who will help for the tool implementation).
- To illustrate how to use the tools examples are included throughout the toolkit as technical notes (in the coloured boxes). A more in-depth description or technical details for those with a particular interest or with a technical background will be eventually included in the Annexes at the end of the toolkit.

- The tailoring needs section, when applicable, casts light on the general context and specificities for the tools tailoring. The general scope will be highlighted according to the following questions:
 - To what extent will the toolkit be implemented in its prototype version?
 - How will the toolkit be shaped during the Hubs tailoring?
 - How will the final version of the toolkit be?

The COMANAGE toolkit does not address how to create and implement Energy Community initiatives in their initial stages of development. In contrast its main objective is to **provide comprehensive resources and guidance for a long-term sustainability and economic stability**. The toolkit will equip stakeholders with the necessary tools and knowledge to effectively anchor and deploy a long-term strategy for the fair and spread development of Energy Community initiatives. It will address key aspects such as governance structures, legal frameworks, financing models, operational strategies, and community engagement. By offering practical guidance and best practices, the toolkit aims to empower stakeholders to navigate the complex process of initiating and sustaining Energy Community projects.

The different stakeholders involved, by using the ECG Toolkit, will be able to overcome challenges, leverage opportunities, and foster the growth and success of their EC. The development and implementation process of the ECG Toolkit will consist of the following consecutive phases:

- The co-designing and planning phase that is the one included in this deliverable, in which the COMANAGE consortium will collaborate to create a prototype of the toolkit, tailored to the specific contexts, and needs of the three pilot cases. Representatives from the pilot cases and the Hubs (Hubs Managers) will actively participate and contribute to the project, including the co-design process for the development of three Pilot Executive Plans.
- The implementation and piloting phase, following the pilot-targeted Executive Plans (that will be developed in task 3.4), the ECG Toolkit Prototype will be tested and implemented in the three pilot cases through actions carried out by the three OIS Hubs (WP4). The measures, supporting mechanisms, integrated services, and tools implemented in each pilot case will be customized based on the local governance barriers and unique needs of each territory. The Knowledge Providers Partners (Ecoserveis, Co-opAbility Institute, ANESE, and AISFOR SRL) will support the pilots (AMB, KMA and ANCI Lazio) during the co-design and piloting phase.

3. Methodology

The methodology employed in the development of the Energy Communities Governance Toolkit (ECGT) within the COMANAGE project aims to implement the co-design process outlined in the Theory U of deliverable *D2.1 Energy communities' holistic framework and collaborative methodology*, while tailoring it to the specificities highlighted in deliverable *D3.1 OIS Hubs stakeholders' engagement and mobilization Plan*. The objective is to test and implement the toolkit in three pilot cases. The COMANAGE ECG Toolkit design framework comprises five main elements: legal supporting services, administrative models and policy frameworks, financial supporting tools and innovative business models, organizational models, and training and capacity-building programs.

The main steps followed to create this toolkit are a benchmarking study and desk research on existing projects and initiatives that have developed toolkits. Each component of the toolkit provides solutions and technical guidance to public administrations at the local, metropolitan, and regional levels that support energy communities to address existing barriers and build up a long-term and sustainable strategy.

The **benchmarking study** involved comparing and evaluating the performance, practices, and outcomes of different energy community initiatives. It started with the COMANAGE Kick-off session, in which during one of the dynamics deployed, the project partners identified barriers and possible linked solutions. This included the analysis of best practices and selected case studies in the previously identified countries, key success factors, and areas for improvement, taking into consideration aspects such as governance structures, energy generation and consumption patterns, community engagement strategies, financial models, and technical solutions.

The first step was followed by an initial **research and overview on energy communities' initiatives** aimed at an in-depth exploration of the existing tools related to engagement approaches and strategies. Although limited material was available specifically on toolkits for mid-long-term sustainability. The search was expanded to examine toolkits built up and deployed by EU-funded energy projects. This involved searching for projects already known to the COMANAGE partners or sister projects like the synergic initiative done by [LIFELOOP](#) and systematically utilizing the [Energy Cities repository](#) to identify additional initiatives and projects. Insights from the projects analysed in the section 2.4. *Examples of engagement of Energy Communities, Citizen Initiatives, Public Authorities, and other actors of COMANAGE D3.1 OIS Hubs stakeholders' engagement and mobilization Plan* were considered during the development of the toolkit.

On a parallel level, **joint sessions with partners** were set in order to identify COMANAGE specific barriers and exploring possible solutions. In this sense, ECO and Co-opAbility arranged bilateral meetings with the three pilots to gather specific insights and requirements in every regional area. These sections were followed by specific working meetings on the toolkit specific components. Once wrapped, a preliminary presentation of the toolkit prototype was delivered to partners as part of the Consortium Meeting session in Athens, Greece on 28-30th June 2023.

The toolkit's dynamic exercise and final validation outcomes are showcased in this deliverable. COMANAGE partners were consulted to gather feedback and insights, ensuring that the toolkit effectively meets the needs of the COMANAGE OIS Hubs for tailoring the prospective tools. By following this methodology, the COMANAGE project aims to create a comprehensive and tailored Energy Communities Governance Toolkit that addresses the specific needs and challenges of the pilot cases, fostering long-term sustainability and economic stability.

The different COMANAGE tools seek to offer practical solutions, methods, and ways to overcome the barriers found by COMANAGE partners, that are the final outcome of the following activities:

- A literature review needed for the deliverable *D2.2 Energy Communities barriers, needs and best practices analysis* to provide the project with a comprehensive and valid background.
- During the COMANAGE Kick-off Meeting (KoM), examples of ECs from different countries were presented within the space given to the OIS Hub, as part of a dynamic activity, in which partners identified the primary obstacles that ECs normally face.
- A set of qualitative interviews conducted by ANESE and ECO with experts in energy communities from Spain, Italy, and Poland with the aim of gathering practical information and knowledge of existent barriers and obstacles encountered during the different stages of an EC development.

The image presented below (Fig.2) illustrates the comprehensive range of barriers that have been identified. These barriers are categorized into 5 different sets: Technical, Financial, Legal and Administrative, Participation, and Dissemination. Each set of tools within the project aims to address and overcome the specific barriers associated with its respective category. By aligning with these categories, the tools highlight and prioritize the key factors to tackle every barrier within each subchapter. This approach ensures that the document accompanying the tools provides a clear and concise overview of the main barriers and the corresponding solutions proposed by each set of tools.



Figure 2. COMANAGE detected barriers

4. Toolkit Architecture

This section is focused on outlining the design and structure of the ECG Toolkit. As per its definition in the COMANAGE project, the toolkit is a comprehensive collection of tools, mechanisms, and services that have been designed to be flexible and adaptable. Its primary objective is to provide support to local and metropolitan government staff and Public Administration (PA) officials in effectively managing energy community projects. Developed as a central output of the COMANAGE project, the toolkit fully integrates with other key components within the COMANAGE Open Platform (COP), that is to say the Decision Support System (DSS), the e-learning platform, and the Digital Hub. Together, these interconnected resources create a cohesive digital environment where the three COMANAGE pilots, AMB, KMA and ANCI Lazio can digitally develop and implement their respective initiatives, expanding their network.

4.1. Toolkit integration within COMANAGE outputs

The ECG Toolkit within the project seamlessly integrates with the other tools and spaces available within the COMANAGE Open Platform, as illustrated in the Fig.3 below, that has been structured and designed by ECO and SPXL during several co-creation meetings. The main idea was to create a digital homogenous ecosystem in which all the COMANAGE outputs would be interconnected.

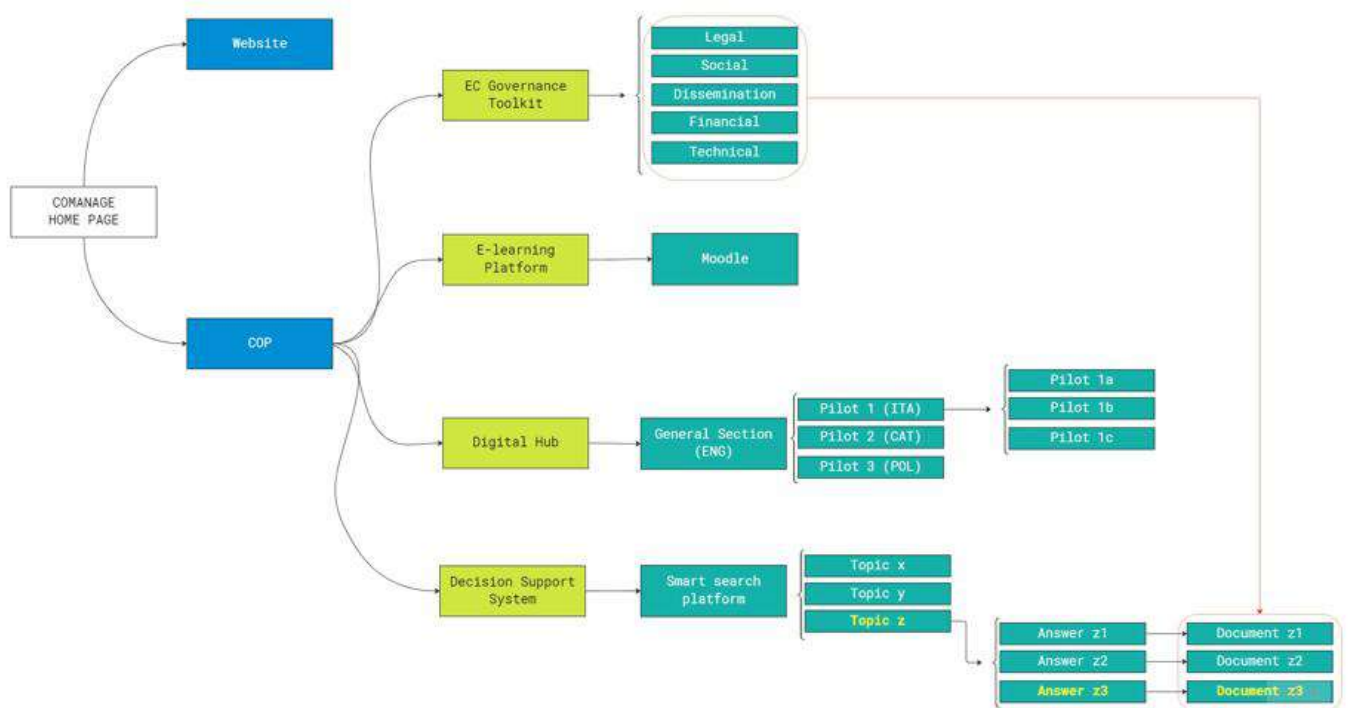


Figure 3. COMANAGE Webpage Scheme

This integration enables a comprehensive and coordinated approach in addressing the barriers identified at the outset of the project, which have been categorized into five distinct categories that follow in Fig.4.



Figure 4. Set of categories to group the tools included in the COMANAGE ECG Toolkit

The e-learning component, the toolkit, the Digital Hub, and the Decision Support System all share a common purpose and collectively tackle these barriers from different usage angles. The integration of the toolkit with the other tools and spaces ensures that the identified barriers are effectively addressed in a holistic manner. Each tool brings its unique set of functionalities and capabilities to bear on the challenges at hand, leveraging the insights and resources offered by the Open Platform. The e-learning component provides educational resources and training materials, equipping stakeholders with the knowledge and skills required to overcome the identified barriers.

The toolkit offers a flexible and adaptable set of tools, mechanisms, and services that support the management of energy community projects. The digital hub serves as a central space for collaboration, information sharing, and project coordination. Lastly, the DSS facilitates data-driven decision-making by extracting valuable information from the data related to the projects and provide information in the long term. By approaching the identified barriers from different perspectives while maintaining a shared purpose, the COMANAGE outputs collectively address the challenges comprehensively. This integration ensures a cohesive and synergistic approach, optimizing the impact and effectiveness of the tools in promoting the objectives of the project. Through this coordinated effort, the COMANAGE tools work together to overcome the barriers, foster sustainable practices, and drive positive change within the energy community projects.

4.1.1. COMANAGE Open Platform

The COMANAGE Open Platform (COP) is an interactive and dynamic solution for the different aspects related to the management of energy communities in the long-term. The COP, as it is possible to see in the Fig.5, is positioned as the primary entry point for the Hub Manager and all stakeholders. The platform aims to deliver tailored and translated content in four main languages: English, Italian, Polish, and Catalan. The users will be automatically redirected based on their browser language settings, although they will also have the option to switch languages manually. The platform intelligently presents content according to the user's selected language.

The main components of the COP consist of the ECG Toolkit co-created by ECOSERVEIS, the pilots and Co-opAbility which will be in its prototype version the first project output, available from Month (M)9. Additionally, the Digital Hub developed by SPXL will be accessible from M12, providing a central and dynamic space for collaboration and information sharing.

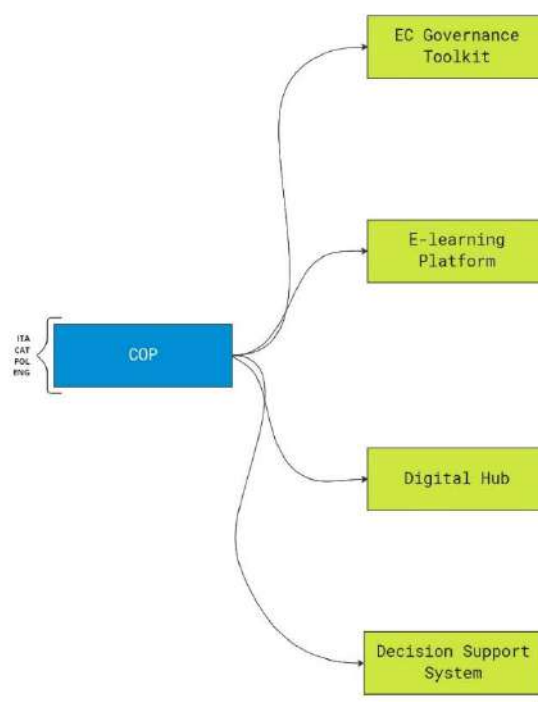


Figure 5. COMANAGE Open Platform Scheme

The e-Learning component, developed by AISFOR, will be available from M17, offering educational resources and training materials. Lastly, the Decision Support System developed by SPXL will be integrated into the platform starting from M20, aiding users in making informed decisions through data-driven insights.

The platform is conceived as a solution that integrates and makes accessible information about the deployment of energy communities, go-to-guides, technical documents, online tools, connecting interested users with experts in the field and maximizing the impact of communication and dissemination activities.

4.1.2. DSS – Decision Support System

By leveraging the capabilities of the toolkit together, stakeholders can efficiently navigate the complexities of energy community management and make informed decisions that contribute to the success of their projects. The Decision Support System (DSS) is developed with the primary objective of providing support to policy makers by extracting relevant and valuable information from the data associated with the specific pilots. The DSS comprises several key components, including a database for storing the relevant data, data management tools for organizing and manipulating the data, and both back-end and front-end components to facilitate data processing and user interaction.

The intended users of the DSS are the public administration entities involved in the pilots and replicators, as well as citizens who may access the system. The roles of ECOSERVEIS, AISFOR, Co-opAbility, and ANESE involve the selection of data and information to be incorporated into the DSS. The DSS operates on the principle of being an open platform, making it easily adoptable by other public administrations facing similar challenges. Once the system is adopted, these administrations can customize and enhance it by incorporating their own information. Depending on the usage and requirements of the DSS, as well as the requests of the stakeholders involved, the possibility of maintaining the DSS online beyond the project's conclusion is taken into consideration. This decision will be based on the system's continued relevance and value in supporting policy makers and addressing the needs of the energy community projects.

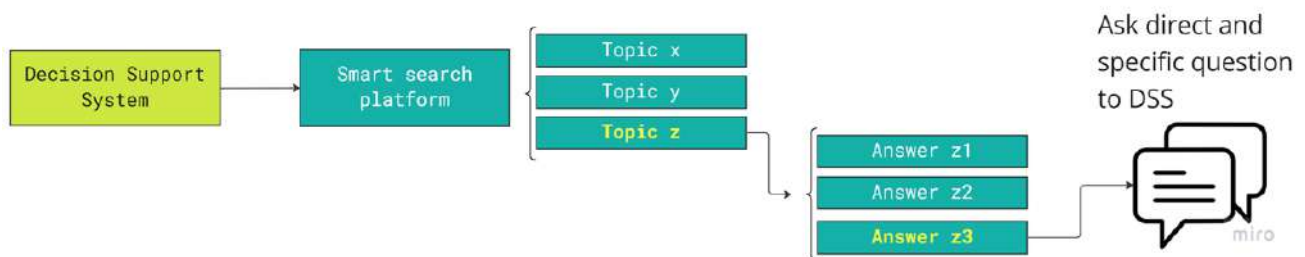


Figure 6. Decision Support System Scheme

To fulfil so, the DSS incorporates advanced techniques, such as Large Language Model (LLM) parsing, to handle large documents in multiple languages. It has the capability to analyse and process these documents, enabling it to generate responses and provide relevant links to the source document where the information is found. In this sense, in order to use the DSS, users simply need to upload the required documents to a shared folder. The system then automatically processes the documents and is able to respond to queries based on the information contained within them. However, there are certain constraints that must be considered. The documents need to be formatted as either PDF or text files, and any extraneous or irrelevant information, such as indexes or images, should be removed beforehand to optimize the system's performance. By

adhering to these constraints, the DSS can effectively process the uploaded documents and provide accurate and useful responses to user inquiries that can be depicted as a long-term strategy.

4.1.3. E-learning Platform

The training will be structured on the same sections in which the ECG Toolkit is divided. A presentation of the different tools will be included in the corresponding section of the training and will serve to provide attendees with practical skills to be directly applied in their local context. Each module will contain a more generic part (in English) and a pilot specific part which will be translated in the pilots' languages (Polish, Italian and Catalan).

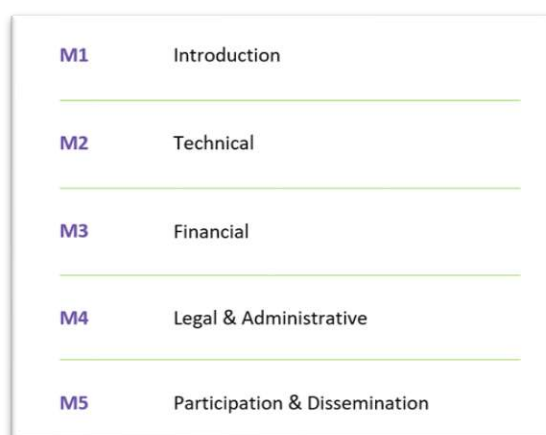


Figure 7. E-learning modules structure

Some of the topics will be strictly related to national settings, for instance incentives, sharing mechanisms, typologies of legal structures. In this sense, the only exception will be the Participation & Dissemination module, that due to its natural design, will not have any generic part and will be completely tailored according to the pilot's needs, specificities, context, and language.

4.2. Toolkit sections

The main goal of this sub chapter is to provide practical guidance and resources in the key areas among the specific objectives of the ECG Toolkit of the COMANAGE project. The tools that will be briefly outlined herein have been selected to overcome the main barriers the project partners identified in a phase preliminary to the first working activities done. Every sub section will briefly highlight the tools empowering stakeholders involved in energy communities to navigate legal and administrative challenges, promote social participation, effectively disseminate information, secure financing, and address technical aspects for successful project implementation and long-term sustainability.

4.2.1. Legal & administrative tools

Within the financial supporting tools and innovative business models foreseen in the COMANAGE project, the following legal tools, mostly templates, have been developed to facilitate the creation of public-private partnerships, ensuring the technical and financial support that ECs need for a successful development and implementation and a long-term sustainability:

- The **templates for legal body constitution and internal regulation of associations and cooperatives** provide a framework for building up the legal structure of energy communities and cooperatives. They outline the rights, responsibilities, and governance mechanisms of members, ensuring transparency and accountability within the community.
- The **contract template for the leasing of private rooftops** serves as a standardized contract for the installation of renewable energy systems. It might include provisions for terms, conditions, and obligations of both the property owner and the energy community, ensuring a fair and mutually beneficial agreement.
- The **template for municipal tax incentives** outlines a framework that municipalities can use to offer tax incentives to energy communities. In a further stage, it might include guidelines on the eligibility criteria, types of incentives, and their avail, that encourage the participation of energy communities, fostering their financial sustainability.

4.2.2. Social participation tools

COMANAGE Social participation tools are described as methods and/or mechanisms that allow energy communities and their members to prosper. The COMANAGE premise is that after the creation of an Energy Community, the implementation of effective social participation tools enables the community and its members to thrive, fostering collective decision-making, empowering individuals, and promoting sustainable energy practices in the long term. These tools serve to amplify the voices of community members, facilitate inclusive dialogue, and encourage active engagement towards a more just energy transition process. By using these tools, energy communities can channel their collective knowledge, skills, and resources to achieve shared goals, enhance social cohesion, and create resilient practices for the whole community.

The tools the COMANAGE project aims to develop for a long-term growing and sustainable strategy are mainly three:

- The **Do it Yourself (DIY) 10-rules-List** to follow, based on the principle of equality, inclusion, and intersectionality in participation. This list will cast light on specific exercises, or activities that can help individuals to foster full participation, empowerment, and self-management.
- The definition of a **Participation Plan** with specific methods and tools to implement to enlarge the pool of participants.
- An **Energy Poverty Tackling plan** approaching in a holistic manner energy vulnerable collectives, as a social group directly involved in the matter with the aim of creating ECs that open the path towards a fair and inclusive energy transition.

4.2.3. Communication tools

Desk research and a brainstorming session done by COMANAGE partners on similar projects, have showed that communication tools play a crucial role in promoting energy communities and expanding their reach among general population and the stakeholders actively involved in the energy industry. The key tools that have been selected to effectively disseminate the COMANAGE outcomes are:

- The **EC Communication Video Package** considered as a powerful tool for raising awareness and showcasing the benefits and achievements of energy communities. It is a visually engaging and informative tool that will allow to present the concept, goals, best practices, and any positive impact energy communities bring. The video, being a digital tool may not only inform about practical aspects, values, and principles behind energy communities, but also inspire and motivate viewers to get involved and actively contribute to a fair energy transition.
- **Ready-to-use Materials** will be designed to be easily accessible and usable by third parties, such as ECs, local authorities and municipalities or energy-related businesses, to support the recruitment and expansion of energy communities. These materials include a range of resources such as posters, leaflets, PowerPoint presentations (PPTs), infographics, etc.

4.2.4. Financial tools

The COMANAGE financial tools aim at developing innovative financial models and tools to support the long-term management, sustainability of energy communities, facilitating access and knowledge to different financing mechanisms, while providing technical financial support along the project life and implementation. The **EC Business Development Enhancement tool** drives the users through the financial steps required to ensure the sustainability of ECs and it is composed by four subsequent steps:

- **Flourishing EC Business Model Canvas**, which is a framework that helps stakeholders analyse and fill relevant sections of the Flourishing Business Model (BM) Canvas to the specific needs, characteristics, and context of their energy community. The Canvas will be tailored to the EC model, which is unique as it provides specific services and does not foresee EC members as clients like in traditional BMs.
- **Identification of key features from the Energy Communities Business Model (ECBM)**, which consists of a semi-automatic methodology to identify key features from the ECBM drawn on the previous steps and translate them into flows of services, goods, or currency.
- **ECBM Valuation**, in which the ECBM is evaluated in objective terms, using the characteristics obtained in the previous steps as inputs of a standard VALERI methodology.
- **Valuation Outcomes** obtained from the application of the VALERI methodology; they are conceived to be presented to financial institutions or grant applications. The outcome includes the following documentation:
 - Standard financial report
 - Cashflow identification

- Sensitivity and Multiple Scenario Analysis
- Key Stakeholders

The tool would facilitate the assessment of various factors, including revenue streams, costs, and potential friction and maintenance costs. By using this tool, energy communities can analyse their financial aspects in a systematic manner, identifying potential risks and ensuring that the business model is economically sustainable.

4.2.5. Technical tools

The technical tools are considered within the COMANAGE project as resources created specifically to provide support to the implementation of all the technicalities of energy projects, such as renewable energy generation, energy efficiency, and grid integration. Herein, the tools selected are:

- The **protocol/user journey**, which outlines a step-by-step process that ECs members follow when engaging in shared self-consumption. It may outline the different stages, requirements, and interactions in the journey, from initial membership quota to ongoing participation and economic benefits once the EC is set. This protocol helps individuals to take the needed actions, assume responsibilities, and use the specific communication channels, ensuring a smooth and efficient management of these community projects.
- Inside the protocol, there will be included different **Shared self-consumption templates**, that will provide a structured approach to setting up and operating shared self-consumption systems, which involve multiple participants sharing and utilizing renewable energy generated within a community.

5. Legal and administrative tools

The legal and administrative tools aim at providing a comprehensive set of legal templates that can speed up the bureaucratic procedures that energy communities must undergo, liberate time and resources from their members and incentivize the participation of other citizens and relevant stakeholders. The tools are supported by all the explanatory notes and guidelines needed for a legally sound application of each document.

In particular, the tools proposed cover the documentation required in different life stages of ECs: 1) the set-up of the EC, through legal templates for **constitution and internal regulation** of associations and cooperatives; 2) the activation of energy sharing services, through contract template for **leasing of private rooftop** and 3) the expansion and mainstreaming of the EC model, through templates for **municipal tax incentives**.

Within the **barriers** identified in the deliverable *D2.2 Energy Communities barriers, needs and best practices analysis*, the legal and administrative tools aim to:

1. Propose a set of **standardized processes** and methodologies to overcome the **bureaucracy and administration** obstacles that members might encounter throughout the EC lifespan.
2. Provide members with useful precompiled documents and the instructions on how to use them, covering for the **lack of knowledge and competencies** and **experience in collective action** they might encounter.
3. Provide the opportunity to **Public Authorities to get involved**, promote and support ECs without having to dedicate many resources to it; in the same way the tools make it easier for external private entities to lease their rooftop to and EC, improving the overall **trust in actors and processes**.



Figure 8. Selection of barriers for the legal and administrative tools

5.1. Legal templates for constitution and internal regulation of associations and cooperatives

During the barrier identification process, associations and cooperatives were identified as the widely preferred and most used legal body for ECs across Europe. As a result, the project aims to develop ready-to-use legal templates that help with the constitution and the long-term management of this legal bodies.

5.1.1. Main objective

The objective of this tool is to provide a comprehensive set of ready-to-use legal tools and resources that can be applied by associations and cooperatives across Europe, **simplifying the process of legal constitution and the following internal functioning and governance**. This would reduce the administrative burden on organizations and facilitate their establishment in a timely and efficient manner.

Establishing and maintaining associations and cooperatives often requires significant time and resources. The tool aims to **reduce the burden on organizations** by offering different pre-prepared legal templates that save time and effort in drafting the necessary documents. This facilitates not only the establishment, but also the day-to-day functioning of associations and cooperatives, allowing them to focus on their core mission and activities.

Furthermore, legal services can be costly, especially for smaller associations and cooperatives with limited financial resources. The project addresses this barrier by providing **open-access legal templates** that are freely available to organizations. This

promotes inclusivity and ensures that associations and cooperatives, regardless of their size or financial capacity, can benefit from reliable and compliant legal resources.

Summing up, some of the biggest barriers to overcome regarding legal aspects are the lack of knowledge and lack of referents to build upon. Therefore, the tool has three main objectives:

1. To develop **standardized legal templates for the constitution and internal regulation of associations and cooperatives**. These templates would be designed to meet the legal requirements of various European countries while providing a user-friendly and accessible format.
2. To develop **ready-to-use tailored** legal templates for the three COMANAGE pilot areas.
3. To gather already **existing resources** both at European and pilot area level.

Overall, the development of standardized legal templates overcomes constitution and functioning barriers by providing a harmonized approach that can be adapted to the specific requirements of different jurisdictions and different services offered by each EC.

5.1.2. Structure of the tool (Format, features & target audience)

The tool will be developed as an **online tool** accessible through the COMANAGE Open Platform. The tool will be designed to provide a user-friendly interface that allows users to easily navigate and generate customized legal documents based on their specific requirements and legislation.

The format of the tool will consist of downloadable documents that can be customized according to the specific needs of the user. Once users select the appropriate template for their association or cooperative, they will have the ability to personalize the document by inputting relevant information and adjusting as necessary. This format ensures that users have access to professionally formatted and legally sound documents that can be tailored to their unique circumstances.

As previously mentioned, apart from the ready-to-use materials, the tool will also provide other already existing supporting documents, this will guide energy communities by having different case studies to build upon.

Regarding the **target audience**, the tool is specifically designed to cater to the needs of energy communities, considering the unique legal requirements and considerations related to their operations, the tool is intended to be used by civil servants involved in the support and promotion of energy community initiatives. Civil servants can use the tool to provide support and guidance to energy communities, ensuring a smooth and compliant process of establishing and functioning associations and cooperatives.

By targeting both energy communities and civil servants, the tool aims to **facilitate collaboration and knowledge transfer** between these stakeholders, fostering the growth and success of energy community initiatives within the framework of private-communitarian-public collaborations.

Finally, the tool will also include an **Explanatory Guidance** that will provide clear explanations and instructions, helping users understand the purpose of each document and section and how to properly adapt it to their needs.

5.1.3. Tailoring needs

The content of the templates for the constitution and internal regulation heavily depends on how associations and cooperatives are regulated in national and regional context, as well as on the historic legacy and the relative weight that these legal forms occupy in the economic and social environment of each pilot.

5.1.3.1. AMB

AMB Pilot presents a unique challenge of catering to the diverse legal needs of its advanced Energy Communities' sector. As cooperatives and associations are the most commonly used legal figures in this context, the tool will focus on providing templates that specifically cater to these organizational/legal structures. While associations are often preferred in the initial stages due to their simplicity and lower constitution costs, cooperatives offer more comprehensive governance mechanisms and will therefore need more complex templates, which will also focus not only on the constitution but the long-term functioning and sustainability. The templates will cover a wide range of topics that will avoid later tedious modifications of these legal documents, an example of such tailoring can be seen in the internal financing mechanisms, which is best to be mentioned and defined during the constitution of the legal figures. Therefore, the tool should offer customizable templates for both cooperatives and associations, allowing Energy Communities to select the legal figure that best suits their specific requirements. Additionally, considering the advanced state of the Energy Communities sector in the AMB region, many existing templates are likely available across different platforms. Hence, the tool's key role will be to gather these documents into a single, centralized place, ensuring easy access and facilitating seamless tailoring to meet the unique needs of each Energy Community. This consolidation of legal templates will undoubtedly streamline the establishment and governance process for these communities, fostering their growth and sustainability.

5.1.3.2. ANCI Lazio

The tailoring for Italian pilot must consider the regulation on the valorisation and incentive service for the share of electricity implemented by the public company GSE (*Gestore Servizi Energetici*)¹, responsible for the promotion and development of renewable energy sources and energy efficiency. According to GSE, the statute of an Italian Renewable Energy Community (REC) must include the following essential elements:

1. Main social purpose to provide environmental, economic and social benefits to members and proximities.
2. Description of members as individuals, SMEs, local public authorities or other organizations.
3. Guarantee an open and voluntary participation (except that SMEs cannot have the REC as main commercial activity).
4. Guarantee the right of end-clients, including the possibility to choose the retailer and that of leaving the REC.
5. Define a delegated party responsible for the allocation of the shared electricity.

¹ Gestore Servizi Energetici (ITA) – “Gruppi di autoconsumatori e comunità di energia rinnovabile – Documenti” – <https://www.gse.it/servizi-per-te/autoconsumo/gruppi-di-autoconsumatori-e-comunita-di-energia-rinnovabile/documenti>

The above regulation refers to a temporary decree law that was intended to open an experimental phase for Italian RECs. The entities that have been established in Italy and want to be established in the near future are now waiting for the final implementing decree for RECs. The latter will change the rules so far set with consequences that may be more or less positive depending on the various local situations.

The toolkit should therefore reserve a small space for a short guide that can explain the contents of this new legislative scheme (expected by the end of 2023) and how to deal with any barriers present.

Moreover, when tailoring the documentation for energy cooperatives, the guidance and documentation created by the Italian and regional associations of cooperative companies LegaCoop²³, and the regulation on cooperative enterprises included in the Title VI of the Civil Code. The tailoring of template models for ECs might also benefit from the collaboration with initiatives of energy democratization promoted by actors from the corporativism⁴, associationism, activism⁵ and the social and solidary economy⁶.

5.1.3.3. KMA

Specific needs for actions in the field of the *legal templates for constitution and internal regulation of associations and cooperatives* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

5.2. Contract template for leasing of private rooftop

Contract templates for leasing private rooftops for solar photovoltaic (PV) installations serve as valuable tools in promoting renewable energy adoption, particularly in highly dense metropolitan areas. By simplifying the leasing process, establishing clear terms and conditions, and addressing barriers such as difficulty in finding suitable rooftops, these templates contribute to the growth of rooftop available for Energy Communities initiatives and help accelerate their dissemination across metropolitan areas.

5.2.1. Main objective

The leasing of private rooftops for solar PV installations has gained significant traction as a viable solution to promote renewable energy generation. This section presents an overview of contract templates designed to facilitate the leasing process and addresses the main objectives and barriers they help overcome. One of the significant challenges addressed by

² LegaCoop (ITA / 2023) – “Le comunità energetiche” – <https://www.legacoop.coop/quotidiano/wp-content/uploads/sites/26/2023/01/Documento-CER1-1.pdf>

³ LegaCoop (ITA / 2021) – “Cosa fare per costituire una cooperativa, conoscere i principi, i valori, il funzionamento” – https://www.legacooplazio.it/wp-content/uploads/2021/08/FARE-COOP-NUOVO_22aprile.pdf#ancora1

⁴ Respira – Energia cooperative e di comunità (ITA) – <https://www.respira.coop>

⁵ Legambiente (ITA) – La rete delle Comunità energetiche rinnovabili e solidali – <https://www.comunirinnovabili.it/la-rete-delle-comunita-energetiche-rinnovabili-e-sostenibili/>

⁶ Co-energia – Progetti collettivi di Economia solidale (ITA) – <https://www.co-energia.org/>

these templates is the difficulty of finding suitable rooftops in highly dense metropolitan areas, considering that public rooftops are usually already being considered for public led projects.

The contract templates for leasing private rooftops for solar PV installations aiming to achieve the following objectives:

1. **Simplify the leasing process:** The templates streamline the complex process of leasing private rooftops by providing a structured framework that outlines the rights, responsibilities, and obligations of both the rooftop owner (lessor), usually a company, and the energy community promoting a solar PV installation (lessee). By standardizing the leasing process, the templates help expedite negotiations and reduce the time required to reach an agreement.
2. **Establish clear terms and conditions:** The contract templates ensure that all essential terms and conditions related to the solar PV installation and rooftop leasing are clearly defined. This includes aspects such as lease duration, rental payments, maintenance responsibilities, insurance requirements, access rights, and dispute resolution mechanisms. Clear and comprehensive terms facilitate a mutual understanding and minimize potential conflicts between the parties involved.

The templates will also provide the relevant tools to incorporate the rooftop owner or manager into the energy community when possible. It will therefore interact with the legal templates for internal functioning which covers the different existing member conditions and typologies.

The templates include **attractive financial arrangements and incentives** for rooftop owners, which can entice them to consider leasing their rooftops for solar PV installations. These arrangements may include fixed rental payments, profit-sharing models, or long-term lease options with increasing rental rates over time. By offering financial benefits, the templates motivate rooftop owners to participate in renewable energy initiatives and make their rooftops available for energy communities initiatives.

5.2.2. Structure of the tool (Format, features & target audience)

The contract template for leasing of private rooftop will have a similar structure as the legal body constitution and functioning templates. The tool will also be downloadable and will be designed to be easily customizable, allowing users to input specific details and adapt the template to their unique leasing agreement requirements.

The tool will also include the relevant features to help navigate the lessee (usually energy communities) in designing the most adequate economic agreements according to their business model.

As forementioned, public rooftops are usually less accessible in metropolitan areas due to public generation needs. Nevertheless, the tool will also cover potential public-communitarian collaboration and template models for leasing, as well as gathering already existing templates and mechanisms for public-communitarian collaboration and public rooftop lending.

The **target audience** will always be channelled through the relevant public authorities. Different from the legal templates, this tool will address three end-users:

1. **Energy communities:** Initiatives seeking for suitable rooftops to base their projects on.
2. **Private rooftop owners:** Usually, private companies with available and unused rooftops.

3. **Public authorities:** Seeking to promote or even collaborate with community initiatives.

5.2.3. Tailoring needs

The format and content of the templates depend entirely on national regulation on private law. On the same hand, the recommendation on attractive economic agreements depends on the economic situation on each pilot.

5.2.3.1. AMB

The tailoring needs for AMB's Pilot, given its extremely dense area and municipalities' strong commitment to lowering Green House Gas emissions, require a strategic approach regarding available private rooftops. As the municipalities intend to use their available rooftops for their own renewable generation, the contract templates must address this scarcity of suitable rooftops for private leasing. Moreover, considering the past challenges faced by energy communities attempting to set up rooftop contracts, it becomes evident that the templates should be designed to address these hurdles and provide clear and comprehensive solutions. The diverse nature of potential rooftop owners, such as sports centres, industrial complexes, and even churches, require flexible and customizable templates that can accommodate the specific requirements and concerns of each entity.

5.2.3.2. ANCI

For the Ventotene's case study as well as for every urban historic centre, consideration should also be given to the issue of landscape constraints that often make the installation of photovoltaic systems very complex, particularly within the historic centre.

It would also be crucial to address the issue of public facilities made available to the REC and how (through which public-private contract) the public entity can rent or receive on a free loan basis a private rooftop for the installation of a public facility to be shared with the REC.

It will also be important to consider the issue of liability: if a renewable energy plant generates a problem, including any damage to third parties, who is liable? Is there any insurance for CERs?

5.2.3.3. KMA

Specific needs for actions in the field of *the Contract template for leasing of private rooftop* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

5.3. Template for municipal tax incentives

The tool for municipal tax incentives to shared self-consumption installations is a comprehensive resource designed to assist municipal authorities and energy communities in promoting the adoption of PV installations in high-density metropolitan areas while fostering community-driven initiatives. This user-friendly tool offers **step-by-step guidance** on designing, implementing, and administering tax incentives, taking into account legal and economic aspects. It features a collection of successful tax incentive models, providing real-world examples for inspiration. The **tool addresses barriers** such as limited

PV installations, lack of community engagement, complex legal requirements, and financial constraints. With its guidance on legal frameworks, economic analysis, and community engagement strategies, the tool empowers municipal authorities to encourage shared self-consumption, thereby facilitating the transition to renewable energy and enhancing sustainability within their municipalities.

5.3.1. Main objective

The tool developed to **promote shared self-consumption** overcomes several barriers in the adoption of PV installations. In high-density metropolitan areas, where PV penetration is limited, the tool addresses this challenge by offering tax incentives specifically targeted at shared self-consumption. By making the installations more economically attractive and financially feasible, it encourages property owners, communities, and businesses to invest in PV systems, overcoming the initial cost barriers and promoting higher adoption rates. Furthermore, the tool tackles the barrier of limited community engagement and collaboration in renewable energy projects. By promoting shared self-consumption, it fosters a sense of ownership and encourages collective decision-making, thereby strengthening the community fabric and overcoming the challenge of limited involvement in sustainable initiatives. Moreover, the tool provides support and guidance on complex legal requirements. It assists municipalities in understanding the legal frameworks, permits, and regulations associated with the incentives, simplifying the implementation process, and ensuring compliance. Lastly, the tool recognizes the financial constraints and investment barriers by providing **tax incentives and financial support mechanisms**. These economic benefits make shared self-consumption installations financially viable, incentivizing investment and overcoming the barrier of limited financial resources. The four main objectives of the tool are as follows:

1. **Promote the adoption of PV installations:** the primary objective of this tool is to encourage the installation of PV systems in densely populated urban areas by providing tax incentives specifically tailored to shared self-consumption installations. The tool aims to increase the number of PV projects in these areas, thereby contributing to the transition towards renewable energy sources and reducing dependence on fossil fuels.
2. **Foster communitarian projects:** the tool aims to support communitarian projects by incentivizing shared self-consumption and encouraging the formation of community-driven initiatives that bring together multiple participants to collectively benefit from renewable energy generation. This objective helps strengthen social cohesion, promotes a sense of ownership and collaboration, and fosters sustainable development within the municipality.
3. **Provide legal support:** the tool seeks to assist municipalities in navigating the legal aspects related to tax incentives for shared self-consumption installations. It aims to provide comprehensive guidance on the legal requirements, permits, and regulations applicable to implementing these incentives. By clarifying the legal framework, the tool aims to streamline the administrative process for municipalities, ensuring compliance and facilitating the adoption of the incentives.
4. **Offer economic benefits:** The tool aims to address the economic barriers associated with PV installations in high-density metropolitan areas. By providing tax incentives, municipalities can alleviate the financial burden on participants and encourage more widespread adoption, including tax breaks or reduced tariffs. The economic benefits proposed by the tool aim to make PV installations financially viable and attractive to potential participants of ECs.

Overall, the template for municipal tax incentives to shared self-consumption installations addresses the objectives of promoting PV installations in high-density metropolitan areas and fostering communitarian projects. It supports municipalities in both the legal aspects and the economic aspects of the tax incentives, thereby overcoming various barriers and facilitating the adoption of renewable energy solutions in urban settings.

5.3.2. Structure of the tool (Format, features & target audience)

The tool for municipal tax incentives to shared self-consumption installations is designed as a **comprehensive guide** and resource for municipal authorities and energy communities interested in promoting shared self-consumption within their municipalities. It provides a user-friendly format with the following features:

- **Documentation of Successful Tax Incentive Models:** The tool includes a collection of already existing and successful tax incentive models from various municipalities. It showcases real-world examples of tax incentives that have effectively encouraged shared self-consumption installations. These case studies serve as valuable references and sources of inspiration for municipal authorities seeking to implement similar incentives within their own jurisdictions.
- **Step-by-Step Guidance:** The tool offers a clear and structured step-by-step guidance on how to design, implement, and administer tax incentives for shared self-consumption installations. It covers various aspects, including legal requirements, administrative procedures, financial considerations, and community engagement strategies. The guidance ensures that municipal authorities have a comprehensive understanding of the necessary steps involved in promoting shared self-consumption.
- **Legal Framework Assistance:** Recognizing the complexity of legal requirements, the tool provides assistance in navigating the legal framework related to tax incentives for shared self-consumption installations. It offers detailed information on relevant legislation, permits, zoning regulations, and other legal considerations. This feature helps municipal authorities ensure compliance and avoid legal pitfalls while implementing the incentives.
- **Economic Analysis and Financial Support:** The tool includes an economic analysis section that helps municipal authorities assess the financial viability and impact of tax incentives. It provides guidance on estimating the costs and benefits associated with shared self-consumption installations, helping authorities make informed decisions regarding the level of incentives to be offered.

The primary **target audience** for this tool is municipal authorities or energy communities aiming to promote shared self-consumption within their municipalities. The end-users of the tool include:

- **Municipal Authorities:** Mayors, city council members, and other municipal decision-makers who are responsible for designing and implementing policies and incentives related to renewable energy adoption.
- **Energy Communities:** Local energy communities or cooperatives interested in developing shared self-consumption projects and seeking guidance on how to promote a tax incentive regulation in their municipality.

By catering to the specific needs and objectives of these end-users, the tool serves as a valuable resource to support municipal authorities and energy communities in their efforts to promote shared self-consumption and drive the adoption of renewable energy within their municipalities.

5.3.3. Tailoring needs

The design of the tax incentives depends on the fiscal policy of each pilot, considering that municipalities in different countries or even regions might have more or less room to collect municipal taxes.

5.3.3.1. AMB

AMB Pilot requires tailoring to address the specific needs of municipalities in promoting shared self-consumption effectively. Currently, most municipalities offer tax incentives solely for individual self-consumption, neglecting the potential of shared self-consumption installations. The existing incentives also lack clarity and comprehensiveness, hindering their impact. To tailor to AMB's Pilot, it must go beyond the conventional approach and incorporate incentives explicitly designed for shared self-consumption projects. The pilot should address the legal complexities surrounding shared self-consumption and provide step-by-step guidance to municipal authorities. By considering the shortcomings of the already existing tax incentives document created by the Catalan Government, the AMB's Pilot tax incentive tool can serve as a comprehensive resource and encourage the adoption of PV installations in high-density metropolitan areas while promoting community-driven initiatives.

5.3.3.2. ANCI

The promotion of energy communities in Lazio or in any other territory requires innovative incentives to encourage participation and foster the development of sustainable energy initiatives. It would be interesting to consider examples of innovative policies to be proposed within local authorities such as:

- Introduction of incentives and discounts on local taxes for the adoption of renewable plants
- Priority grid access for energy community projects, reducing bureaucratic hurdles and ensuring timely integration into the electricity grid.
- Provide incentives for energy communities to invest in smart grid and energy storage solutions. Storage technologies can help balance energy generation and consumption, making renewable energy projects more reliable and resilient.

The municipality of Ventotene has available public funds related to the PNRR green islands with which it could establish incentive policies for the installation of photovoltaic systems to serve the Energy Community. The tool should therefore also consider how the municipality could make these funds available to REC members (e.g., how to structure a dedicated call for proposals, what rewarding criteria to evaluate...etc.)

5.3.3.3. KMA

Specific needs for actions in the field of *the template for municipal tax incentives* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

6. Social participation tools

The social participation tools aim at **enhancing the engagement** of people with an intersectional and inclusive perspective. As a matter of fact, as far as gender equality related objectives briefly highlighted in the Gender Mainstreaming in deliverable *D2.1 Energy communities' holistic framework and collaboration methodology*, the tools proposed in this section are intended to enhance participation in energy community projects, motivating individuals, and collectives to become active and promote a modern and sustainable model, getting in touch with other people. Their goal is to address the barriers that have been identified by COMANAGE partners in a preliminary phase of the preparation of the toolkit.

At the general level, these tools are designed to assist at the medium and late stages of the project, although they can be tailored also in an early stage. Rather than offering a single definitive answer to the question of how to ensure the longevity and sustainability of an Energy Community, the goal is to guide ECs towards a long feasible and viable lifepath from a social perspective. That is the reason why the tools provided offer general guidelines, examples, and recommendations to help ECs in Europe navigating the whole process effectively. These tools focused on addressing the following barriers:

As highlighted in the methodology chapter, within the social barriers and obstacles identified in the deliverable *D2.2 Energy Communities barriers, needs and best practices analysis*, the social participation tools aim to:

1. Provide frameworks, methodologies and more practical examples that help members in engaging and collaborating at the community level, empower them to overcome the **initial lack of experience** while actively contributing to decision-making and bottom-up actions within the community.
2. **Enhance knowledge sharing and capacity building.** The workshops and sessions equip participants with the information, skills, and competences they need to engage in discussions with other stakeholders, understand and explain technical aspects to become active subjects.
3. As for the **lack of trust in other actors or processes**, the tools foster a higher sense of transparency, inclusivity and accountability that can help to establish trust, while enhancing genuine commitment.
4. Concerning the possible **difficulties in engaging specific social segments**, like females and young adults, the tools incorporate communication strategies such as digital channels to engage a young public or methods like the mailbox that help promoting safe spaces for expressing ideas or opinions or concerns when an individual for gendered roles and specific social structures does not feel legitimised to talk.

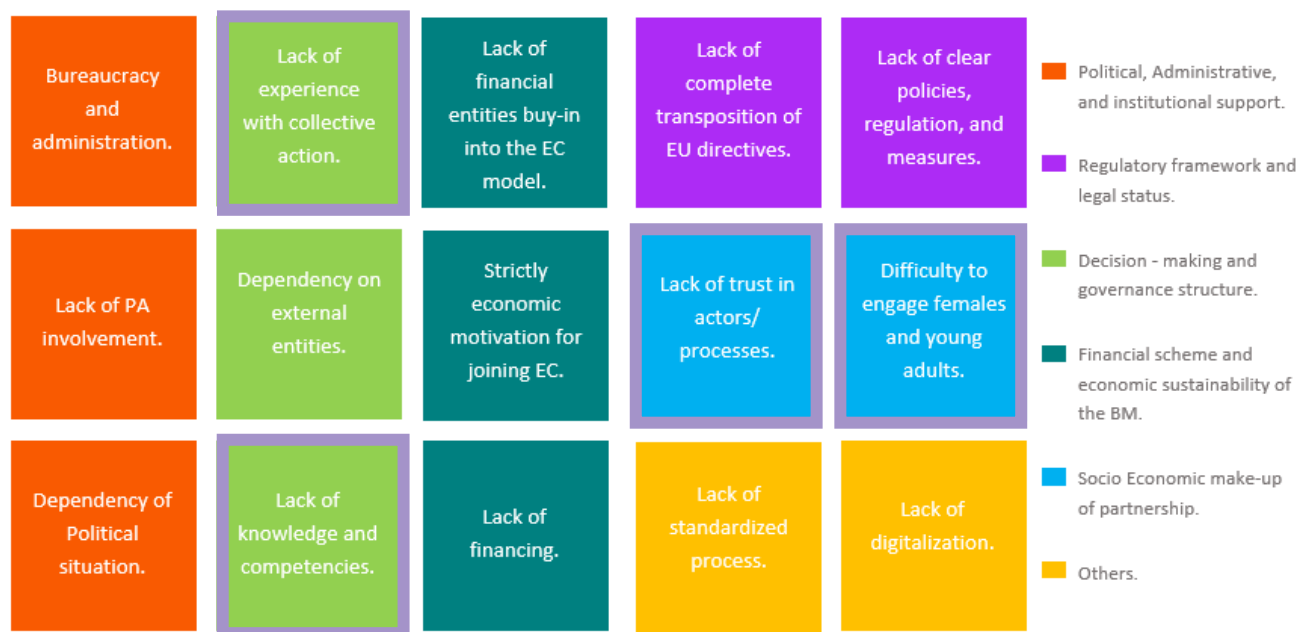


Figure 9. Selection of barriers for the social participation tools

6.1. DIY 10-rules-list for equality, inclusion, and intersectionality in participation

The DIY list is a set of **10 rules or guidelines that energy communities can use** to manage various aspects of their internal organization and external relations effectively and proactively. The primary objective of this decalogue is to provide energy communities with a framework that enables them to thrive and sustain their operations in the long term, while ensuring inclusion and fostering social participation.

The decalogue serves as a practical and accessible guide for individuals within energy communities and PA involved in energy transition initiatives to navigate or give support to various aspects of their internal organization and external relations. Every rule highlights a necessity that must be addressed, and any individual can use the decalogue by following the 10 rules outlined within it from start to finish or selecting those that can specifically target a need. Each rule provides specific guidance and recommendations on how to address different challenges and promote sustainable practices within the community. To use the decalogue effectively, community members can start by familiarizing themselves with the rules and their description and then with the specific content (herein provided in the coloured boxes), which provide more detailed explanations on the activities/actions to make. They can carefully read and understand the principles and actions suggested by each rule, considering how they can be applied to their specific context.

The toolkit highlights general guidelines and provides examples of methodologies, such as the **Mailbox** or **Social Media channels**, presented in the coloured boxes. These examples can be easily tailored and modified to align with the specific characteristics and requirements of the energy community. Variations in behaviours, cultural patterns, and socio-economic dynamics among different social segments may need adjustments to ensure the effectiveness and relevance of the tools within the diverse contexts of the three OIS Hubs.

6.1.1. Main objective

This tool has been designed with the goal to contribute to increasing inclusion and gender equality within energy communities in several ways. Firstly, by providing a decalogue of 10 rules specifically designed to guide the internal organization and external relations of energy communities, it ensures that all community members, irrespective of gender, have equal access to information and resources necessary for their active participation and decision-making. The tool promotes transparency, accountability, and fair practices, fostering an inclusive environment where all voices are heard and valued.

Moreover, the tool explicitly addresses gender-related barriers and biases that may exist within energy communities in rule 8. or focuses on promoting equal opportunities for leadership and participation in decision-making processes. By emphasizing gender equality as a key principle, the tool encourages energy communities to actively identify and eliminate discriminatory practices and create opportunities for women's involvement at all levels.

The lack of specificities in this section of the toolkit prototype is justified by the fact that the structure of COMANAGE social participation tools is primarily based on best practices and dynamic exercises that require minimal economic resources. The intention is to provide a flexible framework that can be adapted to different energy communities and their unique circumstances from an organisational and economical point of view.

6.1.2. Structure of the tool (Format, features & target audience)

The intended users of this tool are **civil servants** supporting **members of energy communities** or the latter themselves who aim to acquire knowledge on how deploying a sustainable long-term strategy for their community's development. The tool has been designed taking into consideration the perspective of an EC representative or energy project promoter, a governing structure or a civil servant supporting already established energy communities within his/her municipality.

This decalogue is typically presented in the form of a visually appealing **poster**, prominently displayed in public administration offices and public spaces where energy community members can easily access it. Additionally, **leaflets** containing more detailed explanations of each rule are distributed alongside the poster. By following these guidelines, energy communities can navigate challenges, optimize their internal processes, foster strong external relationships, and ultimately achieve long-term success in their endeavours. Furthermore, the distribution of the DIY list posters and leaflets in public administration offices and public spaces ensures that the information reaches a diverse audience, including individuals who may have limited access to digital resources. This approach helps overcome potential barriers to inclusion, such as technological or digital divides, and ensures that marginalized groups, including women, have equal opportunities to engage with the tool's content.

As per the specificities of the tool, the 10 rules will be outlined and described in the following pages. The coloured boxes contain further clarifications, examples, practical exercises and dynamic activities. The main idea is that these are guidelines that can be deployed in every pilot also taking into consideration the **Theory U tools** and main dynamics. As for the high degree of flexibility and customization, the importance of addressing the specific needs and dynamics of each energy community is acknowledged. Nevertheless, there can be variations in approaches and strategies based on cultural, social, and economic factors, and for this reason communities are encouraged to adapt the tools accordingly to maximize their impact and effectiveness. The specific tailoring of the social participation tools to the COMANAGE Pilots will be detailed and specifically described in the final version of the Toolkit.

1. FIND A COMMON GROUND FOR SHARED VALUES AND GOALS

As also COMANAGE theoretical framework outlined by Theory U in deliverable *D2.1 Energy communities' holistic framework and collaborative methodology* pinpoints, establishing a foundation of shared values and goals is a fundamental aspect within a group or community. When dealing with equality, inclusion and intersectionality, the common ground involves identifying and emphasizing the commonalities that unite individuals or stakeholders, no matter their diverse backgrounds, beliefs, identities, experiences, or perspectives. By focusing on shared values, such as fairness, justice, and respect, and eliminating discrimination and biases, a sense of collective purpose and belonging can be fostered.

This may involve discussions, **world cafes**, or facilitated sessions to uncover the underlying values and principles that drive individuals' commitment and shared vision to inclusion aligning efforts and building trust.

2. “Knowledge is power”. CREATE A SAFE SPACE TO SHARE INFORMATION

To create a safe space for sharing information, it is important to establish a hospitable environment that encourages open dialogue and comfort, allowing that information is shared in a manageable and easy to understand way, adapted to the specific public. (i.e., different languages, education levels, social roles, computer literacy.) This involves the following aspects:

- Choose a physical environment that is cosy and conducive to open discussions.
- Avoid a classroom or conference room setting and instead opt for a meeting place with tables accommodating four to five chairs (maximum). Provide butcher or flipchart paper, coloured markers, post-its, and other materials for participants to engage in interactive activities.
- The host(s) welcomes participants as they arrive, creating a warm and inviting atmosphere.
- She/he/they clearly communicate(s) to participants that they are encouraged to speak their minds without fear of judgment, stressing that there are no right or wrong answers or comments, fostering an environment of inclusivity and respect for diverse opinions.
- Provide regular community events (e.g., workshops, town hall meetings, webinars) to educate community members about energy related topics, providing them with soft skills that enhance interpersonal interactions and teamwork (e.g., effective communication strategies, approaches to collaboration, and fostering inclusivity).

One of the best practices that has been found out in this specific field of action is the creation of communication materials and a check list to effectively communicate energy knowledge. In this section, the work done by the Community Energy Academy⁷ briefly presented in Fig.10.

⁷ More information available at the [KNOWLEDGE module: Integrated knowledge and information for energy communities and citizens](#)

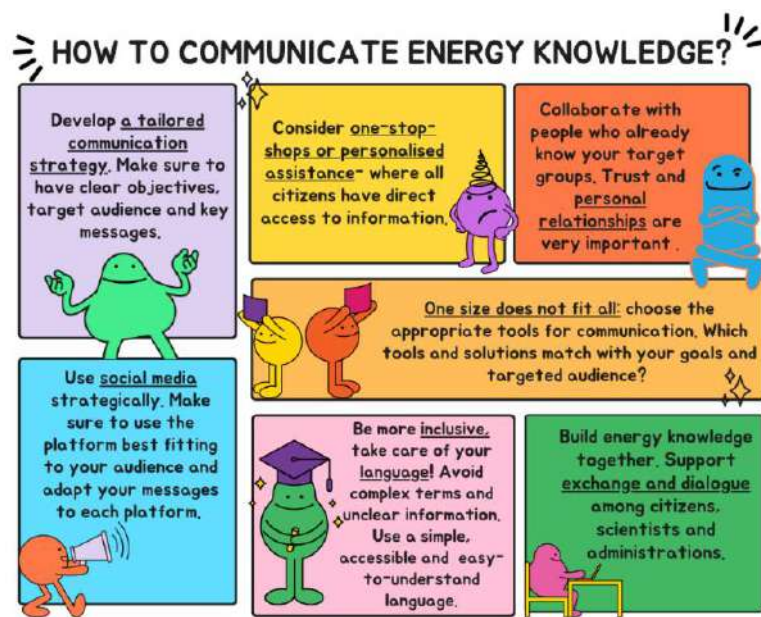


Figure 10. Checklist: how to communicate energy knowledge

3. USE NONVIOLENT, ASSERTIVE, AND INCLUSIVE COMMUNICATION CHANNELS

The individuals belonging to an energy community might be able to express themselves in the most comfortable way. To this aim, clear and diverse channels of communication and feedback are fundamental in order to ensure that community members feel heard and valued. Sometimes, in community gatherings some individuals have more impact than others, as for their expertise on the subject, or because of their communication style, age, ease of speech in public, etc. This can lead some individuals to avoid sharing their feelings, ideas, and opinions. Hence, it is important to ensure that everyone has the chance to express their views. To address this a **mailbox** can be introduced as a tool for post-assembly communication.

- The **mailbox** allows participants who didn't speak during the meeting to have a platform where their inputs, feedbacks, ideas, concerns, or questions can be received and considered.
- It can be designed to accept also anonymous feedback or include an option for individuals to provide their names. The feedback must be handled with confidentiality and respect in order to foster trust and avoid judgmental conducts.
- It can be a physical box in which leaving written notes, or also an online platform (e.g., google form) for online submissions.
- During the assembly/meeting, it's important to inform participants about its existence and purpose. Emphasize that it is a tool available for those who may have hesitated to speak during the meeting or who have additional ideas or questions they would like to share.

- The feedback sent through this tool should be regularly reviewed by designated individuals or a committee responsible. Depending on the specific topic/request/query, responses can be provided in the next meeting or through alternative communication channels, such as email or newsletters.

4. “Sharing is caring”. FOSTER PARTICIPATION AND INCLUSION OF DIFFERENT SOCIAL GROUPS IN ALL THE ACTIVITIES, ACTIONS, AND DECISIONS.

When dealing with the design of a participation plan for long-term sustainability, casting light on the importance of not leaving anyone behind is very important. Use social media and other outreach and communication tools to provide more flexibility with those members who might not otherwise physically participate for family or working related matters. Participation and inclusion of those who are more affected by energy poverty and those collectives who are more invisible and underrepresented in the field of energy, like racialized people, the elderly, or youngsters need to be strengthened. When considering the challenges faced by vulnerable collectives or underrepresented groups (e.g., stigma, lack of willingness, language-related stressors, energy poverty-related stressors, mistrust, socio-economic situation, and unbalanced private/working life schedule) it is crucial to make some considerations (as it is also mentioned in the Gender Mainstreaming Chapter 5 of deliverable *D2.1 Energy Communities’ holistic framework and collaborative methodology*).

- Individuals who suffer **social stigma** as defined by Goffmann (1985) it is important to adopt an approach that prioritizes safety, trust, and empowerment. This involves creating a supportive and non-judgmental environment that acknowledges and addresses the impact of past experiences.
- Ensure that every communication is done taking into consideration **language** and **cultural diversity**. In case the municipality provides cultural mediation, it can be considered to solve language related issues and give tips on effective communication.
- Offer flexible formats for engagement (e.g., virtual meetings, recorded sessions, or digital communication channels), to accommodate the socio-economic situations and lack of time of the target groups. This allows individuals to participate at their convenience and reduces barriers related to time constraints.

5. BUILD UP A STRONG INCLUSIVE AND DEMOCRATIC GOVERNANCE

Every Energy Community has a power structure and dynamics that are made visible through the organization chart and internal governance system which defines duties and responsibilities, the distribution of tasks and how decisions are taken. This structure, although in energy communities and specifically in energy cooperatives tends to be more horizontal or slightly different from commercially oriented enterprises, may be vertical and hierarchical, or horizontal. However, it is fundamental that all the related aspects are clear, consensus-based, and known by all the individuals who take part into it.

- Every organization also has an invisible power game, which is more dynamic and harder to correct in case of bad practices.
- Providing transparent and easy to understand rules of the game, enables higher commitment and contribution from members, new members interest and engagement and a general sense of belonging.

- Establish clear rules and procedures for decision-making and ensure transparency in the governance structure of the energy community project. This allows for greater accountability and inclusivity in the decision-making process.

6. PROMOTE SHARED RESPONSIBILITY AND JUST ASSIGNMENT OF TASKS AND DUTIES

When engaging citizens, it is important for groups to strike a balance between structure, responsibilities to be accountable for and goals to address. Establishing clear rules and procedures for decision-making and ensure transparency in the governance structure of the energy community project is fundamental as it allows for both accountability and inclusivity. According to the feminist sociologist Jo Freeman (1970), any project can fail if there is no clear assignment of tasks and shared responsibility. The author sheds light on the idea that a structureless group can be harmful as power relationships are inevitably generated. Hence, when defining the governance structure/hierarchy, common values, mutual care, and respect may facilitate the participation of all members of the community.

- Create specific committees or working groups to address the different issues rising, based on expertise or specialties (coordination with other stakeholders, publicity, membership, outreach activities and/or fundraising).
- The whole group should participate in the deliberation process and in the selection of members of committees and working groups. If the whole group is confident in the fact that every selected committee can make the best choices for the whole community, a decentralized governance can be established. This would allow and empower the different committees to make most decisions and then regularly reporting back to the EC.

7. EMPOWER CITIZENS IN DECISION MAKING PROCESSES

Specifically, within the field of energy communities, some features can help to build up a democratic governance scheme: inclusive decision-making spaces; mechanisms of democratic control; inclusive structures; and energy justice. An example of a mechanism of democratic control in a community project is through the establishment of **regular general assemblies or community meetings**, that serve as a platform for community members to come together, discuss important matters, make decisions collectively, and be accountable for the whole project. During the assemblies, community members could voice their opinions, ask questions, and contribute to the decision-making process.

- Assemblies are a mechanism that ensures *transparency, inclusivity, and responsiveness* to the needs and aspirations of the community members.
- The use of a **voting system** can be employed to ensure that decisions are made collectively and reflect the majority's will.

8. WORK FOR REDUCING GENDER GAP AND PREJUDICES/STEREOTYPES

When dealing with gender equality and social inclusion it is important to focus on the efforts and initiatives aimed at addressing and eliminating inequalities, biases, and stereotypes based on gender within a community. It involves taking

action to promote activities aimed at making individuals understand specific needs, characteristics and situations different males and females face based on gender as social construction in terms of equal opportunities, rights, and treatment. Among the groups dynamics that can be used to enhance it, the COMANAGE gender mainstreaming activity used during the Consortium meeting in Athens can be useful. The layout of the quiz will be provided in the Annex.

Proposed activity: **COMANAGE “Exploring our Gender Perceptions” dynamic activity.**

Objective1: check basic knowledge of the respondents of the main concepts included in the Gender Mainstreaming chapter inside deliverable *D2.1 Energy communities’ holistic framework and collaborative methodology*.

Tool: Provide the link or a printed copy of the **quiz**

Duration: Approximately **5 minutes**.

Objective 2: Foster reflection and discussion about gender perceptions and how they can influence our daily interactions, promoting greater understanding and awareness of gender equality.

Activity: Group dynamic

Duration: Approximately **40 minutes**.

Materials needed:

Blank sheets of paper.

Pencils or pens for each participant.

Whiteboard or large paper for noting down ideas.

ACTIVITY STEPS:

Introduction (5 min)

Explain the purpose of the activity and the importance of promoting gender equality within the group (deliverable *D2.1 Energy communities’ holistic framework and collaborative methodology*)

Emphasize that this activity is a safe space for sharing opinions and experiences, and that respect and active listening are encouraged.

Individual Exercise: "My Gender Expectations" (10 min)

Ask each participant to take a sheet of paper and write down 3 gender stereotypes they have personally experienced or observed in the workplace/within a project.

Encourage participants to be honest and reflect on how these stereotypes can impact gender equality within the team.

Small Group Discussion: "Sharing Our Experiences" (10 min)

- Divide participants into groups of 3 or 4 people (balanced gender representation within each group)
- Instruct the groups to share the gender experiences or stereotypes they wrote down and have each group member share an experience related to them.
- Encourage active listening and respect for different perspectives.

Whole Group Sharing and Reflection: “Putting yourself in someone else shoes” (15 min)

Invite each group to briefly share the gender stereotypes they discussed, and the experiences shared.

Set Role-playing game: a male and a female per group will exchange roles.

Note down key ideas on the whiteboard or large paper.

Facilitate a whole group discussion to reflect on how these stereotypes can impact gender equality within the team and the European project.

Encourage participants to propose potential actions for fostering gender equality within the team and discuss how they can be implemented within the project.

Conclusion (5 minutes): keys to work with in our pilots.

Summarize the main ideas discussed during the activity.

Thank everyone for their participation and emphasize the importance of working together to promote gender equality.

9. PROMOTE INCLUSIVE AND JUST INTERNAL POWER DYNAMICS

Promoting inclusive and just internal power dynamics in a citizen-led and participative initiative involves ensuring that decision-making processes are equitable, and fair and that the whole range of perspectives are valued. On the other hand, when dealing with a deliberative and more horizontal structure, power must be shared among all participants. A dynamic exercise is proposed herein.

Proposed Dynamic: Circle of Voices⁸ is a small-group exercise, designed to secure participation of all members in a class, in a meeting or staff development training, workshop, or any other group event in which decisions must be made (approx. 30 mins)

- Form a circle with the participants or stakeholders.
- Explain the purpose of the exercise: to provide an opportunity for everyone to share their thoughts and perspectives on a specific topic or issue.
- Pass an object, such as a talking stick or ball, around the circle. Only the person holding the object is allowed to speak, while others actively listen without interruption.
- Pose a question or topic related to the topic or the decision to be made.
- As the object is passed around, each participant has an opportunity to share their thoughts or experiences on the topic. Encourage everyone to speak, ensuring that quieter voices have a chance to be heard.
- Facilitate respectful and active listening, emphasizing the importance of valuing and respecting diverse viewpoints.
- Once everyone has had a chance to speak or when the discussion feels complete, reflect on the insights shared and identify common themes or areas of agreement.

⁸ More information available at:

http://experience.uwo.ca/pdfs/faculty_resources_and_examples/Circle%20of%20Voices_UpdatedFooter.pdf

- Encourage participants to think if their perspectives shared during the exercise in future decision-making processes to ensure inclusivity and fairness.

10. PROMOTE COOPERATION AND PARTNERSHIPS WITH STAKEHOLDERS TO EXPAND THE REACH AND IMPACT OF THE EC.

Considering the social ecology of an EC and involving stakeholders is crucial for ensuring its long-term sustainability and success as it brings diverse perspectives, expertise, and support, fostering ownership and commitment that are essential for project longevity. This inclusive approach fosters a strong network, innovation, and shared responsibility, leading to resilience, adaptiveness, and sustainability.

- Always engage with Local Authorities in order to establish supportive policies, regulations, incentives for energy communities and facilitate access to resources and funding.
- Engage with ethical banks, or financial institutions promoting just and fair projects to develop financial products and services tailored to the needs of energy communities.
- Seek partnerships with local businesses and industries related to energy production and consumption to foster economic development and support the transition to a different and just model.
- Join local, national, or international networks and alliances of energy communities, CSOs or NGOs actively working towards similar goals as they can help to improve capacity building, and advocacy to drive policy changes and promote the scaling up of energy community initiatives.
- Involve schools and recreational centres of social life as they can promote awareness among population and can be a catalyser and a replicator.

6.1.3. Tailoring needs

Concerning the tailoring needs of the Decalogue, since it serves as foundational guidelines and basic rules to assist energy communities in shaping their own structures and determining courses of action, the general principles outlined in this document allow for customization based on the specific needs, context, community environment, target groups, and participation dynamics of each Pilot. Therefore, due to its generic approach, the Decalogue does not require pilot tailoring, however, it does allow for customization if needed.

6.2. Participation Plan

Energy communities constitute an opportunity to build solidarity within socially unequal environments and contexts. Members, as driving forces of these communities, must take several decisions to initiate projects that aim social justice. Nevertheless, limitations, lack of knowledge, different priorities, and unequal privileges pop up along the way. The

Participation Plan aims to address the needs of the diverse collectives composing ECs and promote their visibility and engagement, fostering inclusive growth and collaboration.

6.2.1. Main objective

This tool was developed using a **bottom-up approach**, placing active participants, that is to say energy communities' members, at the forefront. As for the DIY list, the idea herein is to **promote collective reflection** on topics such as conflict resolution, community building, and collective empowerment. With this tool participants become active contributors and agents of change within the community, empowering them in decision-making, uniting the community. The plan, as it embeds inclusivity and accountability, also might help at generating a higher level of trust and communication among members, ultimately fostering a sense of shared ownership, and belonging.

The list of aspects below has been elaborated taking into account also the DYI 10-rules-list, that is conceived as a programmatic guide and that can be refined according to specific needs and stages of life of the EC. Within some of the aspects some questions are included in order to narrow the topic or matter.

1. **Definition and commitment to a shared mission, vision, and values**
2. **Strategies for a long-term development and growth**
3. **Governance and leadership**
 - a. How do you make these decisions? What leadership does the EC promote?
4. **Internal organization**
 - a. How do you organise you EC effectively? Who is the EC representing? Who is being excluded?
5. **Celebrate success internally and show externally the sense of belonging.**
 - a. Sharing stories of positive impact, and highlighting the contributions of individual members
6. **Conflicts Resolution**
 - a. How do you approach conflict and how what kind of conflict resolution do you implement? As highlighted in the co-design sessions of the three OIS Hubs, Co-opAbility, based on its experience with cooperatives, defined the Transformative Scenario Planning as the theoretical framework that better fits conflict resolution in the field of community projects as it implies:
 - i. different stakeholders, including marginalised social groups, engaged in the scenario creation process.
 - ii. a wide range of viewpoints and narratives to capture the social complexity and diversity of the issue to challenge dominant narratives and explore alternative ways of action.

- iii. a transformative change by challenging existing identities (gendered roles), power structures, norms, and behaviours.

Transformative Scenario Planning (TSP), as described by Kahane (2012) aims to empower individuals who seek to collaboratively shape the future in a transformative way rather than simply adapting to existing circumstances. *“It involves a profound change, comparable to a caterpillar transforming into a butterfly, rather than incremental or temporary adjustments”*. This transformation occurs through reshaping our thoughts, actions, and relationships with others. While traditional scenario planning focuses on understanding the future, TSP takes a different approach by embarking on a transformative journey and constructing scenarios with the intent of influencing, shaping, or eventually effecting changes in the future. Although the concept is easy to understand, learning a specific series of steps while also embracing a profound shift in how we engage with one another and the situations we encounter is needed.

Identify and address barriers that may hinder social participation, such as *language barriers, cultural differences, or lack of awareness*. Take proactive measures to overcome these barriers and ensure that all community members have an equal opportunity to engage in the project.

So far, pilot projects or initiatives in the field of energy communities have been launched by municipalities to allocate benefits coming from PV installations to individuals in vulnerable situations. These individuals are selected and assisted by the Social Affairs Department of the municipality, through a financial contribution or a reduction of the energy bills. However, following the COMANAGE rationale of a long-term sustainability and growth of energy communities, the main scope is to help them to be socially transformative actors fostering a sense of belonging among the communities involved, rather than merely serving as an assistance-oriented tool.

To translate this participation plan into a real and factual experience, the activity in the box below is proposed.

Proposed dynamic: **SOCIAL PARTICIPATION ACTIVITY**

Participation and Governance to Address Vulnerabilities: The Role of Energy Communities (45 min)

Context and brief introduction (5-7 minutes)

Energy Communities share the common goal of ensuring that the energy transition does not leave anyone behind. But who are these "left behind" individuals? In a general way, that means that the whole population should benefit from the new ways of managing and producing energy, particularly within energy communities. However, what happens when these innovative energy management approaches require activism, collaboration, and organization?

Explanation of the activity: (5-7 minutes)

The main idea of this activity is to share concerns, challenges, learnings, and ideas on how to make the energy community more diverse, inclusive, supportive, and operationally functional.

Team work on "Challenges and Proposals": (20 minutes)

The activity will be deployed in groups with 4-5 individuals. Sit close to people you are not familiar with, or at least with those you know the least. The idea is to perform two consecutive tasks and then share the outcomes. The goal is sharing learnings and different perspectives following the steps below:

The first collective challenge is to identify, within 5 minutes, **4 social profiles** in your surroundings you would like to involve in the energy community. However, you are not sure on how to do so. Which social profiles do you consider vulnerable? When discussing an inclusive energy community, who do you think might be excluded? Once you have identified them, two main options are possible:

- One person from each group will notify the moderator the profiles selected, and the moderator explains to the rest of the audience the choices done.
- A person per group will highlight the main findings of her group, expressing how the group worked through the profile identification and the feelings/impressions shared.

Example of social profiles (Elderly living alone, Unemployed people, Single mothers, Racialised people)

An energy community encompasses a diverse range of challenges that imply a set of questions to answer:

1. The first is **information**: reaching people and ensuring they understand the concept. The entry point should make individuals feel welcome and comfortable. *How can we make them feel comfortable? - How can we reach out to them? (Information - messages)*
2. Another challenge is **engagement**: *What benefits does the energy community provide to them?*
3. Followed by **participation** even in **economic terms**: *What type of participation do we desire? - What specific obstacles do they face in participating? - How can we facilitate their participation?*
4. Internal **governance** should also be addressed. *How should it be structured? What do they contribute to the energy community? What are their limitations in contributing?*

Task: A challenge will be assigned to each group, which will choose one of the identified social profiles to explain a challenge and how to overcome it. See the matrix in **Annex**.

Conclusions: (12-15 minutes)

The different teams explain the outcome of the ideas shared and what possible actions they see feasible for the specific targeted population analysed.

6.2.2. Structure of the tool (Format, features & target audience)

The Participation Plan primarily focuses on citizen-led ECs. Additionally, civil servants and policymakers involved in such initiatives or directly providing support to the deployment of energy communities in their territory can also benefit from the

tools provided, as they seek to encourage participation and facilitate community development within their respective domains.

6.2.3. Tailoring needs

Concerning the tailoring needs the Participation plan included in the toolkit, it allows for customization based on the specific needs, context, community environment, target groups, and participation dynamics of each Pilot. Specifically related to participation and inclusion the participation plan should be implemented according to the diverse population and cultural norms of the specific region, considering the following aspects:

- Adapt and translate it into the language to ensure comprehension and accessibility, and symbols used, avoid cultural stereotypes.
- Consider literacy levels and provide alternative formats or channels such as audio, tutorials, or any visual materials to facilitate understanding.
- Provide different options of participation, such as group discussions, or online platforms, to allow for personal flexibility and comfort.
- Modify participation methodologies to align with local practices and models.

6.2.3.1. AMB

In tailoring the needs of the AMB's Pilot, it is imperative to recognize and embrace the region's rich history of grassroots movements, cooperatives, and citizen-led organizations. Drawing from the valuable experiences of these existing entities, the participation plan should adopt a collaborative approach to actively involve local communities and stakeholders in decision-making processes. By fostering inclusive dialogue and learning from the successes and challenges of past initiatives, the plan can create a sense of ownership and empowerment among participants. Emphasizing transparent communication and building upon established networks, the tailored approach will leverage the region's collective wisdom to ensure the successful implementation of the pilot, fostering sustainable development and nurturing the spirit of community-driven initiatives.

6.2.3.2. ANCI

The tool should definitely consider the following issues:

- How to relate to the municipality in the case of citizen-led RECs.
- How to effectively communicate the aims of the project by reaching out to very different age groups and types of members (in some cases not digitized)
- How to keep a group active and participating over time (social pages, website, organizing social events...etc)

- How to collect and analyse data on the extent and characteristics of energy poverty in the area of action by the CER. This includes information on energy consumption patterns, income levels, demographics and existing energy infrastructure.
- Regarding energy efficiency measures, it would be useful to include the promotion of a list of solutions for energy efficient appliances, lighting and building retrofits.

6.2.3.3. KMA

Specific needs for actions in the field of *the Social participation* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

6.3. Energy Poverty Tackling Plan

Recognizing the significant role of Energy communities in driving the energy transition, it is crucial to leverage them as a means to address and alleviate energy poverty. Energy communities must prioritize the inclusion of energy poverty considerations from their inception, tailoring their business models to effectively tackle this issue. The project has identified four distinct levels of impact that can guide the development of strategies:

1. Implement a **reduced fee system** to enable vulnerable households to access essential services, such as shared self-consumption of photovoltaic energy.
2. Establish a comprehensive **training and communication program** aimed at empowering vulnerable households, providing them with the knowledge and skills necessary to actively engage in the energy community.
3. Introduce mechanisms to **include vulnerable households into the governance structure** of the energy community, ensuring their voices are heard and their needs are represented in decision-making processes.
4. Develop and implement necessary mechanisms to actively **promote the participation** of vulnerable households in the energy community, such as targeted outreach initiatives, financial incentives, or specialized support services.

The **Energy Poverty Tackling Plan**, based on the previous experience in other projects of Ecoserveis working with vulnerable collectives in the energy field, is foreseen as a guide that can take into consideration the best practices coming from grassroot work done with vulnerable collectives in different fields of action. This plan foresees key actions to tackle and approach energy poverty. Among the aspects that might be addressed, the following are considered essential at the macro level to develop a tailored plan.

- How to define **eligibility criteria** to access the ECs
- How to define **percentage of vulnerable** individuals/households living in the ECs
- How to reach **vulnerable households**
- Extent of the action
- **EC governance**: how to address the access credit to become a member

- Which **actions** does the EC, as change agent, take **to mitigate energy poverty** both inside its community and towards the other stakeholders?
- **Training and informal education**
- **Lobbying activities** and social activism around the right to energy, just transition
- **Counselling**

6.3.1. Main objective

The Energy Poverty Tackling Plan overcomes several barriers that hinder the effective addressing of energy poverty in existing energy communities. Firstly, it tackles the **lack of strategy** by introducing a comprehensive framework that outlines specific measures and actions dedicated to combating energy poverty. This ensures that addressing energy poverty becomes an integral part of the energy community's objectives. Secondly, the plan **addresses exclusionary practices** by emphasizing inclusivity and expanding the scope of engagement beyond financial aspects or technical solutions. It actively promotes the participation of energy poverty households in governance and decision-making processes, recognizing their valuable insights and contributions. Thirdly, the plan addresses **knowledge and resource gaps** by implementing tailored training and communication programs for energy poverty households, equipping them with the necessary knowledge and resources to actively engage in shaping the energy transition. Lastly, the plan tackles **limited representation** by establishing mechanisms that ensure meaningful representation of energy poverty households within energy community governance structures, enabling their voices to be heard and their needs effectively addressed.

6.3.2. Structure of the tool (Format, features & target audience)

The Energy Poverty Tackling Plan, like the other two tools, is designed to provide clear and practical information to energy communities seeking to address energy poverty and promote diversity and inclusivity. It offers a concise format with specific models that can be easily implemented. The plan focuses on the key features and also main matters inside the governance of an EC, briefly outlined above, that once implemented could enable effective participation of energy poverty households and ensure their representation in the governance structure of energy communities. These features include:

A reduced fee model/template that provides a reduced fee to enable vulnerable households to access essential services within the energy community.

- How to do it: decide clear guidelines on how to calculate and apply the reduced fees, along with examples of successful implementations in other communities or fields of action. (*e.g. in order to avoid the weight, despite the reduced fee, providing different paying instalments*).
- Benefits: This model provides immediate financial relief to energy poverty households, allowing them to access services such as PV shared self-consumption at an affordable cost.

Training and Communication Model focusing on empowering vulnerable households through comprehensive training and communication programs or activities.

- **How to do it:** Step-by-step instructions on designing and implementing training, including topics to cover, training methods, and available resources. (*e.g. how to moderate or facilitate a session following the trainer of trainers' method*)
- **Benefits:** Empowering energy poverty households with knowledge and soft skills.

Governance Inclusion Model that aims to include vulnerable households into the governance structure of ECs, ensuring their voices are heard and their needs are fully represented and taken into consideration.

- **How to do it:** Guidance on establishing mechanisms for including energy poverty households in decision-making bodies (*e.g., such as quotas, committees, or representative positions*).
- **Benefits:** By including energy poverty households in governance, their unique perspectives can be considered, leading to more a more inclusive and just governance.

Promotion and Outreach Model focuses on actively promoting the active participation of energy poverty households in energy communities.

- **How to do it:** Strategies for targeted outreach, financial incentives, and specialized support services to encourage and facilitate the involvement of vulnerable households. (*e.g., connection with social services at the public level*)
- **Benefits:** This model helps overcome barriers to entry and ensures that energy poverty households are aware of and encouraged to engage with energy communities.

The Energy Poverty Tackling Plan is intended mostly for energy communities, specifically:

- Administrators or promoters responsible for managing and overseeing the operations of energy communities can use the plan to develop strategies and initiatives that address energy poverty effectively.
- Individuals who are interested in setting an energy community from scratch, providing inclusion and equality since the beginning.
- Members who are part of an energy community that want to gain insights from the plan to actively participate in tackling energy poverty or advocating for a change in the inclusion of vulnerable households in governance, within their internal governance.

6.3.3. Tailoring needs

Concerning the tailoring needs the Energy Poverty Tackling plan can be easily tailored to specific needs, context, community environment, target groups, and participation dynamics of each Pilot. As for the participation plan, it should be implemented according to the diverse population and cultural norms of the specific region, considering the following aspects:

- Adapt and translate it into the language to ensure comprehension and accessibility, and symbols used, avoid cultural stereotypes,
- Consider literacy levels and provide alternative formats or channels such as audio, tutorials, or any visual materials to facilitate understanding,
- Modify participation methodologies to align with local practices and models.

6.3.3.1. AMB

The tailoring needs for AMB's Pilot are essential to capitalize on the existing knowledge and experiences while ensuring its effectiveness in addressing energy poverty. As some Energy Communities in the region have already begun integrating energy poverty tackling strategies into their projects, it is crucial to tailor the tools to complement and build upon these initiatives. The tailoring process should involve conducting a comprehensive assessment of the existing projects to identify successful models and practices that can be integrated into the AMB Pilot. Additionally, the tool should be customized to suit the unique context and needs of each energy community, considering factors such as demographics, socioeconomic disparities, rooftop availability, and energy consumption patterns, among others. By incorporating relevant and tailored approaches, the AMB Pilot can maximize its impact in tackling energy poverty and fostering inclusive and sustainable energy communities in the region.

6.3.3.2. ANCI

With expensive energy, the phenomenon of energy poverty has spread considerably, including not only citizens but also traders and businesses in general. The current limitation for energy communities that can be served by a low voltage substation holds back the development of CERs, therefore the implementation of decrees for the use of medium voltage by CERs is hoped for.

A territory as small as the island of Ventotene has 5 low voltage substations when it could only have one, for example by increasing the capacity of the existing energy community and its inclusiveness.

With the use of the low voltage substation, the entry of new members remains very limited.

Within the COMANAGE tools, to combat energy poverty, emphasis should be placed on the importance of adequate writing of the Regulation for CERs since within this document the functions of redistribution of revenues or the percentage of revenues may be considered. A guideline should specify examples of social purposes and for direct or indirect support of members who have difficulty covering their energy needs.

The main needs at a technical level concern the development of an investment plan of the CERs which foresees that not all the revenues are necessary to cover the investment instalments or remuneration of the investments made in order to dedicate energy or budget to people. So, the investment plan may first of all consider the people tracked by the social services of the municipality to which they belong.

The social services of the Municipalities are essential to reach the most vulnerable groups and then the support to carry out careful communication campaigns capable of passing on positive messages of sharing and mutual help. Communication

campaigns centred on social solidarity and to train how is important to overcome existing barriers that people can encounter, or also allow people to "help and get help".

6.3.3.3. KMA

Specific needs for actions in the field of the Energy Poverty Tackling Plan might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

7. Communication tools

Communication plays a key role in spreading energy communities' initiatives so they can expand and encourage wider participation, ultimately contribution to ensure EC long term sustainability and therefore a transition towards a more sustainable, democratic, and decentralised energy system. The communication tools aim at maximizing the reach of communication activities related to energy communities, by means of ready-to-use materials that can be integrated in the communication plan of local public authorities, existing EC initiatives or other entities promoting the creation and the sustainability of energy communities.



Figure 11. Selection of barriers for the Communication tools

Within the barriers identified in the deliverable *D2.2 Energy communities barriers, needs and best practices analysis*, the communication tools:

1. Create communication material able to clearly explain the EC model and the benefits it entails, so that the community members can make aware considerations and decide to **join an EC not only for the economic motivations** but also for the social and environmental benefits implied by the model.
2. Facilitate the **involvement of Public Authorities**, associations and community leaders in communication activities, providing them with ready-to-use material that helps overcome **lack of knowledge and competencies** they might face to explain how an EC works to potential new members.

3. Target the promotional material to the most **difficult groups to engage, such as female and young adults**, by means of an inclusive and assertive communication that speak to their interests and represents them, fostering their **trust in actors and processes** which are often perceived as exclusionary and are reclaimed by certain social groups.

7.1. EC communication video package

The EC communication video package consists of **two videos per pilot**: 1) an animated movie introducing the concept of energy community and their role in the local energy transition and 2) a documentary interview on successful local EC initiatives and ways to replicate them.

7.1.1. Main objective

The tool is designed to **create awareness** in the public around the concept of community energy, providing a basic knowledge of how an EC works and encouraging the viewers to take part and promote local initiatives. The main objective of the videos is to reach a vast public with little knowledge of energy communities, to clearly explain the EC model and its social, economic and environmental benefits.

The videos also aim at **increasing the trust of community members** in the constitution process of an EC, as well as in the actors traditionally involved in the energy sector. For this reason, the videos should target specifically the groups that are more often left out from decision-making positions, including women, young adults, elderly, migrant communities, tenants, low-income households and so on.

The videos could potentially be used by multiple actors involved in different stages of promotion of ECs: from enthusiastic citizens raising the awareness of their network, to local public authorities promoting a democratic energy transition in their territory, from an association expanding its activities in the energy field to an established EC looking to increase its members.

7.1.2. Structure of the tool (Format, features & target audience)

The videos will be short (around 1 minute long) and straightforward, to adapt to the attention span of different social media platforms and increase the number of shares. The storyboard will be designed around quick and catchy messages that favour both “mouth-to-mouth” communication of instant messaging (WhatsApp, Telegram, etc.) and social media content share (Instagram, TikTok, etc.). The video frame will be adapted to the proportions used in each platform and provided with a brief text for posts and messages (including links, hashtags, or keywords).

During the last years, a high volume of videos regarding energy communities has been created by private companies, local authorities, and public-funded European projects such as COMANAGE. It is important to learn from these experiences, complement their scope and avoid the replication of ineffective messages with low number of views.

The viewer should be able to distinguish the videos at first sight and be keen to share it with its network. This effect could be obtained with the use of unique and eye-catching animations⁹ or a memorable soundtrack¹⁰, but also with the appearance of a comforting, amusing or recognizable human face speaking to the public^{11 12 13}. It is important to avoid trivial content, such as sample images and songs, or overused styles that tend to be associated with project communication, such as the animation of hands drawing¹⁴ or a set of icons building up what is being explained¹⁵.

When creating a video capsule for communication purposes, it is crucial to prioritize, as mentioned in the Gender Mainstreaming chapter of deliverable *D2.2 Energy communities barriers, needs and best practices analysis*, inclusive language, and gender representation including all the social profiles without any discrimination of **origin, ethnicity, language, age, and functional diversity or body appearance especially in this set of tools**. This involves using gender-neutral language, balancing gender and inclusive representation when selecting voices and characters, avoiding stereotypes, and providing equal opportunities for participation. By incorporating these practices, you can ensure a fair and respectful portrayal of all individuals, foster inclusivity, and promote equitable communication.

The videos included in the ECG Toolkit will be an extract of more extended videos used for the project dissemination.

7.1.3. Tailoring needs

Both videos will be available in the local language of the pilot. The animated movie will be created in English and will keep the same content for all pilots. The tailoring will simply consist in its translation and dubbing. The documentary interview will be specific of each pilot and will be done directly in the local language. Local actors, influencers, or other relevant public figures (such as promoters of local ECs) will be involved in the shooting of the video.

7.1.3.1. AMB

To customize the video tool, it can focus on exploring diverse and inclusive Energy Communities, taking into account that generic aspects of energy communities are already addressed and that previous interviews with existing ECs have been recorded by the AMB Pilot.

⁹ Electra Energy Coop (ENG / 2023) – “The Transformative Potential of Energy Communities || GR Subs” -

<https://www.youtube.com/watch?v=RYH5qjdQbkE>

¹⁰ Enel Green Power (ITA / 2022) – “Renewable Energy Communities: let’s share sustainable energy.” -

<https://www.youtube.com/watch?v=eiEGu3eSM8E>

¹¹ Hope (ESP / 2023) – “Comunidades energéticas. La revolución que viene ya está aquí.” – <https://www.youtube.com/watch?v=c-scQLBKt40>

¹² Soluzioni Green (ITA / 2023) – “COMUNITÀ ENERGETICHE: Cosa sono? Come funzionano?” –

<https://www.youtube.com/watch?v=Atugm9B5rPg>

¹³ EUCENA  European Citizen Energy Academy (ENG / 2021) – “EUCENA  CC 1.1 Untap the Potential of Citizen Energy / Compact Course” – https://www.youtube.com/watch?v=WTfI132Zuzw&list=PLtExF_IVZd8j_blwx5LCfn_oK-dmZuK02

¹⁴ València Clima i Energia (CAT / 2020) – “Què és una Comunitat Energètica?” – <https://www.youtube.com/watch?v=33t1MRBKOLE>

¹⁵ Enel Green Power (ITA / 2023) – Come funzionano le Comunità Energetiche Rinnovabili” –

<https://www.youtube.com/watch?v=72EN3DKSYr8>

7.1.3.2. ANCI

It would be crucial to introduce some interviews of Energy Community members (public and private) in the video that can serve as inspiration for others. Such interviews could be filmed during the Italian project meeting.

The video could also quickly explain the current situation of power generation in the island of Ventotene, by showing a visit to the fossil fuel power plant and some photovoltaic systems already installed by private individuals.

To pass the message of which are the benefits that a Renewable Energy Community can provide to its members and the impact it can have on the community is essential for an effective and direct communication to target groups, first of all vulnerable groups. This can be done, for example, by illustrating the savings on the bill (the more energy you self-consume, the more you reduce your bill costs), the value of the energy produced (producing energy with a photovoltaic system can represent a source of income thanks to the incentive mechanisms) and the reduction of the environmental impact (since energy is produced for example by photovoltaics, emissions of CO₂ or other climate-altering gases are avoided).

7.1.3.3. KMA

Specific needs for actions in the field of *the EC communication video package* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

7.2. Ready-to-use materials for third parties for recruitment and expansion

Communication plays a key role in spreading energy communities' initiatives so they can expand and encourage wider participation, ultimately contribution to ensure EC long term sustainability and therefore a transition towards a more sustainable, democratic, and decentralised energy system. Different tools such as ready-to-use posters, communication materials and EC presentations will be made available for collectives to adapt and use. The following images serves as an example extracted from a customizable template document.

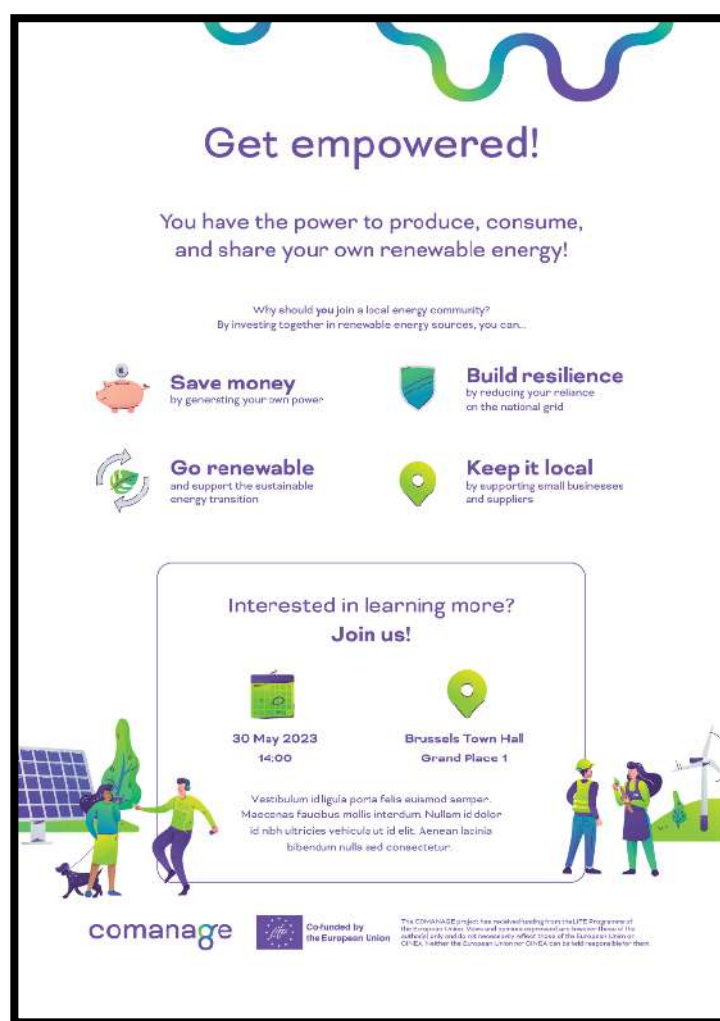


Figure 12. Call to action poster template



Figure 13. Generic communication info sheet template

7.2.1. Main objective

The communication tools for energy communities address and overcome several barriers by **increasing awareness, understanding, and engagement**. They help simplifying complex information, breaking it down into visually easy formats with step-by-step guidance; facilitate access to resources such as legal frameworks, financial support, and technical expertise, always providing easy-to-read, interpret and understand content that does not imply high dedication.

The specific objectives of the ready-to-use materials are as follows:

1. They present information in a **clear and concise manner**, avoiding technical jargon and complex language to ensure accessibility for a broad audience, informing them about the benefits, opportunities, and importance of participating in energy communities.
2. They **attract individuals and motivate** them to join the activities of energy community projects. Visual appeal is incorporated through attractive designs and infographics, facilitating comprehension and capturing attention.
3. They **inspire and encourage** potential participants to self-organise and expand the EC services or scope. Real-life examples and case studies are used to illustrate the tangible benefits and potential impact of energy communities, inspiring individuals to get involved.
4. They provide **clear and concise instructions**, and resources that enable interested individuals to navigate the process effectively. Multilingual support is provided, enabling diverse audiences to access and understand the materials.

7.2.2. Structure of the tool (Format, features & target audience)

The read-to-use materials for energy communities can potentially take various formats to cater to different communication channels and audience preferences. Some common formats include:

- Concise and visually appealing **printed materials** (like brochures and pamphlets) that provide an overview of energy communities, their benefits, and steps to get involved.
- Comprehensive **presentations** (in PPT or Canva) that offer generic EC knowledge, step-by-step instructions, and resources to support the establishment and operation of energy communities.
- Utilizing **social media platforms** to disseminate EC initiatives news, success stories, and engaging visuals to reach a wider audience and foster expansion and the creation of other EC.

As most tools included in the COMANAGE ECG Toolkit, they are addressed to civil servants or EC managers or promoters supported by civil servants. These communication tools can also play a key role in helping civil servants to disseminate the need to promote and participate in EC around the metropolitan areas.

7.2.3. Tailoring needs

Communication tools are professionally designed and tailored to convey key messages, positive aspects and improvements done within the projects, capturing the interest, and calling people to action to enhance energy communities. These ready-to-use materials provide consistent and coherent messages, that help engaging with the Pilots specific audiences, attracting new participants, and expanding their influence. The different communication tools will be tailored and adjusted to the specific audiences, channels, events, and languages of the COMANAGE OIS Hubs. The impact messages will be designed according to the main specificities and state of-the-art of the three pilots.

7.2.3.1. AMB

In AMB's Pilot context, tailoring dissemination materials to suit specific needs is crucial for successful engagement and participation. One of the primary requirements is the creation of practical and easily accessible materials such as posters, leaflets, and PowerPoint presentations (PPTs). These materials should be designed to communicate the essence of the energy community concept concisely, making it easy for diverse audiences to understand its benefits and potential impact. Posters can catch the eye and raise awareness at various locations, while leaflets provide more detailed information for interested individuals to take away and refer to. PowerPoint presentations can serve as powerful tools for workshops and community gatherings, offering comprehensive guidance and inspiring potential participants to join and contribute actively to AMB's Pilot energy community initiatives.

7.2.3.2. ANCI

The communication aspect is certainly crucial in expanding a REC. For the Ventotene case, it would be of great importance to produce clear and concise material (compulsorily in Italian) that could be shared with local people and others in the Lazio region.

The material in question could take the following forms:

- A poster that could be displayed on municipal bulletin boards.
- A flyer of in which to briefly summarize the goals and rules of a REC and describe the status of the Ventotene case study.
- Similar content but in multimedia format for posting on social media.

7.2.3.3. KMA

Specific needs for actions in the field of *the Ready-to-use materials for third parties for recruitment and expansion* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

8. Financial tools

The financial tools aim at providing a comprehensive step-by-step methodology to define the Energy Community Business Model and create a set of standard-compliant financial documents that could be presented to financial institutions or public tenders to obtain financing. The tools are supported by all the explanatory notes and guidelines needed to assess the economic viability of the EC model and understand the value of the outcomes.

In particular, the tools proposed cover two steps of the economic viability assessment of ECs: 1) the definition of an ECBM, through the **Flourishing EC Business Model Canvas** designed to consider specific needs, characteristics, and context of the energy communities; 2) the **ECBM Valuation** in objective terms, through the application of the standard VALERI methodology and the generation of economic valuation outcomes.

Within the barriers identified in the deliverable *D2.2 Energy communities' barriers, needs and best practices analysis*, the financial tools:

1. Provide EC members with standard-compliant financial documents that can support ECs in the **search for funding** and facilitate the **financial entities buy-in of the EC model**.
2. Include social and environmental criteria in the definition of the EC Business Model, so that the community members can take aware decisions and decide to **join an EC not only for the economic motivations** but also for the intangible long-term benefits given to the whole community.



Figure 14. Selection of barriers for the financial tools

8.1. EC Business Development Enhancement tool

This section introduces a prototype of the multi-purpose **EC Business Development Enhancement** financial tool which is targeted to new as well as existing ECs to help them define (or re-define) their business model in function of their capabilities, goals and aspirations, while at the same time providing a well-structured and well-documented set of standardized-format economic and financial data, simplifying the due-diligence process for financial entities and helping establish robust and reliable metrics. The tool drives the users through the financial steps required to ensure the sustainability of ECs and it is composed by **four subsequent steps**, as depicted in Figure 15:

1. The prototype tool starts from a version of the **Flourishing EC Business Model Canvas**, which is a framework that helps stakeholders analyse and fill relevant sections of the Flourishing Business Model Canvas to the specific needs, characteristics, and context of their energy community. The Canvas are modified to include the environmental and social as well as economic aspects relevant to the activity of an EC, which is unique as it provides specific services and does not foresee EC members as clients like in traditional BMs. In this step, through a process of guided analysis and introspection, the EC participants will structure and organize the information they have available and formalise their goals and aspirations.
2. Then, a second step consists in the **identification of key features from the ECBM**, which consists of a semi-automatic methodology to identify key features from the ECBM drawn on the previous steps and translate them into flows of services, goods, or currency. In this step, the user will be guided in determining and assessing the main flows of value, thus feeding them into the third layer or step of the tool.
3. This third step consists in the **ECBM Valuation**, in which the ECBM is evaluated in objective terms, using the characteristics obtained in the previous steps as inputs. This step makes use of a customized implementation of the VALERI method, the main result of which is a complete analysis of the EC in economic and financial terms, which will enable the production of highly standardized and comprehensive financial report on the fourth step of the process.
4. The last step consists in the elaboration of **Valuation Outcomes** obtained from the application of the VALERI methodology, which are conceived to be presented to financial institutions or grant applications. The outcome includes the following documentation: standard financial report, cashflow identification, sensitivity and multiple scenario analysis and key stakeholders.

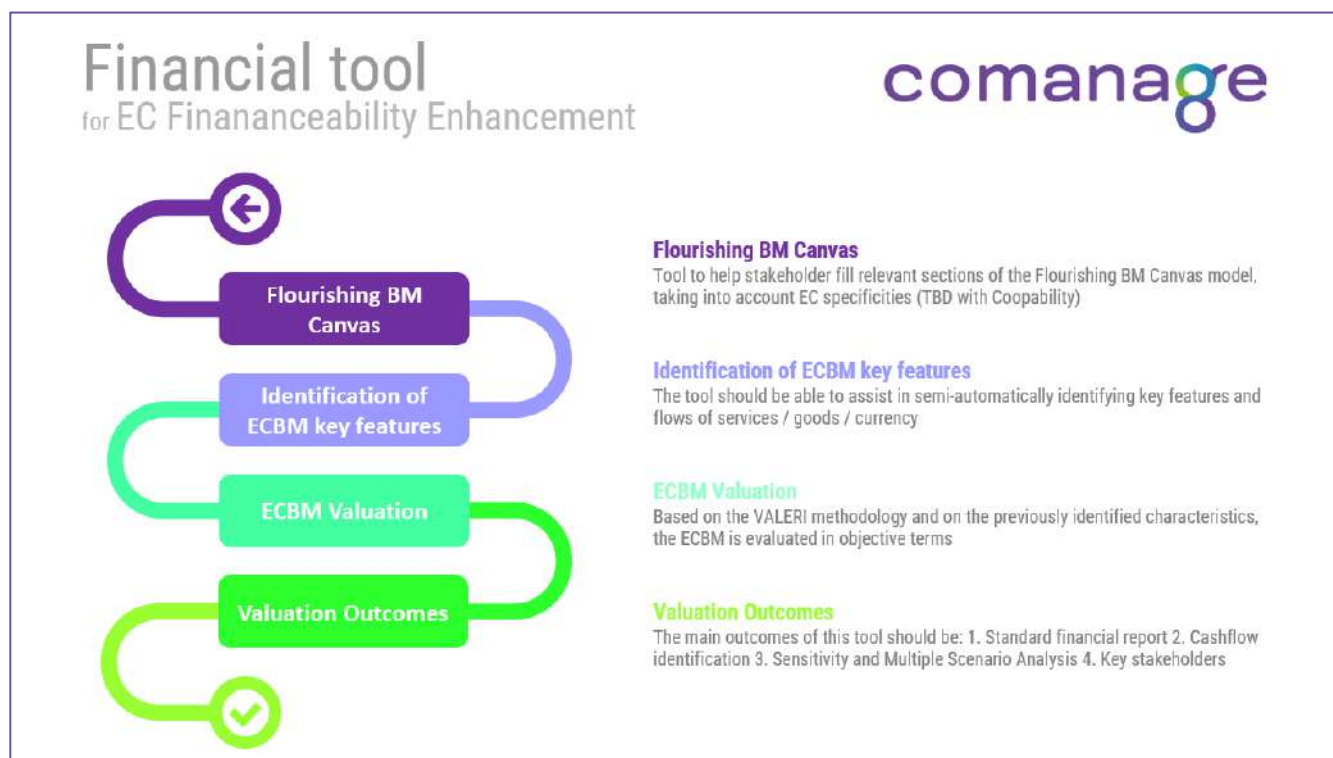


Figure 15. EC Business Development Enhancement Scheme

8.1.1. Main objective

The primary objective of the EC Business Development Enhancement tool is to provide a clear and comprehensive methodology to define a complete ECBM upon which all EC members can find a consensus and translate the results of this discussion into a set of standardized-format economic and financial data that could be presented to financial entities or public tenders. The tool also aims to break down complex economic and financial concepts into easy-to-follow guidelines, ensuring that all relevant stakeholders, including energy communities and civil servants, have a more solid understanding of the economic plan of the initiative in which they are involved.

Another objective covered by the tool lies in the explicit integration of social and environmental criteria in the definition of the ECBM, so that more community members can feel interested and involved in the discussions around the economic structure of the EC since the intangible long-term benefits given to the whole community are taken into consideration. The exercise of drawing the Flourishing ECBM Canvas can be repeated periodically through an EC lifespan, to sustain the original values of the EC and review the flaws that might have originated.

8.1.2. Structure of the tool (Format, features & target audience)

The goal of the present prototype is to produce an excel-based tool that serves as a guide to implement the previously detailed four phases. Some level of automatization is expected to be implemented in this tool, although far from reaching a

fully automated status. The PA staff will have to acquire a basic level of understanding of the proposed processes, to act as facilitators regarding the EC.

1. Flourishing EC Business Model Canvas

The Business Model Canvas is a systematic approach that allows the definition, creation, and comparison of existing business models. It is the most widely used BM analysis tool nowadays, and it sits at the base of the framework that has been chosen to help categorize the different business models. However, upon discussing internally and within the consortium, it has been noted that BM Canvas, as most other previous-generation business modelling tools, is dramatically over-simplified. It focuses on short-term profitability, rather than accepting the reality that the financial aspects of an enterprise are interdependent with a business larger context, the society in which it is inserted and the environment upon which it builds.¹⁶

The Flourishing Business Model Canvas has been suggested as an alternative tool that helps assess the overall long-term viability of the proposed ECBMs, and as such the decision was made to integrate it into the Financial Tool Prototype.

As was previously mentioned, the Flourishing Business Model Canvas considers the mutual impacts of the Environment, Society and Economy in the proposed business. Schematically, this can be represented by the image in Figure 16.

There are 17 topics in the canvas, that can be addressed by turning them into questions, for example: the “Stakeholders” box can be filled in by answering the question “who are the stakeholders of this business?”. The Flourishing BM method recommends not answering these questions in an isolated way but instead tackling them in groups of two to four at a time, and whenever possible in groups of people instead of alone. The 17 topics approached in this specific tool are reflected in the figure below:

¹⁶ “Flourishing Business Canvas Interactive Detailed Guide”



Figure 16. Flourishing Business Model Canvas

2. Identification of key features from the ECBM

According to the Flourishing BM methodology, the next step is to quantify and simulate the business model, and the way to achieve this starts with answering for each of the previous items the “How much / how many” questions. These questions would prompt individuals to provide specific quantitative information and measures related to different aspects of the business model. To facilitate the process, a semi-automatic methodology will be employed to help users identifying key features from the ECBM drawn on the previous steps and translate them into flows of services, goods, or currency. During this step, the user will be guided in determining and assessing the main flows of value, thus feeding them into the third layer or step of the tool. This step would be visually presented to the user as a visual scheme with a list of examples or easy-to-read and to follow guidelines. By using this format, the individuals will be able on the one hand to easily visualize and manipulate the quantitative aspects. Whilst from the other they will be able to organise all the data about available resources, possible revenue and costs and any other relevant factor to optimise all the cashflow. The results of this process will be classified and fed into the VALERI methodology.

3. ECBM Valuation – VALERI methodology

The UNE17463 Valuation of Energy Related Investments (VALERI) standard provides a description on how to gather, calculate, evaluate and document information in order to create solid business cases in the energy sector. An adapted version of the VALERI method is adapted to Energy Communities BMs, using the key features identified in the previous step as inputs.

The scope of the VALERI standard is to help proposers of energy related investments (ERIs) to evaluate their ideas economically and qualitatively in a uniform, transparent and understandable way, to generate objective and comparable results. All this helps decision-makers and financial entities in the valuation of economic proposals.

The VALERI method is a single calculation method based on the Net Present Value, which is the difference between the present value of all cash inflows and outflows to tell an investor whether the investment is achieving a target yield at a given initial investment. The application of this method yields on a single indicator, the value of which can be directly used for decision-making in a transparent and easy-to-use way. The standard also specifies the realisation of sensitivity and multiple-scenario analyses.

The standard includes a **four step** Investment Valuation Procedure, developed in the picture below and a methodology for submitting structured documentation.

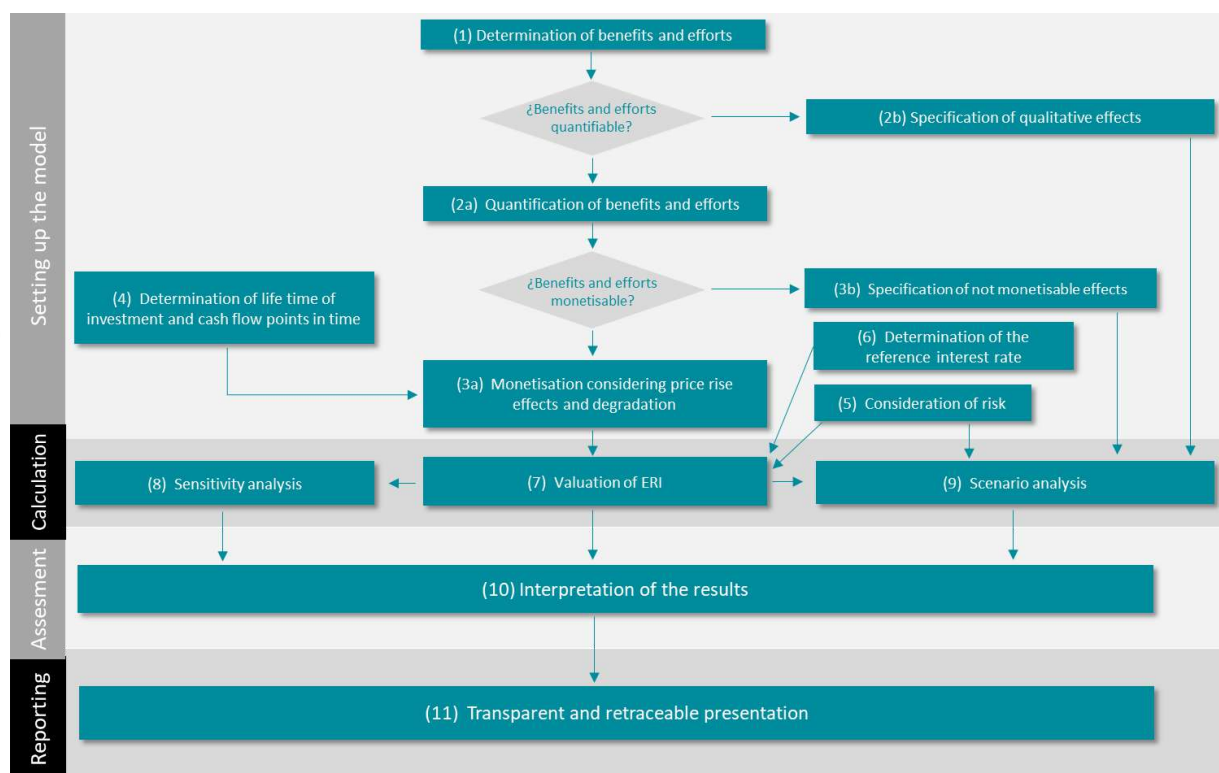


Figure 17. Valeri Method Scheme

4. Valuation Outcomes

The last step consists in the elaboration of Valuation Outcomes obtained from the application of the VALERI methodology, including: 1) a standard financial report, 2) a cashflow identification, 3) a Sensitivity and Multiple Scenario Analysis, 4) the identification of Key Stakeholders.

The documents will be automatically created in a format compliant with national regulations and common practice of financial institutions, to be directly presented to external stakeholders. Still, an editable version of the documents will be

available, either in Excel or in Word format, to enable later corrections from the users in a more agile manner. In this way, if corrections to the documents must be made to respond to the will of the EC assembly, it will not be required to pass through all the process again.

8.1.3. Tailoring needs

The tailoring for financial tools only slightly impacts the ECBM Canvas designed, since the main components of EC a business models usually adopted in Europe do not differ widely. Additionally, the ECG Toolkit will mostly focus on associations and cooperatives since these have been identified as the widely preferred and most used legal body for ECs across Europe. On the other hand, the identification of key features for the simulation of the ECBM requires the utilization of context specific values to quantify the flows of services, goods, currency, etc.

In a similar way, while the application of the standard VALERI methodology does not need tailoring, the format of the economic valuation outcomes must be adapted to the legal requirements and the common practice of financial institutions in different national contexts.

Finally, the whole procedure would benefit from the testing in a specific OIS Hub session; to verify how useful and how rigid the tool is to adapt to real-life needs of EC in each pilot. In particular, the step-by-step automatization methodology for the preparation of each document must be verified, to understand if the tool can be used by ECs directly or if and to what extent an expert facilitator is required to complete this task.

8.1.3.1. AMB

For the AMB's Pilot, tailoring the EC Business Development Enhancement financial tool would involve considering the unique characteristics and specific context of the AMB (presumably referring to a specific energy community or project). While the main components of energy community business models in Europe may not differ widely, it would be essential to adapt the Flourishing EC Business Model Canvas to the particular goals, capabilities, and aspirations of the AMB initiatives. This adaptation should include a careful analysis of the AMB's stakeholders, resources, and environmental, social, and economic aspects relevant to its activities. Additionally, during the identification of key features from the ECBM, context-specific values should be used to quantify the flows of services for the AMB, considering that energy communities are quite advanced but they monthly focus on renewable generation services.

Furthermore, the format of the economic valuation outcomes should be tailored to align with the legal requirements and common practices of financial institutions in the specific national context where the AMB operates. Through testing and verification in a dedicated OIS Hub session, the tool's usability and flexibility should be assessed to ensure that it can effectively meet the real-life needs of the AMB, and adjustments can be made if necessary. The ultimate goal is to create a comprehensive and customized financial tool that supports the sustainability and success of the AMB initiatives while integrating social and environmental criteria into its business model.

8.1.3.2. ANCI

To ensure the economic sustainability of a REC there is definitely a need for a business model for incentive allocation and a plan to achieve new investments.

The financial guidelines for the Italian pilot case will need to contain at least three possible incentive allocation models that can be implemented in a REC (taking the Ventotene REC as an example) with an estimate of related cash flows (inflows and outflows).

The same document could easily be used by the REC to apply for financing from a lending institution by being able to demonstrate the economic feasibility of the project and the payback time of the initial investment.

The guidelines could finally investigate the possibilities offered by other local, regional, national and European funding sources.

Within the framework of the model, the problem of guarantees for investments for CERs should also be addressed when, for example, they were mainly made up of citizens.

8.1.3.3. KMA

Specific needs for actions in the field of *the EC Business Development Enhancement tool* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

9. Technical tools

The technical tool aims at providing resources to support the implementation of all the technicalities related to energy projects. The tools will help energy communities in the technical paperwork they must prepare to benefit from PV installations, liberating time and resources from their members. The tool is supported by all the explanatory notes and guidelines needed to drive through the tedious procedures of PV legalization for shared self-consumption.

In particular, the tool is composed of 1) a **protocol/user journey** that outlines a structured approach for ECs members to follow when engaging in shared self-consumption, and 2) **shared self-consumption templates** for the main documentation required by responsible parties for the setting up and operating of shared self-consumption systems.

Within the barriers identified in the deliverable *D2.2 Energy communities barriers, needs and best practices analysis*, the financial tools:

1. Provide members with useful precompiled documents and methodologies for their preparation, to clear the way for the **standardization of the processing** of PV legalization for shared-self consumption and overcome the **bureaucracy and administration** obstacles that members might encounter in the process.
2. Reduce the burden on the members in charge of the PV installation process, covering for the **lack of knowledge and competencies** they might encounter.

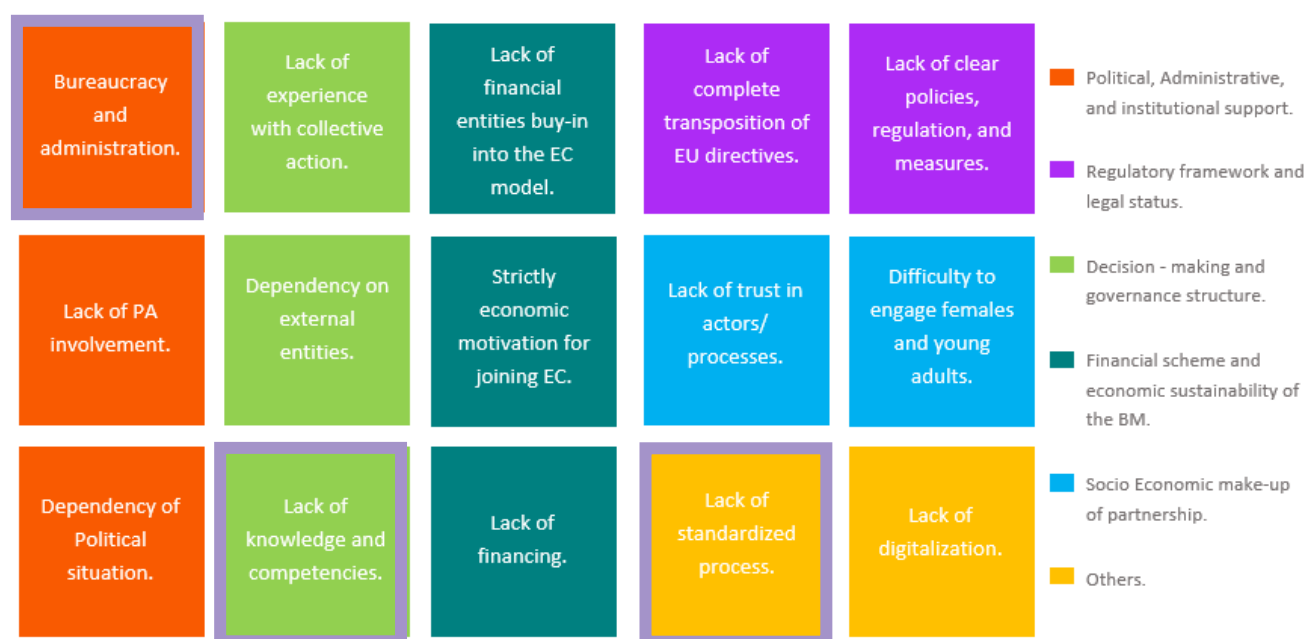


Figure 18. Selection of barriers for the technical tools

9.1. Shared self-consumption templates and protocol

Even though shared-self consumption or similar schemes are legally a possibility in many European countries, the reality differs a lot from what was expected. Long and tedious procedures are seen in different context, as well as lobbying strategies by oligopolistic market actors who are not willing to support these new services that are available for citizens.

The tool will help overcome this barrier by providing clear legalization procedures protocols as well as the necessary templates to speed up the procedures.

9.1.1. Main objective

The primary objective of the shared self-consumption protocol and template documents is to provide a clear and comprehensive framework for navigating the complex legalization procedures associated to shared self-consumption within energy communities. The tool aims to break down complex legal, administrative and technical requirements of the PV installation process into easy-to-understand guidelines, ensuring that all relevant stakeholders, including energy communities and civil servants, have a solid understanding of the procedures involved.

Other specific objectives covered by the tool are as follows:

1. The tool seeks to address the **lack of general knowledge** among stakeholders regarding self-consumption legalization procedures. By providing practical experiences and detailed information, it aims to bridge this knowledge gap and empower energy communities and civil servants to make informed decisions and comply with the applicable regulations.
2. Another key objective is to address the **lack of transparency** with electricity suppliers and ensure compliance with legislation. The tool will provide guidance on the required documentation and prevent non-compliance issues caused by suppliers requesting unnecessary documents or providing inaccurate advice to consumers. By establishing clear guidelines, the tool aims to promote transparency, fairness, and adherence to the legal requirements.
3. **Time is a critical factor** in the success and wide implementation of energy communities. Therefore, the tool aims to expedite the activation process, reducing the time required for shared self-consumption to become a reality. By providing standardized template documents and streamlining procedures, it seeks to remove unnecessary bureaucratic hurdles and enable faster activation of energy communities.

The shared self-consumption protocol and template documents address this barrier by providing comprehensive information and practical experiences. By offering clear guidelines and explaining the legalization procedures in an accessible manner, the tool ensures that all stakeholders, including energy communities and civil servants, can acquire the necessary knowledge to navigate the process effectively.

The tool also tackles the issue of malpractices, non-compliance, and lack of transparency from Electricity Suppliers by outlining the required documentation and procedures. It educates energy communities and civil servants on their rights and obligations, empowering them to engage with electricity suppliers confidently. By establishing clear guidelines, the tool minimizes the risk of misadvising consumers and encourages transparency in the relationship between energy communities and electricity suppliers.

Finally, the shared self-consumption protocol and template documents aim to expedite the activation process. By providing standardized template documents, energy communities can streamline their application and avoid unnecessary delays caused by the preparation of complex paperwork. The tool also offers guidance on efficient procedures and best practices, reducing bureaucratic hurdles and ensuring a faster path to implementing shared self-consumption initiatives.

In summary, the shared self-consumption protocol and template documents are designed to simplify the legalization procedures associated with energy communities. By enhancing knowledge, promoting transparency, and streamlining the activation process, this tool aims to facilitate the successful implementation of shared self-consumption initiatives.

9.1.2. Structure of the tool (Format, features & target audience)

The shared self-consumption protocol and template documents tool will be designed as an accessible and user-friendly resource for municipal authorities and energy communities. It will consist of the following format and features:

- **Protocol/Roadmap:** The core component of the tool will be a comprehensive protocol or roadmap that outlines the step-by-step process for legalizing shared self-consumption initiatives. The protocol will serve as a guide, providing clear instructions and milestones to follow, ensuring a structured approach to navigate the legalization procedures.
- **Template documents:** The tool will include a collection of template documents necessary for the legalization process. These templates will cover a range of documents, such as application forms, agreements, contracts, technical specifications, and any other paperwork required by regulatory authorities or electricity suppliers. Each template will be tailored to meet the specific requirements of shared self-consumption projects and will be easily customizable to suit individual energy communities.
- **Explanatory notes:** To facilitate understanding and ensure the correct use of the template documents, the tool will provide explanatory notes accompanying each template. These notes will clarify the purpose of the document, highlight key sections, and provide additional guidance on filling out the templates correctly. They will serve as a practical reference to help users navigate the legalization process with confidence.
- **Practical examples and Case Studies:** The tool will incorporate practical examples and case studies from real-life experiences of successful energy communities. These examples will illustrate best practices, highlight common challenges, and provide insights into overcoming specific obstacles during the legalization process. By presenting practical scenarios, the tool will enhance understanding and enable users to learn from the experiences of others.
- **Regulatory Updates:** As the legal landscape surrounding self-consumption and energy communities may evolve over time, the tool will incorporate mechanisms to provide regular updates on regulatory changes and requirements. This feature will ensure that users are informed about any modifications in the legalization procedures and can adapt their approach accordingly.

The shared self-consumption protocol and template documents tool primarily targets two main end-users: municipal authorities and energy communities. The tool is specifically tailored to meet their needs and assist them in navigating through the complex process of legalizing shared self-consumption initiatives. The **end-users** can benefit from the tool in the following ways:

- **Municipal authorities** responsible for regulating energy production and consumption can utilize the tool to support their role in facilitating the establishment and operation of energy communities. The protocol and template documents will provide guidance on the legal requirements, documentation, and procedures to ensure compliance with the applicable regulations. By using this tool, municipal authorities can streamline their processes and foster the growth of energy communities within their jurisdictions.
- **Energy communities** seeking to establish shared self-consumption initiatives will find the tool invaluable in simplifying the legalization process. The protocol and template documents will serve as a roadmap, guiding them through the necessary steps and providing them with ready-to-use templates for the required documents. Energy communities can save time and effort by leveraging the tool's resources and ensure that their operations comply with the legal framework. The tool's practical examples and case studies will also provide inspiration and insights into overcoming potential barriers during the legalization process.

In summary, the shared self-consumption protocol and template documents tool will be presented in a user-friendly format, consisting of a protocol/roadmap and a collection of customizable template documents. Municipal authorities and energy communities will be the primary end-users of the tool, benefiting from its structured guidance, practical examples, and regulatory updates. By utilizing this tool, end-users can navigate the complex legalization procedures more efficiently, ultimately facilitating the implementation and success of shared self-consumption initiatives.

9.1.3. Tailoring needs

The procedures for the PV legalization for shared self-consumption are entirely national specific and must be adapted to the regulation, technical requirements and common practices of the responsible parties involved in the process, such as DSO, TSO, electricity retailers, regulation parties or public agencies. Moreover, the real-life experience of the legalization process might differ for each regional context according to the predisposition and the promptness of the parties involved to facilitate the process. The inputs obtained in the OIS Hubs meetings with stakeholders that have already had experience in PV legalization could help adapting the tool to the most frequent and urgent bottlenecks that are faced by ECs in each location.

9.1.3.1. AMB

To address the tailoring needs for AMB's Pilot context, the shared self-consumption protocol and template documents tool will be carefully adapted to align with the specific requirements and objectives of the AMB. By collaborating closely with AMB stakeholders and energy communities within the region, which have gathered lots of experience, the tool will be tailored to incorporate the unique legal, regulatory, and administrative considerations relevant to the AMB Pilot, and therefore it will be applicable to Spanish regions with the same DSO company. The protocol/roadmap will be customized to reflect the AMB's specific procedures and timelines for shared self-consumption legalization, following the Royal Decree 244/2019 specificities, ensuring a seamless and efficient process.

Additionally, the template documents will be adjusted to meet the AMB's documentation standards and include any region-specific requirements or best practices. By catering to AMB's Pilot context, the tool will empower municipal authorities and energy communities in the region to navigate the legalization procedures effectively, accelerating the adoption of shared self-consumption and fostering sustainable energy initiatives.

9.1.3.2. ANCI

Technical rules for accessing the valorisation and incentive service for the share of electricity (GSE)¹⁷.

Access requirements:

1. Contract between subjects taking part in (REC or SSC) configuration;
2. Eligible RES electricity production plant that became operational after March 2020;
3. Membership in REC;
4. Ownership of supply point within the same mid-low voltage distribution zone (same secondary substation);
5. Do not participate in the GSE service “*Scambio sul posto*” (Exchange on the spot) for self-consumption.

Application for the activation of the service:

1. Identify a reference party (“*Referente*”) for the technical and administrative management, which is the REC itself;
2. Verify that the plant is registered in the TSO database *GAUDÌ*¹⁸ and the CENSIMP identification code is generated;
3. Submit the access application using the app “*Sistemi di Produzione e Consumo – SPC*” in the online GSE portal;
 - a. Self-declaration and privacy statement (pre-compiled data), plus ID document;
 - b. Mandate from end-clients and producers interested, plus ID documents of all;
 - c. Statute of REC;
 - d. Technical and administrative documentation of the production plant;
 - e. Anti-mafia documentation required.

At the management level, it would be useful to understand how to manage access to the renewable systems if they are located on widespread private properties (e.g., rules to access in the private areas for maintenance, etc.).

¹⁷ Gestore Servizi Energetici (ITA) – “Gruppi di autoconsumatori e comunità di energia rinnovabile – Documenti” – <https://www.gse.it/servizi-per-te/autoconsumo/gruppi-di-autoconsumatori-e-comunita-di-energia-rinnovabile/documenti>

¹⁸ Terna (ITA) – “Gestione delle Anagrafiche Uniche Degli Impianti di produzione (GAUDÌ)” – <https://www.terna.it/it/sistema-elettrico/gaudi>

9.1.3.3. KMA

Specific needs for actions in the field of *technical tools* might be elaborated and cocreated as part of stakeholder meetings. Recommendations will be completed in the final version of the tool.

10. Conclusions

In conclusion, the implementation of the COMANAGE ECG Toolkit tools marks a significant milestone in empowering stakeholders involved in energy communities. These tools have been carefully developed based on the main barriers identified during the preliminary phase of the project. The choice of the tools has followed a process of benchmarking of other projects working on EC support tools, and the discussions in specific Working Groups per topic within the consortium partners. By addressing legal and administrative challenges, promoting social participation, disseminating information effectively, securing financing and addressing technical aspects, these tools provide a comprehensive framework for successful project implementation and long-term sustainability.

The COMANAGE ECG Toolkit tools will be easily accessible through the COMANAGE open Platform, which serves as an integrated hub for all project digital outputs. This platform ensures that stakeholders have seamless access to the tools and resources they need to navigate the complex landscape of energy communities. Furthermore, the tools will be developed, tailored, and fine-tuned by the OIS Hubs to the specific needs of the three pilot areas, ensuring their relevance and effectiveness in diverse contexts.

It is important to note that the COMANAGE ECG Toolkit tools will be in constant revision and improvement. The evolving nature of the energy sector demands ongoing adaptation and innovation. Therefore, the project partners are committed to continually refining and enhancing these tools to keep pace with emerging challenges and opportunities.

By leveraging the COMANAGE ECG Toolkit tools, stakeholders can overcome barriers, make informed decisions, and effectively collaborate to achieve their energy community goals. This collaborative approach, enabled by the tools and the open platform, fosters a sense of ownership, participation, and empowerment among stakeholders, leading to more sustainable and resilient energy communities. The COMANAGE ECG Toolkit tools provide a robust framework to empower stakeholders, facilitate successful project implementation, and promote long-term sustainability in energy communities. Through the COMANAGE Open Platform and the continuous efforts of the OIS Hubs, these tools will remain adaptable, relevant, and accessible to drive positive change in the energy sector.

The toolkit prototype developed serves as a crucial foundation for the final toolkit that will be deployed in Month 36. Through extensive fieldwork and engagement with the energy community pilots, the prototype will be refined to address the specific needs and challenges encountered in real-world settings. By leveraging the insights gained from the OIS Hubs that will be activate in KMA, AMB and ANCI LAZIO, the final toolkit will provide an even more effective and user-friendly resource for facilitating usage and replication of energy community initiatives in the pilots' national territories (Spain, Italy, and Poland).

The prototype serves as a valuable baseline, allowing for iterative improvements and enhancements to be made based on the practical experiences and feedback gathered throughout the project, that will empower stakeholders, enabling them to navigate the complexities of energy community projects and effectively replicate successful models.

Considering the various stages of implementation, development, and dissemination of Energy Communities in the three COMANAGE Pilots countries, the lessons learned during the piloting phases hold valuable insights for numerous European countries. The final version of the ECG Toolkit will draw upon this prototype version and dynamically adapt to the ever-changing national landscape of energy communities. By doing so, it will serve as a bridge, closing the gap between the current

diverse state of the pilots and the overarching objectives of fostering a fair and equitable energy transition at the European level. The ECG Toolkit will provide guidance and support, enabling countries to benefit from the experiences and successes of the COMANAGE project, ultimately promoting the widespread adoption and growth of energy communities across Europe.

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12. Annex

12.1. Matrix of social participation activities belonging to the Participation Plan

Challenge	Activity	Individuals/ Social collective	Barriers / issues	Possible actions to deploy
Communication	Group 1. Access to easy-to-understand information	Elderly living alone	<i>They do not leave their house</i>	<i>Posters at the supermarket</i>
		Unemployed people		
		Single mothers		
		Racialised people		
Participation	Group 2. Make them feel welcome	Elderly living alone		
		Unemployed people		
		Single mothers		
		Racialised people		
	Grupo 3. Ability to contribute	Elderly living alone		
		Unemployed people		
		Single mothers		
		Racialised people		
	Group 4. Time availability	Elderly living alone		
		Unemployed people		
		Single mothers		
		Racialised people		
Governance	Group 5. decision making processes	Elderly living alone		
		Unemployed people		
		Single mothers		
		Racialised people		
Economic participation	Group 6. Year membership	Elderly living alone		
		Unemployed people		
		Single mothers		
		Racialised people		

12.2. Gender Mainstreaming Quiz

COMANAGE - Gender Mainstreaming Quiz

Do you define yourself as... *

- ☐ Female
- ☐ Male
- ☐ Other
- ☐ Prefer not to say

What is the difference between **gender** and **sex**? *

0 points

- ☐ Gender refers to biological characteristics, while sex refers to socially constructed roles
- ☐ Gender refers to socially constructed roles, while sex refers to biological characteristics
- ☐ Gender and sex are the same thing
- ☐ Gender and sex are unrelated concepts

Gender roles are the set of societal expectations and norms that define how individuals should behave based on their gender. *

0 points

- ☐ True
- ☐ False

Which of the following statements best describes **intersectionality**? *

0 points

- ☐ The idea that gender equality can only be achieved by focusing on one aspect of a person's identity
- ☐ The concept that gender intersects with other social categories, such as ethnicity/origin, class, and sexual orientation, creating unique experiences of discrimination and privilege.
- ☐ Intersectionality refers to the belief that gender roles should be abolished in order to achieve equality.
- ☐ Intersectionality is a term used to describe the biological differences between men and women.

Which of the following is an example of a **gender stereotype** that can limit women's participation in certain fields or industries? *

0 points

- ☐ Men are naturally better at math and science
- ☐ Women are more compassionate and nurturing than men
- ☐ Women are not interested in leadership/decision-making positions
- ☐ All of the above

Gender equality refers to... *

0 points

- ☐ Equal treatment and opportunities for people of all genders
- ☐ The eradication of gender differences in society
- ☐ Giving women more rights and privileges

Which of the following is an example of **gender inequality**?

0 points

- ☐ Equal representation of men and women in decision-making positions
- ☐ Unequal pay for the same work based on gender
- ☐ Recognition and appreciation of diverse gender identities

Gender mainstreaming aims to:

0 points

- ☐ Promote women's empowerment and leadership
- ☐ Integrate gendered conditions, situations and needs differences into all policies and activities
- ☐ Eliminate gender differences entirely

Which of the following is **NOT** a strategy for promoting gender equality?

0 points

- ☐ Providing equal access to training and employment opportunities
- ☐ Challenging and questioning gender stereotypes
- ☐ Reinforcing traditional gender roles and expectations