

D3.1.

OIS Hubs stakeholders' engagement and mobilization Plan

Deliverable Information Sheet

Version	1.0
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	D3.1
Deliverable Title	OIS Hubs stakeholders' engagement and mobilization Plan
Deliverable Type	R - Document, Report
Deliverable Dissemination Level	PU - Public
Work Package	WP3
Lead Partner	ECOSERVEIS
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Official Due Date	30/06/2023
Delivery Date	22/06/2023

History of changes

Version	Date	Comments	Main author(s)
1.0	26/05/2023	Draft of the first version	Irini Theodorakopoulou (COOPABILITY), Constantine Iliopoulos (COOPABILITY), Thanasis Bizoz (COOPABILITY), Federica Giardina (ECOSERVEIS)
1.1	29/05/2023	Contribution and minor changes	Irini Theodorakopoulou (COOPABILITY) Paco Jofra (ECOSERVEIS), Federica Giardina (ECOSERVEIS)
1.2	31/05/2023	Version for Peer review Check	Marcel Camps (AMB), Hugo Madureira (ANESE), Agustín Villar (ANESE)
2.0	21/06/2023	Comments and contributions reviewed and added	Paco Jofra (ECOSERVEIS), Federica Giardina (ECOSERVEIS), Joana Mundó (ECOSERVEIS)
2.1	22/06/2023	Final Version	ECOSERVEIS

List of Acronyms

DSO	Distribution System Operator
DSS	Decision Support System
ECG	Energy Communities Governance
ECGF	Energy Communities Governance Framework
ECGT	Energy Communities Governance Toolkit
ESCO	Energy Service Company
HB	Hub Boards
OIS	Operational Integrated Services
PPA	Power Purchase Agreement
CPPA	Corporate Power Purchase Agreement
RECs	Renewable Energy Communities
SME	Small and Medium Enterprises

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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 (ECGF)**, 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 (ECGT)**.

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; 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 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).

The purpose of this deliverable is to provide a comprehensive and effective strategy for engaging and mobilizing various stakeholders involved in the OIS Hubs. This goal will be achieved with a well-crafted and executed stakeholder engagement plan. This deliverable outlines the objectives, stakeholders' mapping, communication strategies, and engagement tactics, methods, and tools that will be used to build strong and lasting relationships with all stakeholders involved. It also provides a framework for effective communication and collaboration between stakeholders, ensuring that they are constantly informed, engaged, and involved throughout the project, and ultimately facilitating the successful implementation and operation of COMANAGE objectives.

1. Introduction

As stated in the executive summary, the COMANAGE project aims to tackle and counteract the main governance and management hurdles faced by citizen-led and public-participated energy communities' projects, including legal, administrative, financial, social, and organizational barriers.

To achieve successful project outcomes, the COMANAGE consortium proposes the implementation of a Stakeholders' Engagement and Mobilization Plan that incorporates participatory methods from the Theory U framework and other systems-based approaches. These methods involve community members in the decision-making process, providing them with a sense of ownership and commitment to the project, and ensuring that their needs and preferences are considered.

The Theory U framework proposes a process of participatory innovation that involves the active engagement of stakeholders in the co-creation of solutions that address the challenges faced by the community. The framework is grounded in systems thinking and encourages stakeholders to move from an individualistic perspective to a collaborative mindset, where the collective wisdom and creativity of the group are leveraged to achieve the project's goals.

The incorporation of participatory methods from the Theory U framework and other systems-based approaches in the COMANAGE Stakeholders' Engagement and Mobilization Plan will facilitate the active participation of all stakeholders involved in the energy community projects. The plan will include participatory activities that will gather community feedback, input, and suggestions. The results of these activities will be used to inform policy makers on the prerequisites for the development, operation, and management of energy communities. The implementation of this plan will provide the methods and tools to overcome governance and management barriers faced by energy community projects and facilitate the creation of sustainable and integrated energy systems that benefit the local community.

The last part of the deliverable will provide the practical engagement and mobilization strategies followed by the three COMANAGE Hubs. The aim herein is that every Hub can tailor and adapt the Theory U to its specific characteristics, requirements, and necessities. The practical deployment of the COMANAGE theoretical framework will lay the foundations for a proper and effective design and development of the Executive Plans.

2. Literature Review

The literature review section encompasses a total of 3 sub-sections. The first sub-section outlines a definition of the stakeholder engagement which will be subsequently deployed throughout the deliverable. The second sub-section examines the notion of user and community engagement, highlighting practices in metropolitan areas and delving also into the engagement process, strategies, and possible incentives. Finally, the document is supported with relevant literature intended to the identification of examples and best practices of engagement.

As per the COMANAGE project scope, which is building strategies for the implementation and sustainability of energy communities in the mid and long-term, we consider important to highlight the main aspects of community engagement directed towards civil servants.

2.1. Literature on engagement

Engagement is a broad term that encompasses a variety of ways in which different individuals and groups can influence community, political decision-making, and other public processes (Ekman & Amna², 2012). In the context of the energy transition initiatives, a diverse range of forms of civic engagement are emerging and spreading (Radtke et al., 2018). Specifically, engagement has a huge impact on energy transition initiatives as it allows individuals and collectives to actively participate and shape this process (Radtke et al., 2020). However, due to the existent different perspectives and opinions, conflicts can arise and prevent successful outcomes. The upcoming section will expose a brief stakeholders' engagement literature review that allows to understand how theory becomes practice in an energy project like COMANAGE. It also sheds light on the different terminology of engagement touching upon citizens engagement and on the specificities of civil servants' engagement processes.

2.2. Stakeholders' Engagement

Interest in stakeholders' participation has been growing since its first conceptualization in the 1980s, thanks to the seminal work of Freeman (1984) in management theory, in response to the challenges faced by managers in a rapidly changing business environment. Its purpose was to provide a systematic approach for addressing the concerns of diverse stakeholder groups, with the ultimate goal of managing these relationships in a strategic manner (Freeman & McVea, 2005). The term stakeholder engagement is composed of two key concepts: on the one hand, *stakeholder* originates from the stakeholder theory and governance scholarship (Freeman, 1984; Kazadi et al., 2016), which postulate that organizations aim to create the maximum value and impact for their stakeholders (Frow & Payne, 2011; Ind & Coates, 2013; Voyer et al., 2017; Wang et al., 2015). On the other hand, *engagement* is used to describe interactions, service exchanges, co-creation processes, or solution development in business contexts. In this field, primary stakeholders include employees, suppliers, shareholders, customers, and the local community, while secondary

stakeholders are made up by governments, competitors, social-interest groups, and the media. Stakeholder engagement has been extensively discussed by scholars in the field of governance and corporate management, who have analysed reactive, proactive, or interactive approach to stakeholder engagement (Preston, 1975), change behaviour (Frederick, 1978; 1986), ability to engage with and ensure the well-being of stakeholders (Longsdon & Yuthans, 1997), open dialogue, mutual understanding, commitment, and information sharing (Svendsen, 1998; Waddock et al., 2002)

While in the field of business, organizations have the discretion to exclude certain stakeholders from their strategies or to give priority to specific ones for economic or political aspects, its transposition into the public sphere, in line with the democratic and socially just principles, takes into account the current interconnected reality, in which a wider range of stakeholders, with different levels of power, can be affected (Bryson, 2004). Likewise, contemporary societies exhibit diverse collaborative relationships, with knowledge and power being distributed across multiple stakeholders. As a matter of fact, when addressing societal challenges, stakeholder participation and involvement are considered a crucial aspect in decision-making and, hence, widely accepted and valued to develop, create, and implement public policies and programs (Quick & Bryson, 2016; Andersen et al., 2021).

From a more political and philosophical viewpoint, stakeholder participation is viewed as an essential element in democracies as it is a source of new knowledge and ideas and can facilitate better acceptance of policies and programs (Innes & Booher, 2004; Seltzer & Mahmoudi, 2012). Current democracies are an inherent sum-up of freedom, political equality, direct participation, and protection of fundamental rights. These dimensions are considered democratic trade-offs, which play a major role in society and have great impact on social interactions and attitudes. According to Hidalgo (2019), democracies are defined by several antinomies (liberty and equality, representative government and popular sovereignty, plurality and social unity, individual and collective claims), which entail different trade-offs and cause a permanent and evolving collision of different opinions, interests, and actors within the democratic system (Hernández, 2018; Landman & Lauth, 2019). Herein, public debate and contestation play a fundamental role in societies and have become increasingly mediated by digital platforms and ICTs, creating new means of social interactions which challenge traditional forms of public debate, social interactions, and attitudes (Marres, 2017; Shirky, 2011).

In participatory or deliberative democracy, representation is deemed too passive to achieve legitimacy. Active citizen participation through various means enables representatives to have a broader perspective on the public's opinions, resulting in a more interactive relationship between decision-makers and the public. Networked governance mechanisms, due to their flexibility, are considered more legitimate than hierarchies because multiple stakeholders engage in decision-making. Independent but interdependent actors are believed to generate better solutions to complex social problems (Klijn & Edelenbos, 2013; Connelly, 2011; Mathur & Skelcher, 2007).

Science and technology scholarship on public engagement also highlights the importance of involving users and communities not only in research but also in public debate and deliberation spaces which are viewed fundamental to gather and synthesize the different *know-how* and perspectives required to solve prospective social challenges, to produce public value and make positive impact (Andersen et al., 2021). In the field of sustainability and energy transition, some scholars highlight that citizen participation has been increasing, particularly through the implementation of actions aimed at facilitating transition at the local level (Wittmayer et al., 2014, Bergmann et al.,

2021) and through its incorporation into more large-scale governance processes (Loorbach et al., 2017; Sengers et al., 2019).

Likewise, in recent times, there has been a growing political emphasis on the inclusion of stakeholder participation in policy making at the EU level. The [Horizon Europe Implementation Strategy](#) (2020) and the [2021-2027 Framework Programme for Research and Innovation](#) are clear proof of the validation at the supranational level and the need to advocate for stakeholder engagement as a crucial step not only for achieving sustainable innovation but also democratic and civic participation of citizens (Europe for Citizens Programme, 2018).

Citizen engagement in energy-efficient cities and communities is a concept that has been well-researched in the last few years as O'Brien (2018) state. It is a term used to describe the involvement of citizens in the political process, either through direct action (such as attending protests and rallies) or indirect means. Government organizations, non-governmental organizations (NGOs), cooperatives, and other community-based organizations have all recognized the importance of citizen engagement and are taking steps to increase involvement. For instance, in the Energy Union package of 2015, the European Commission emphasized the citizens' role in a clean energy transition. Citizens are expected to "take ownership" of the energy transition and participate actively in the market (European Commission, 2017). In general, energy communities are defined as:

"[...] groups of energy users and/or producers who are connected by geographical, social, or other ties, and who work together to achieve a common energy-related goal" (Bauwens et al., 2016).

Energy communities are a promising strategy for a global energy transition (Tarpani, et al., 2022) and in this sense the European Union has crafted a comprehensive system of regulations to foster as many projects as possible across the continent. The former demonstrate disparity regarding their policies, bureaucratic hurdles, and utilization of alternative energy sources and technologies, such as renewable energy, in the creation of energy communities. Citizen engagement refers to the active participation of citizens in decision-making processes related to energy systems (García-Muros et al., 2021). Citizen engagement in energy communities has become increasingly important in recent years as a means to accelerate the transition to sustainable energy systems. However, despite the well-researched topic of community engagement, few research involve innovative methods for building strong and powerful teams for energy communities. Community engagement practices and tools are vital for building relationships, empowering communities, and promoting participatory decision-making. In accordance with the aforementioned sentence, Theory U is considered a very useful method for people who want to actively participate not only in energy, but also in other forms of collective communities.

2.3. Community Engagement

Humans are the core component of the community energy system and, therefore, they must be broadly engaged to enhance their participation in energy efficiency and sustainability initiatives (Rodrigues-et.al., 2020). Community energy projects produce widespread and lasting mainstream impacts, foster second-order learning, provide a useful way for citizens to engage, decrease energy costs, reduce the impact on the environment, provide enjoyable activities for the

participants, increase integration in a community, increase social and civic gratification, build strong communities, foster networks, provide an opportunity for citizens to work together toward common goals with collective benefits, reduce barriers to the adoption of new technology, and reduce payback periods for such technology (Heiskanen, 2015).

Specifically in the realm of Energy Communities initiatives, community engagement involves more than locating energy units near consumers. Community engagement includes not only citizens and community members but also civil servants that can help to ensure that renewable energy projects are designed and implemented in a sustainable, effective, and responsive way following the needs and concerns of local communities.

As Tricarico (2021) highlights, energy is not just conceived as an economic or asset or an ecological phenomenon, but also and especially energy is the result of critical social relations and interactions between actors and stakeholders who bring different competences, roles, tangible and intangible assets. Hence, when addressing community engagement strategies in energy transition initiatives, academic scholarship casts light on the need of identifying which local territorial approaches enhance better their social, economic, and political acceptance (Bomberg & McEwen, 2012; Bauwens et al., 2016; Azarova et al., 2019) and which drivers and conditions can create an institutional environment that sustains energy communities and energy efficiency initiatives (Kuzemko et al., 2016; Alanne & Saari, 2006; Gregg et al., 2020).

A proper citizen participation entails a redistribution of power that entails the active role of individuals who were previously marginalized from the political or policy-decision arena. In the context of stakeholder engagement in urban settings, as in the COMANAGE project, it is highly important to emphasize the growing significance of metropolitan areas and their governance. Scholars such as Magnusson (2010), Brenner (2003), and Mäeltsemees (2010) have casted light on the complexity of governing metropolitan regions due to their dynamic nature, which makes the delimitation of clear administrative boundaries highly complex. Consequently, the governance of metropolitan areas often requires an extensive and more in-depth collaboration among public actors at different administrative levels and non-public actors to address a diverse and multilevel challenges. Among them, there are segregation prevention, residential dispersion, promotion of economic competitiveness, and enhancing the well-being of the whole population (Sellers & Hoffmann-Martinot, 2005; Brenner, 2003).

Public engagement can be defined as a process that enables individuals to actively express their opinions and values, which are then taken into account during the decision-making process of the government (Nabatchi et al., 2014). In this sense, Fung (2006) identifies three different types of participation (consultation, collaboration, and co-production). These methods seem to be effective strategies to engage civil servants and stakeholders in complex governance processes, enhancing the efficiency of public policy, and promoting democratization at the local level (Wagenaar, 2007; Michels & de Graaf, 2017). Specifically, according to several scholars, civil servants in local governments are expected to be more responsive to stakeholders' needs and citizens' initiatives, and to establish links between these and their organization (Haveri et al., 2009; Vanleene et al., 2019; Van Hulst et al., 2012).

When dealing with initiatives that envisage civil servants and citizens' engagement, it is important to cast light on specific challenges related to the inherent features of public administration (classical red tape and management) since as Blijleven & van Hulst (2022) highlight, civil servants working collaboratively with stakeholders in local policies not only interact with the citizenship, but also need to address stakeholders' needs by managing internal divisions within their organization (Escobar, 2015). In this sense, public administration often lacks the necessary resources to support citizen

engagement practices (Nederhand, et al., 2016; Tuurnas, 2015; Mees et al., 2019). Furthermore, civil servants involved in citizen engagement practices are forced to manoeuvre among bureaucratic internal expectations and negotiations with superiors (Bartels, 2016) and limited by rules and procedures that continue to characterize municipal organizations (Blijleven & van Hulst, 2022). Hence, to reach a successful outcome, community engagement initiatives must establish clear guidelines and responsibilities and foster trustworthy relationships among all the participants, provide support and resources to avoid conflicts while strengthening democratic local governance.

2.4. Examples of engagement of Energy Communities, Citizen Initiatives, Public Authorities, and other actors

This sub-section aims to examine the best practices and mechanisms for effectively engaging end-users of energy communities, citizens, public authorities, and energy market stakeholders. The goal is to identify consumer engagement strategies that align with the specificities of the pilots and cases to be implemented within the COMANAGE project.

To find relevant examples of stakeholders' engagement, desk research was conducted, analysing H2020 projects and local initiatives related to energy communities or within the smart cities and co-housing field that include civic engagement and integrating literature. The primary databases used to collect information were the Horizon 2020 website, the European Commission's CORDIS, and the BRIDGE Initiative, as well as previous projects developed by COMANAGE project partners and also best practices known by partners that have developed a successful engagement strategy. The projects and initiatives identified and described are considered relevant to uncover key factors and successful features that contribute to promote effective, innovative, inclusive, and participatory stakeholder engagement (Reason & Bradbury, 2001). Furthermore, they serve as best practices for designing and developing a successful stakeholder engagement plan within the COMANAGE project.

2.4.1. Co-creation and participatory approach

Projects that adopt a co-creation and participatory approach, in which stakeholders are actively involved in the design, testing, and evaluation of energy community projects, can generate more innovative, feasible, and inclusive solutions. According to Hanke et al. (2021), energy collectives could be further empowered by a greater understanding of the barriers they face and the impact of engagement strategies on different social groups. These processes, by providing stakeholders with the necessary tools, resources, and skills to effectively participate in the project's development and evaluation, enable their capacity building, and empower them enhancing their sense of ownership, agency, and impact.

The **SENDER** project, founded on a co-creation and co-design philosophy, uses a specific social engagement approach and strategy that settle the energy consumers at the centre of value creation and hence make them proactively involved in testing and development. As d'Oca et al. (2021) remark in their paper, SENDER method seems to have started a new paradigm of business modelling and product development. The **HESTIA** project uses a Participatory Design (PD) methodology to engage households as collective social units. Through surveys, interviews, home tours, workshops, and focus groups, as well as asynchronous research tools from the design toolkit, people are invited and empowered to co-

create the business model and user interfaces of the DR platform. The **UP-STAIRS** project accelerated the creation of energy communities and collective actions in 5 pilot regions through citizens support and municipal prosumerism. To develop its stakeholder engagement strategy, the project used the KAP Gap theory, that posits an existing discrepancy between an individual's Knowledge, Attitude, and Practice, in which being informed does not necessarily translate to a change in attitude or behaviour. Canalising the increased interest from citizens to become prosumers, it created One-Stop-Shops to support local action and collaboration. The **ENLARGE** project implemented a co-design collaborative process in the formulation of public policies and in the design of public services based on a participatory and deliberative approach that involved different stakeholders (policy makers, experts in participatory governance and CSOs). On the other hand, the co-creation and co-production processes aimed to involve responsible citizens-users of energy communities and provided them with the necessary tools and resources to effectively participate in the decision-making process.

Within the domain of smart cities and green energy, **ATELIER** and **POCITYF** projects exemplify innovative practices that prioritize citizen needs and incorporate citizen-centric design. In the case of the **POCITYF** project, an online platform and various engagement activities were developed for citizens at different levels of participation. Additionally, a designated city spot was established for gatherings, events, and workshops with a focus on co-creation and co-design. The project using the Lighthouse cities model, that is to say two cities with heritage sites involved in renewable energy transition testbed for innovation solutions, aims to promote citizen engagement strategies that can be replicated, thereby providing an open innovation ecosystem that allows citizens to participate in decision-making, planning, and problem-solving. Similarly, the **ATELIER** project regards citizen and stakeholder engagement as an interactive and iterative process, utilizing co-creation and co-participation practices. The Innovation Ateliers and the Lighthouses Cities embrace a citizen and community-centred perspective in the creation of Positive Energy Districts (PEDs).

Another interesting example of citizens engagement initiatives can be found also in co-housing and housing cooperative projects. The **RE-DWELL** project provides affordable and sustainable housing solutions to the current housing market problems in Europe. One of the best practices analysed is *La Borda*, a housing cooperative in Barcelona, that emerged from local grassroots initiatives. This experiment showed that through a participatory process, between citizens, local organisations, architects, and professionals to rethink what it means to dwell, questioning the individualisation of living, and suggesting more communitarian forms, new forms of coexistence, social bonds and self-organization are possible¹. In the same line, the UK research project **Community Consultation for Quality of Life (CCQoL)** designed new forms of democratic practices in participatory urban planning, making citizens community consultation more accessible, engaging, and inclusive².

2.4.2. Gamification tools

According to different scholars, the introduction of gamification tools like apps, tablets, interactive online tools, and platforms in stakeholders' engagement, helps not only to receive contribution from stakeholders and raise awareness among participants on the social value of social projects, but also strives to make long-lasting behavioural change,

¹ La Borda Case study accessible at: <https://www.re-dwell.eu/case-studies/la-borda>

² CCQoL Project accessible at: <https://ccqol.org/about/>

promoting environmental education, consumption awareness and energy efficiency behaviours as easy as possible (Morganti et al., 2017; Loureiro et al., 2020).

The [RENAISSANCE project](#) employed an all-encompassing, community-based, adaptable, and replicable approach to introduce novel business models and gamification technologies that encourage the utilization of clean energy production and shared distribution in local communities. By leveraging innovative tools like the Multi-Actor-Multi-Criteria Analyses methodology and the ROP online platform, the project effectively engaged stakeholders in the initial phase to define needs, objectives, and the most optimal energy system scenarios. Additionally, the project shed light on end users' acceptance of energy communities and monitored their attitude changes. Furthermore, by conducting a "Social Acceptance Survey" among over 150 contacts, the project was able to identify a set of predictors of engagement. Whilst the [LIGHTNESS](#) project investigates citizen participation in local energy communities across 5 countries using an innovative online platform. The project focuses on five aspects of environmental justice, including recognition, distribution, capacities, responsibilities, and learning. The user recognition assessment highlights a potential conflict between platform development and individual participant needs, as well as questions about the appeal of the gaming design to diverse groups of potential participants. Additionally, the platform design takes into consideration distribution and capacities as important engagement considerations, allowing for participants to compete and gain points. In the same way, the [EnerGAware](#) project, through an innovative IT ecosystem, used a game called "Energy Cat: the House of Tomorrow" to build energy engagement and teach social housing users the best ways to save energy. By buying different items, each player customises their own virtual house, bearing in mind the energetic consequences of these actions. The actual energy consumption of the players' real houses also impacts on the game, thanks to the data collected by a smart meter. This project showed that by turning daily activities into a game, gamification processes help people to obtain rewards for making a positive change, while promoting energy behaviours change.

2.4.3. Incentives and rewards

The incentives and rewards' system is often used to encourage citizens to participate in a diverse range of projects, including civic engagement initiatives. Public administration scholars assert that incentives can be used to encourage stakeholders to engage with public administration, by offering rewards for their participation in the design of new services or projects, that as Mark Moore (2013), one of the main theorists of New Public Management (NPM), create public value, defined as "the collective social benefits created by a public agency's activities" (Moore, 1995:1). Also, as Mengolini et al., (2016) highlight, rewards and incentives might encourage individuals to reach common societal and community goals and seem to be more effective than sanctions in promoting pro-environmental behaviour changes. However, they tend to have short-term effects or to be less effective (Steg and Vlek, 2009; Grilli et al., 2021), can be expensive to implement and may also be not always feasible due to budget constraints and can lead to unintended consequences, such as incentivizing stakeholders to prioritize their financial interests over other concerns (Hood, 2000; Boyne & Hood, 2010).

These incentives can take the form of monetary rewards and can be effective in encouraging participation in aspects or context in which stakeholders have a financial interest. Within the energy field, individuals can feel encouraged to participate throughout intrinsic motivators, for example pro-environmental values, and general well-being or more generally extrinsic motivators of actions like monetary incentives, tangible rewards, or competitions (Swim et al., 2014).

For example, the **ISLANDER** project, developed a demand-response application which main aim was to incentivise individual consumers to follow the most convenient consumption patterns to both save energy and reduce the energy bill. The **CITYOPT** project designed a community-based application that sends demand response requests to participants during network peaks. Participants gained points for collective load shedding, which may be invested in projects benefiting the local community. Project participants were highly motivated to reduce their consumption in response to demand response requests. The CITYOPT project showed that small towns and villages seem to be more cohesive social clusters than city neighbourhoods and were more motivated by rewards at the local community level. Within the **CIVIS** project, there was a favourable response among participants towards the community-based incentive, reinvesting savings from efficient energy consumption within the community. Nevertheless, the extent of response was quite different among the trial sites, with communities in closer proximity reporting higher levels of involvement and satisfaction. According to the last BRIDGE report (2021), monetary incentives seem to be less effective in stimulating motivation in richer areas. Existing literature on incentives show that monetary incentives can have a different impact on targeted groups, for example they positively affected behaviour change in recycling (Xu et al., 2018), but had price discounts did not significantly increase the usage of reusable cups among students (Poortinga & Whitaker, 2018), whilst Yeomans and Herberich (2014) found a small yet statistically significant positive effect from the use of monetary incentives in an energy efficiency experiment in Chicago through price reductions.

2.4.4. Feedback mechanisms and communication

Stakeholder engagement should be seen as a two-way communicative process rather than just a set of strategies. Luoma-aho (2012; 2016) suggests that 5 key components to foster a successful stakeholder engagement: dialogue, feedback, collaboration, transparency, and responsiveness. A quality communication flow allows a major trust, higher engagement of stakeholders, which are active participants, and a significative mutual understanding (Sanders y Canel, 2013, Luoma-aho, 2010) and an increased general willingness to cooperate (Luoma-Aho, 2008; Kääriäinen y Sirén, 2012; Hu, Sun y Wu, 2015). As a matter of fact, projects that establish clear communication channels and procedures and provide stakeholders with accessible and understandable information about the project's goals, benefits, and potential risks, while giving them ways to express their concerns, opinions, and suggestions, can enhance not only stakeholder trust, accountability, and satisfaction but also foster long-term engagement and behavioural change (Shortall et al., 2022).

The **LocalRES** project developed a device to aid local actors during the design and planning phases of an Energy Community, aiming to harmonize the overarching vision of the community with individual interests through a collaborative approach. To foster direct citizen engagement in the community, the project provided comprehensive information to help community members understand the various actions and their associated impacts and allowed them to suggest their own scenarios. On the other hand, the **LIGHTNESS** project, as it recognizes that not all community participants may possess the technical proficiency required to access the platform it developed, created user participation forms to clarify all the responsibilities of project participants and conducted workshops for pilot leads to share knowledge on the learning process.

As reported in the BRIDGE report (2019), the integration of a local (trusted) energy supplier or other local organizations, working as mediators, could facilitate the contact with costumers. The **UP-STAIRS One Stop Shop (OSS)** framework

involves an Implementation Champion (IC) who is an energy consultant or expert trained to provide services tailored to each pilot project, acting the starting point for new communities, and providing guidance and support to end-users throughout the process. In the same way, the Swedish cohousing project Sofielunds in Malmö, an architectural firm, by playing an intermediary role, guided the collective design process and democratic decision-making to translate the dwellers wishes into one coherent design³.

As d'Oca et al. (2021) argue, although many projects fail to report the effectiveness of feedback and monitoring strategies, recent studies on feedback, providing household-specific energy information, suggest that it can be an effective means of behaviour change, albeit with varying levels of success. Tailored feedback is generally more effective, and face-to-face interaction is often preferred by participants (Shortall et al., 2022). For example, the [HESTIA](#) project provides feedback to householders to encourage manual or automatic load-shifts, while the [SPARCS](#) project uses an app to collect community goals, feedback, and monitoring data on individual energy behaviours to maximize energy savings at the community level. In the [WISEGRID](#) project, participants can access overviews of their individual and collective energy consumption, as well as neighbourhood solar energy production. During periods of high solar production, participants are prompted to adjust their consumption accordingly. The same process can be found in **POCITYF** project, in which by following a “Rapid Prototyping” approach, the project managed to have a simultaneous and almost real-time feedback by citizens ensuring a constant improvement of the solutions and services.

The showcased initiatives provide examples of effective stakeholder engagement that could serve to implement COMANAGE strategy. The H2020 briefly described illustrate that successful stakeholder engagement strategies require the consideration of a diverse range of factors and methods of analysis, matching technical implementation with social sciences approaches. Understand human behaviour in the use of energy and engage end-users to become part of the solution is key to a long-term and inclusive energy transition.

2.5. Engagement Process

The current section presents the tools to be used in engaging stakeholders and motivating them to participate in various roles in energy communities and related alternative energy projects. Preceding the analytical description of the tools, this section explains how the adopted engagement methodology is linked to and based on COMANAGE's conceptual framework.

2.5.1. Connecting engagement methodology to the COMANAGE Conceptual Framework

As Theory U constitutes the foundation for the conceptual framework of the COMANAGE project, it is a logical progression to employ Theory U tools in engaging stakeholders. The project has been designed in such a way that all Work Packages complement each other and work towards achieving the project's objectives. In addition, each Work

³ Additional information available at: <https://co-lab-research.net/tag/barcelona/>

Package is linked to one or more of Theory U's steps, ensuring that stakeholder engagement is integrated throughout the project's implementation. By incorporating Theory U into stakeholder engagement, the project can achieve a deeper understanding of stakeholder perspectives and needs, promoting collaboration and co-creation, and ultimately leading to more sustainable and equitable management practices in energy communities throughout Europe. The interested reader can find more on COMANAGE's conceptual framework in Deliverable 2.1.

The Theory U framework can be applied to energy communities to help drive transformational change in the energy sector. By applying the Theory U framework to energy communities, it is possible to create a more collaborative, inclusive, and sustainable energy future. The figure below depicts a visual representation of the 5 stages of Theory U:

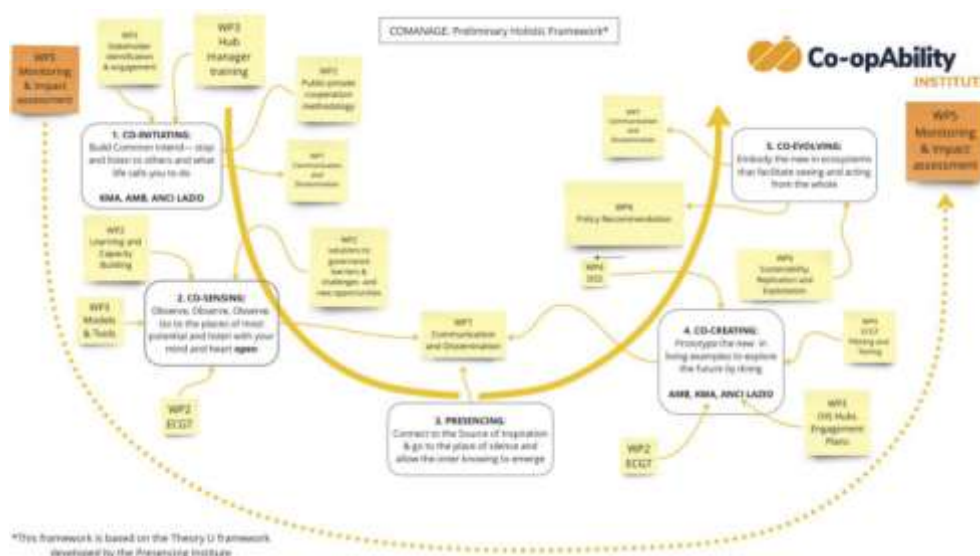


Figure 1: adapted from Scharmer, C. O. (2016). *Theory U: Learning from the future as it emerges*.

The above figure can be considered as a roadmap for any kind of change, and it can also be used as such for the COMANAGE project. To move from the present to a desired future, a journey through the U is required: down one side of the U, to the bottom and up the other side. This movement allows us to connect to what is outside our “bubble”; in other words, we listen and observe open-mindedly and let go of past assumptions. Then we spend some time to filter the essential things and drop the redundant ones. For a group to reach this threshold, it means that individual members and the group as a whole, discover new possibilities and start functioning as a team towards a specific goal. Only then, the group can begin the journey to the upper part of the U, which includes the phase of crystallizing vision and intention, prototyping and at the end performing and generating a new future.

For COMANAGE, the **Co-Initiating phase** involves the three OIS Hubs (KMA, AMB and ANCI-LAZIO). The purpose is to build common intent among Hub stakeholders. The common intent is created by asking the right set of questions and proactive active listening. Intention is created both at the individual and the collective levels. At the individual level, the co-initiate phase involves letting go of old patterns of thinking, feeling, and acting, and accessing deeper sources of

creativity, intuition, and wisdom. This involves opening oneself to new experiences, listening to others with empathy and curiosity, and exploring new ways of being and doing.

At the group level, the co-initiate phase involves building trust, creating a safe space for open dialogue, and establishing a shared understanding of the group's purpose and vision. This involves cultivating a sense of openness, curiosity, and empathy among group members, and engaging in collective sensing and dialogue to explore and co-create new possibilities. At the project level co-initiating is associated with stakeholder identification and engagement (WP3), training of Hub managers (WP3), and the identification of public-private cooperation methodologies (WP2).

The purpose of the **co-sensing phase** is that both individuals and groups develop awareness and understanding of each other and their surroundings and respond more effectively to challenges. For individuals, co-sensing can help to increase self-awareness and emotional intelligence, which can lead to improved decision-making and better relationships with others. By tuning in to one's own feelings and needs, individuals can become more attuned to the needs of others and develop greater empathy and understanding (Waddock et al., 2002). This can lead to more effective communication and collaboration, in the context of an OIS Hub.

At a group (OIS HUB) level, co-sensing is essential for effective collaboration and problem-solving. By listening and understanding one another and by observing all aspects of the external environment, group members can gain a more holistic view of the challenges they face and the opportunities available to them. This can help to build trust and create a shared sense of purpose, which can be critical for achieving common goals.

At project level, co-sensing is associated with learning and capacity building (WP2), the Models and tools developed in WP3, the Energy Communities Governance toolkit (WP2), and the solutions to governance barriers and challenges and new opportunities (WP2). All the above outputs provide information and analysis to increase OIS Hubs and the individual members' awareness on the energy communities and to navigate complexity and uncertainty, by encouraging a more open and flexible approach to problem-solving. By embracing a diversity of perspectives and actively seeking out new information, groups can develop more creative and effective solutions to complex challenges.

The purpose of the **Presencing** phase for individuals and groups is to cultivate a more profound level of awareness, connection, and creativity. At the level of the COMANAGE project is the phase where all information has been gathered and presented at the OIS Hubs and it is now their turn to start acting. The project has created and retains (through communication activities of WP7) a space for open dialogue and listening. Within this space, OIS groups can tap into the collective wisdom and creativity of their members, leading to more innovative solutions and a stronger sense of community.

The purpose of the **co-creating phase** in the COMANAGE project is to harness the collective intelligence, creativity, and expertise of OIS groups to achieve a common goal. Individuals in the OIS Hubs become engaged and empowered, as they are actively contributing to the creation of something meaningful.

For the whole group, co-creating can foster a sense of shared ownership and accountability, as everyone is invested in the success of the outcome. By working together to co-create, groups can build trust and collaboration, which can lead to a stronger sense of community.

At the level of the project co-creation activities in OIS Hubs are supported through WP2 (ECGT), WP3 (Engagement Plans) and WP4 (DSS and ECGT piloting and testing).

In the **co-evolving phase** of COMANAGE, we anticipate the OIS Hubs to have created a set of prototypes about energy communities' governance structure. The purpose of this last phase is to foster resilient, innovative, and adapting energy communities that continuously learn and evolve. Co-evolving can also lead to the development of new strategies, products, or services that are better suited to the needs of the market or the energy community.

COMANAGE supports OIS Hubs and policy makers at this phase, by employing sustainability, replication and exploitation activities and policy recommendations (WP6).

2.5.2. Outcomes and methods

This subsection provides a comprehensive picture of primary outcomes and the corresponding methods employed to achieve them as per the distinct phases of the Theory U. Each of the 5 Theory U phase will briefly highlight the main objectives to be attained and the potential methodologies that can be integrated. This will serve as foundational scheme that will be customized by each of the Hubs Managers to suit the specific requirements, needs and social contexts of the piloting areas and adjusted accordingly.

Outcomes and Methods of Co-initiating

As described above, the co-initiation phase of the COMANAGE framework mainly refers to the stage in which members of the OIS Hubs come together to form a shared intention for change, and to identify opportunities for transformation. The focus of this phase is on creating a shared sense of purpose and direction, and on mobilizing collective action towards a common goal.

At the end of this stage, the following should be established with the facilitation of the Hub manager and the whole COMANAGE team:

1. A shared intention of what stakeholders in each Hub want to create.
2. The critical questions that they need to explore.
3. A core group that drives the initiative.
4. Knowledge of listening and conversation practices.
5. Identification of available resources (people, physical meeting place, budget).
6. An initial set of opportunities to explore based on the shared understanding of the current situation of the community and the challenges it faces.

7. An initial list of possible learning journeys, i.e., people to interview, places and organizations to visit, readings, things that the Hub needs to learn.
8. An initial roadmap for the way forward.

The methods that can be used in the co-initiating phase include:

1. **Reflective Journaling:** the facilitator encourages the group to reflect in an intention setting journaling practice. By reflecting on these questions, individuals can gain a deeper understanding of their personal intentions and motivations for change and can begin to clarify their vision for the future. Reflective journaling may include the following questions:
 - I have joined the Hub because...
 - My most important challenge right now is...
 - what is my personal vision for the future of my community
 - what I want to learn and experience through this process
 - The energy Hub will be a success for me when...
2. **Listening practices:** the facilitator encourages the group to engage in deep listening, to better understand one another's perspectives and experiences. The listening practice requires from each group member to take some time and think on his/her quality of listening during the day. There are four distinct levels of how we listen:
 - Downloading: This is the most common level of listening, where people simply hear the words that are being said.
 - Factual Listening: This level of listening involves paying attention to the facts and data being presented, and understanding the information being shared.
 - Empathetic Listening: This level of listening involves trying to understand the feelings and emotions behind what is being said, and to connect with the speaker on a deeper level.
 - Generative Listening: This is the highest level of listening, where individuals are able to listen deeply to the essence of what is being said, beyond the words and emotions, and to sense and intuit the possibilities and potential that lie within the situation.

In the co-initiating phase of COMANAGE, stakeholders are encouraged to engage in generative listening, in order to build trust, foster collaboration, and create a shared understanding of the challenges and opportunities for change. Through this process, they can also tap into the collective wisdom and creativity of the group and co-create new solutions and possibilities for the future. A **listening assessment tool** may be used to familiarize group members with listening practices. This can be done in the form of tracking listening habits. At the end of the day each stakeholder estimates the percentage of listening they spent in each level. When they experience a shift from one level to another, stakeholders are encouraged to share their story with the group.

3. **Dialogue:** Foster dialogue among members of the community, to build trust and create a shared understanding of the challenges and opportunities for change.
4. **Networking:** Foster networking and collaboration among members of the community, to build relationships and create a shared sense of purpose and direction.

5. **Action planning:** Encourage members of the community to engage in action planning, to identify specific steps that can be taken to move towards their shared vision.

Dialogue, networking, and action planning may be practiced through **peer coaching groups**. They involve bringing together a group of individuals to collectively explore a specific challenge or issue, and to co-create new solutions and possibilities. Peer coaching groups consist of teams of 3-4 people formed within each Hub, with the purpose to share experiences, engage in creative dialogue and offer solutions to an important and immediate leadership challenge that a member faces. Peer coaching group sessions offer concrete and innovative ideas to pressing leadership challenges, increase the level of trust and energy among the peer group and co-create new solutions and possibilities that are grounded in the collective wisdom and creativity of the group.

Another tool that can be used at the co-initiation phase, which enhances dialogue and observation of the whole system, is **empathy walks** (Schein, 1999; 2009; 2013). Empathy walks are a tool used to help individuals gain a deeper understanding of the perspectives, needs, and experiences of others. An empathy walk involves physically walking in the shoes of another person, either in a real or imagined sense, to gain a deeper understanding of their experiences, challenges, and perspectives. The goal of an empathy walk is to develop a more empathetic and compassionate understanding of others, and to expand one's own perspective and understanding of the world. This can be particularly valuable in situations where individuals are working to address complex, systemic issues, and where a deeper understanding of the perspectives and needs of all stakeholders is essential. Empathy walks are a powerful tool for fostering empathy, compassion, and understanding, and can help to break down barriers and foster collaboration and co-creation. The process of an empathy walk typically involves:

- Identifying a specific person or group to walk in the shoes of
- Imagining or physically walking in the environment of that person or group
- Reflecting on the experiences, challenges, and perspectives of that person or group
- Using this deeper understanding to inform one's own actions and decisions

Outcomes and methods of Co-sensing

In the Co-sensing stage of the COMANAGE project, OIS Hubs groups access their collective wisdom and intuition in order to create new insights, solutions, and perspectives. Having identified the common intention of the group, the next step will be to facilitate the group in thinking outside one's bubble and challenge the way they operate within the energy system. The co-sensing process typically results into the following outcomes:

1. Creating a safe and open space for reflection and inquiry
2. Generating a revised set of the forces that influence and shape the energy system
3. Generating a set of core challenges and opportunities related to the operation, governance, and future of energy communities
4. Identifying stakeholders' personal connections to the above opportunities
5. Creating a map of the system's barriers and bottlenecks that keep it on its current track
6. Improving capacity for collaboration among stakeholders (individuals and groups).

7. Increased trust, empathy, and understanding among participants
8. Having a highly committed core team in place.

In this stage it is important that the team reflects the diversity of the key stakeholder groups, so that different competencies and talents are pooled together to make the transition from the current situation to a more desired future situation. Several methods are available at the co-sensing stage, to allow participants a swift in their perspectives, attitudes, and mental models (Pearson, et al., 2018):

1. **Sensing journeys.** These aim at pulling stakeholders out of their daily routines and allow them to experience different aspects of the situation. Sensing journeys involve going to places and meeting with people to share experiences and learn from each other. The most valuable aspect of a sensing journey is the opportunity it provides to step into unfamiliar environments and different contexts. For a sensing journey to be successful OIS Hub stakeholders need to engage in listening and observation practices that allow them to listen to others, listen to yourself and the whole community. Possible outcomes of sensing journeys include increased awareness of all different aspects and viewpoints within an energy system; ideas for prototypes; networking and trust building between OIS participants and stakeholders of the energy community.
2. **Stakeholder interviews.** The purpose of a stakeholder interview is to see from the perspective of others. It answers the questions: what can I contribute to the Hub? Why am I needed for? What do I need others for? How do others see my involvement? A stakeholder interview requires the establishment of personal connections, and the creation of transparency about the purpose and process of the interview. It also requires an open mind, that allows the interviewer to see through the eyes of the interviewee. At this point it is not important for the interviewer to engage into a debate and try to convince the other person, but rather to learn and see through different lenses.
3. **Social Theatre-the stuck exercise.** Social theatre is an activity that facilitates groups of people to find ways to communicate, improve their social functioning, overcome challenges and gain insights by paying attention to non-verbal communication and body language. Social theatre emphasizes the connection between the individual and collective, and encourages participants to explore their experiences through movement, sound, and other sensory expressions. The purpose of social theatre is to focus on developing collective intelligence and aligning individual and collective goals.
4. **Projection mapping or spatial augmented reality techniques (3D Modeling)**

Outcomes and Methods of Presencing

The presencing phase is a key concept in the transformation process described in this report. It involves moving from a state of judgment and analysis to a state of open, intuitive awareness of the present moment. It is a process of letting go of preconceptions, reflecting on what has been learned and opening oneself to new possibilities and perspectives.

In the presencing phase, individuals in the IOS Hubs will tap into their intuition and creativity. This involves listening to the perspectives of others, being open to new ideas and perspectives, and tuning into one's own inner wisdom and intuition (Banks, 2014; Denning, 2001, 2004; Clandinin, & Connelly, 2000).

The presencing phase often involves the use of meditation, mindfulness practices, and other techniques to help individuals or groups become more present and centred. This can help to create a sense of shared purpose and vision, and to identify new possibilities and solutions that may not have been apparent before.

Some of the key outcomes of the presencing phase include:

1. **Increased creativity:** By opening oneself up to new possibilities and perspectives, individuals and groups often experience an increase in creativity and innovation. This can lead to the development of new ideas and solutions that may not have been apparent before.
2. **A set of prototyping initiatives and a list of stakeholders that will work for each prototype.**
3. **Deepened relationships:** The presencing phase often involves deep listening and empathy, which can help to foster deeper connections and relationships between individuals and groups. This can help to build trust, collaboration, and a shared sense of purpose.
4. **Enhanced decision-making:** By tapping into their intuition and creativity, individuals and groups may be able to make better decisions, both for themselves and for their organizations. Increased energy levels in the group are also an outcome.
5. **A list of potential additional stakeholders, not currently in the OIS Hub, that need to be recruited for consultation and advice.**
6. **Setting milestones for monitoring and reviewing the progress for each prototype.**
7. **Alignment with purpose:** The presencing phase can help individuals and groups to connect with the identified shared intention, and to align their actions and decisions with this purpose. This can lead to greater fulfilment and satisfaction and to a sense that actual progress is being made in the OIS Hub.

Some of the key methods of the presencing phase include:

1. **Mindfulness and meditation:** Mindfulness and meditation techniques are commonly used in the presencing phase to help individuals quiet their minds and become more present in the moment. This can help to reduce stress and anxiety and promote a sense of calm and centeredness.
2. **Organizing a retreat.** The retreat allows the group to move to the next phase, by sharing and synthesizing the team's findings, and identifying thematic areas that can be used in the prototyping phase.
3. **Journaling practice.** Guided journaling can facilitate the process of reflection: what have I learned about myself, others, and our common goal. It can also be in the form of a self-to-self letter that captures personal reflections and reactions to the transformation process thus far.

Outcomes and Methods of Co-Creating

In the co-creation phase, individuals and groups collaborate to develop and prototype new ideas and solutions, with the goal of bringing about positive change (Geurtz, & van de Wijdeven, 2010; Kofman, & Senge, 2000).

Some of the key features of the co-creation phase include:

1. **A set of refined prototypes.** These are the result of brainstorming and feedback that has been generated during the other phases of the process. Ideas are developed, tested, and refined through a series of feedback loops. This process can help to ensure that solutions are effective, efficient, and meet the needs of end users.
2. **A set of connections** with stakeholders within and outside the IOS Hub that are relevant for taking the prototype to pilot and scale.
3. **Diverse perspectives:** The co-creation phase involves bringing together stakeholders from a range of backgrounds and perspectives, including end users, experts, and other relevant parties. This diversity can help to ensure that solutions are inclusive and effective and can address a range of different needs and perspectives (Irvin, & Stansbury, 2004; Jones, & McEwen, 2000).
4. **Collaborative leadership:** In the co-creation phase, leadership is often shared among stakeholders, with individuals and groups taking on different roles and responsibilities. This can help to foster a sense of shared ownership and accountability and can promote collaboration and innovation for real-world solutions.
5. **Creative problem-solving:** The co-creation phase often involves creative problem-solving techniques, such as design thinking or brainstorming. These methods can help individuals and groups to generate new ideas and possibilities, and to explore different approaches to complex problems.
6. **Open communication:** Effective communication is essential in the co-creation phase, as stakeholders need to be able to share ideas, give feedback, and work together to develop solutions. This can involve a range of different communication methods, including face-to-face meetings, online forums, and other collaborative tools.

Several methods can be of help during this phase:

1. **Select ideas for prototyping by responding to the 7-Rs.** The 7Rs method can be a powerful tool for prototyping and innovation, as it provides a structured and systematic approach for rapidly iterating and refining solutions. By reframing the problem, conducting research, creating a rough prototype, rehearsing, revising, refining, and repeating, individuals and teams can create more effective solutions that are better aligned with the needs and desires of end users.
2. **Use the 3D Modelling tool.**

Outcomes and Methods of Co-Evolving

In the context of COMANAGE, the co-evolving phase involves creating a collaborative learning environment where stakeholders can work together to co-create solutions that meet the needs of the community while also promoting sustainability and resilience (Lwood, 2002). This phase is characterized by a shift in focus from individual perspectives to collective perspectives and from prototyping to scaling up (Nared, 2020;). During the co-evolving phase, stakeholders engage in a process of using the knowledge acquired from the small-scale experiments. Then at the co-evolving phase they put together all the elements of prototypes that worked, to create a real-world situation (Smith & Senge, 2006). The co-evolving phase also involves experimentation where stakeholders test and refine new solutions in a real-world setting (Osterwalder & Pigneur, 2010). This allows for rapid iteration and learning and helps to identify the most effective solutions for the community.

Overall, the co-evolving phase is a critical component of creating sustainable solutions for resilient energy communities. The key outcomes expected from this final phase of the transformation process are:

1. Reviewing prototypes produced in the previous phase. Each prototype has gone through many iterations and has changed many times. The final version of each prototype is reviewed by the OIS Hubs. Key learnings are shared, and the group reaches a decision as to which prototype(s) to advance to the pilot phase.
2. Identifying real-world infrastructures that will enable pilots.
3. Identifying a set of barriers and bottlenecks that if removed, will allow a rapid scale up.
4. New partnerships and alliances that will endure even after the end of the project.
5. A new narrative for policy makers and wider society.

Methods that are used during the co-evolving phase include:

1. **The Creative Tension Exercise.** The Creative Tension exercise was developed by Peter Senge and is described in his book "The Fifth Discipline: The Art and Practice of the Learning Organization" (Senge, 1990). The exercise is presented in Chapter 7 of the book, which is titled "Personal Mastery". The exercise is designed to create what Senge calls "creative tension," which is the gap between the current reality and the desired future state. This gap is intended to create a sense of discomfort that motivates individuals or teams to take action to bridge the gap.
2. Define clear evaluation criteria: Before creating the prototypes, it's important to define evaluation criteria that will be used to assess each prototype's strengths and weaknesses. A series of *critical questions* should be answered at this point: is it relevant? Is it revolutionary? Is it rapid? Is it replicable? Does it help realize the Hub's vision and intention? Does it tap into the community's strengths and talents?
3. Test the prototypes with end-users: It's important to test the prototypes with end-users to gather feedback on the user experience and to identify any usability issues. This feedback can then be used to make an informed decision about which prototype to evolve into a pilot.
4. Conduct a feasibility study: A feasibility study can be conducted to assess the technical feasibility, financial feasibility, and market feasibility of each prototype. This can help stakeholders make a decision based on factors like development costs, technical constraints, and potential market demand.
5. Involve all stakeholders in the decision-making process: It's important to involve all relevant stakeholders in the decision-making process to ensure that everyone has a say and that the decision is made based on the collective input of all parties involved.
6. Consider the scalability and sustainability of the prototype: When deciding which prototype to evolve into a pilot, it's important to consider its scalability and sustainability in the long term. This involves assessing factors like the ease of scaling, maintenance costs, and the potential for long-term growth.

3. Engagement strategy methodology

This section provides a comprehensive overview of the stakeholder engagement plan for the three OIS Hubs within the COMANAGE project: AMB, KMA, and ANCI LAZIO. The selection of tools and methods employed by each Hub may vary, as they are specifically designed to address the unique requirements and local conditions of each Hub. The formulation of the workplan involved the collaboration, co-creation and follow up meetings with the OIS Hub Manager of each respective Hub and was based on thorough stakeholder identification and segmentation.

Within the context of stakeholder engagement, the COMANAGE project will take into consideration the gender mainstreaming strategy, outlined in Deliverable 2.1 which involves the integration of gender considerations and perspectives in all the aspects of project management. Since it is based on the acknowledgement that gender is a critical aspect of social identity, its intersection with social and economic factors shapes different experiences, needs, and opportunities. Hence, gender mainstreaming is an essential component of a stakeholder engagement strategy for different reasons:

- It ensures that the perspectives and necessities of both men and women are taken into account in the design and implementation of project activities. This is considered a fundamental factor as men and women often have different social roles, responsibilities, and experiences that influence their engagement in a project. For this reason, COMANAGE seeks to ensure tailored activities and tools to be implemented by the pilots.
- It can help to identify and address gender-based barriers to participation and inclusion. For instance, women may face specific constraints (time, social roles, economic affordability) that hamper their capacity to take actively part into a project.
- It pinpoints gender-based inequalities in the access to specific services, resources and also in the participation to decision-making processes. By addressing gender in stakeholder engagement, COMANAGE aims to ensure that both men and women have equal opportunities to benefit from all the activities deployed in the pilots.

Every Hub will propose tailored solutions and tools that will take into account gender differences according to the specific context and resources availability. To do so, the OIS Hub Managers will revise the guidelines provided in STEP II - Gender Action Plan of D2.1.

3.1. Objectives

Identifying the objectives of any group process is an important step in ensuring that the group can work together effectively in achieving a common goal. To set the objectives, the group leader (Hub manager) could work along the following lines:

- **Define the purpose of the group:** Begin by understanding why the group has been formed and what its overall purpose is. This could be anything from solving a specific problem, making a decision, or achieving a particular outcome.
- **Determine the goals and outcomes:** What specific goals and outcomes does the group need to achieve? These should be specific, measurable, achievable, relevant, and time-bound (SMART). In order to set goals and outcomes Hub managers may facilitate a brainstorming session with their group to clarify and prioritize goals.
- **Consider the resources:** What resources will be required to achieve the group's objectives? This could include funds, time, people, or other resources.
- **Use participatory techniques,** methods, and tools during meetings, to enhance human interaction and derive goals that represent the whole group.
- **Monitor progress:** As the group works towards its objectives, set a monitoring process to regularly observe progress and ensure that the group is on track to achieve its goals. The monitoring process should be planned from the beginning including those who will be involved, the methods that will be used to collect and analyse data, and the timeline for conducting monitoring and evaluation.
- **Evaluate the results of the monitoring process.** Collect feedback from stakeholders, enabling them to identify emerging issues and areas for improvement as far as achieving the defined goals is concerned. This dynamic process will allow them to react to the Hubs' needs and ensure that the engagement plan remains effective and relevant throughout the project's lifespan.

Once you have identified the objectives of the group process, develop a plan for achieving them. In the case of the COMANAGE project, interaction among team members, including SMEs, public authorities, public servants, individuals, consultants, and academics, will be encouraged in a series of face-to-face and online meetings and workshops. Depending on the structure of each Hub, the number of meetings and workshops will range from three to five. The meetings and workshops, in accordance with the Theory U process, will prioritize inclusion and participation enhancing the emergence of diverse voices. This will be done with the aim of fostering gender equality, as foreseen in COMANAGE gender mainstreaming strategy, to the fullest extent possible. This effort will be done considering the particularities of the Hub region, adapting to different contexts, and leveraging available resources. These efforts will lead to sustainable partnerships among stakeholders, high-skilled teams with clear roles, boundaries, incentives, obligations, and rewards, and a collaborative environment that promotes diverse viewpoints and encourages the co-creation of innovative solutions.

3.2. Engagement strategy

The overall engagement strategy encompasses three main steps. Firstly, it entails the identification and recruitment of a highly suitable individual to assume the role of the OIS Hub Manager. Subsequently, the strategy progresses to segmenting stakeholders into cohesive groups, thereby facilitating the development and execution of tailor-made strategies aimed at involving stakeholders actively in the operational approach of each hub (step 2 and 3). These steps contribute to design an effective stakeholder engagement scheme that, in the next sections has been adapted to every pilot characteristic, and deployment approach.

3.2.1. Hub management

Hub managers, the leaders of, and responsible for running each OIS Hub are key to the success of each hub and COMANAGE project as a whole. Each pilot partner should ensure that the most qualified individual is chosen for this important role. The appropriate profile of an OIS Hub manager includes both required qualities and background knowledge and desired, but not required, ones. These are described next.

Profile of Hub Managers

Required Qualities and Knowledge:

1. Knowledgeable of the energy community ecosystem in the hub region and the rest of Europe (energy communities, energy cooperatives, public and municipal agencies, NGOs, other organizations, policy makers, experts, networks, etc.).
2. Knowledgeable of the regulatory and wider institutional environment affecting the energy community ecosystem in the hub region.
3. Sociable, proactive, finds it easy to build and maintain social relationships.
4. Team player, leader, easygoing.
5. Willingness to learn new things and acquire new skills.
6. Highly supports the mission of COMANAGE.

Desired but not Required:

7. Experience in Systems Thinking tools and methods (e.g., Theory U).

The abovementioned qualifications should guide each participating municipality's search for an OIS Hub Manager.

3.2.2. Stakeholder segmentation

At the outset, it is crucial for each hub manager to determine the primary question of *"who should be engaged in the activities planned for our hub?"* The answer to this question is influenced by the objectives of the hub, as well as the specific conditions and characteristics of the energy transition sector in the relevant municipality. Based on these two factors, the hub manager will collaborate with their team to generate an initial list of potential stakeholders who could benefit from the services offered by the hub or that are relevant enough to participate in the co-creation process. This list will include both individuals and representatives of organizations who may be considered as eligible invitees, as shown in the following list:

- Existing energy communities and cooperatives, which want to advance into the next phase of their life cycle.
- Public authorities responsible for policy making and regulation of energy communities and cooperatives.
- Experts who advise energy communities and cooperatives.
- Public servants responsible for promoting and accompanying energy citizen initiatives.

- Civil society organisations involved in alternative energy initiatives.
- Other relevant stakeholders such as Energy Service Companies (ESCOs) or financial and market actors.

Making a list of such organisations and individuals from the municipality of interest is the first step. Subsequently, the Hub manager and her/his team need to construct a table with key items of information and evaluation for each stakeholder so that later on a prioritization and selection takes place. This information includes contact details (e.g., email address), justification for participation, her/his role in the Hub, possible expectations from the project of each stakeholder identified, and the project's expectations from each stakeholder as template Table 1 shows.

Role	Why is it important to include this person	Participant's Expectations from the project	Project's expectations from the participant

Table 1: Items of information and evaluation for HUBs stakeholders

To effectively prioritize and organize potentially invited stakeholders, they should be listed in the table based on their potential contribution towards achieving COMANAGE's objectives, and grouped into meaningful clusters, such as the ones mentioned earlier. The size of the hub should ideally range from 15 to 25 stakeholders, but over-recruitment may be necessary to achieve specific goals or account for potential declinations among the invitees.

3.2.3. Recruitment strategy

To effectively engage with different stakeholder groups, a tailored recruitment strategy should be designed for each group. As per the conceptual framework of the COMANAGE project, the first step in each hub is to establish a container for subsequent work, while keeping in mind the specific needs and preferences of each stakeholder group. Some stakeholders may prefer phone calls, while others may prefer emails or face-to-face interactions. The hub manager and the rest of the team should determine the best approach for each stakeholder group in order to achieve the optimal result. In addition to inviting stakeholders to participate, it is important to provide a brief description of the benefits they will receive from joining the hub, and to explain these benefits orally as well.

One of the key messages to be conveyed to stakeholders is that COMANAGE is a LIFE project funded by the European Union, aiming to support energy communities, cooperatives, and policy makers by providing them with a toolkit and online support systems. Participating in the COMANAGE Hub offers a range of benefits, including the opportunity to design tailor-made tools and supporting mechanisms, which can subsequently be provided by their municipality. Additionally, free technical, organizational, and financial know-how will be provided throughout the project and beyond, to help stakeholders establish, manage, and improve their energy communities and cooperatives. These benefits should be effectively communicated to maximize the chance of participation and to motivate stakeholders to join the hub.

3.2.4. Workplan definition

The following table and section present a general description of the actions and elements that compose the Engagement and Mobilization OIS Hub Plan. In order to define the Hub Workplan, the following must be defined:

- **Key actions.** Once the objective of the Hub has been defined and finetuned, it is necessary to identify how many actions will be needed to reach the objective. In the Comanage framework, the Pilots are advised to do between 3 and 5 meetings. These actions will be materialised in participatory workshops.
- **Expected outcome.** It is crucial to define which is the aim and the expected outcome of each workshop, whether is needed to validate a generic framework or to co-create and fine-tune in thematic meetings.
- **Stakeholders involved.** The target audience could be kept continuous, or it can be adapted as each workshop aims for a certain outcome.
- **Timeline.** Most of the Hub workshops will take place between M9 and M15, when placing the workshop in a timeline, it's important to consider associated tasks such as trainings or others.
- **Preconditions & resources.** This aspect has to be filled by Hubs Manager and implies specific assets and previous requirements that the Hubs need to fulfil before the workshops plus specific resources that might be required beforehand.
- **Format.** In participatory workshops, most of the times face-to-face is the preferred format to accomplish the expected outcomes. Nevertheless, stakeholders and the tools involved need to be considered and other formats such as hybrid or online meetings might be sufficient.

Key Action	Expected outcome	Stakeholders involved	Timeline	Preconditions & resources	Format

Table 2: OIS Hub Workplan

When designing the OIS Hub Workplan and the associated actions, it is of paramount importance to identify the potential risks and plan a mitigation strategy accordingly. This mitigation strategy includes to review the Key Actions and make the necessary improvements to become more resilient. Some of the potential risk might be lack of engagement, unaccomplished or unreachable outcomes, mistaken participatory methods, lack of sector maturity, and others.

3.2.5. Theory U Tools adaptation

Each Hub meeting has a specific structure based on Theory U methodology. All the tools proposed for the deployment of the HUBs are specifically described in the D2.1, grouped according to the different Theory U phases, timeline, and processes. However, each meeting would be different for each Hub in context and implementation. The adaptation of each meeting for all Hubs will depend on the identified objectives, the Hub structure (participant profiles, habits, needs, etc.), and the Hub manager's familiarity with the concepts, energy, and comfort level. The Hub manager does not have to be a professional trainer to use the participatory methods and exercises. However, preparation and some basic training on experiential methods may be helpful when facilitating such meetings. The following steps should be included in the meetings' agendas:

1. **Setting the Intention:** Before the meeting begins, set the intention for the meeting with the participants. This would involve communicating the purpose and objectives of the meeting, as well as describing the agenda, context, and activities. Provide clear, up-front communication about the meeting and clarify what people can expect.
2. **Start with a Check-In:** Depending on the level of the connection among group members, give people a chance to introduce themselves. In case participants know each other, use 1-2 icebreaker tasks to connect the group. At the beginning of the meeting, invite everyone to share their personal intentions and hopes for the meeting. This is an important step to ensure that everyone is present and engaged. At this point provide participation options: no one is required to speak, and everyone participates at her own comfort level.
3. **Data gathering/Main work:** This is the stage where we gather data and information related to the topic of the meeting. Several participatory methods can be used at this stage according to the Theory U stage we currently working on (co-initiating, co-sensing, presencing, co-creating, co-evolving), to help the group collect as much information as possible.
4. **Reflection and debriefing:** In this stage, we would focus on exploring and reflecting on the information we have gathered. Participants are encouraged to reflect on their own assumptions and beliefs, and to explore new perspectives and ideas.

5. **Check-Out:** At the end of the meeting, we would reflect on the process and outcomes, and identify any key learnings or insights. Also, we can provide space for participants to share any feedback or suggestions for future meetings.

When each meeting ends, the Hub manager and his/her team gather for an internal debriefing session. They share their insights and identify what went well and what didn't. During the internal debriefing, tasks should be assigned to each team member for providing feedback to Hub participants and preparing the next meeting.

3.2.6. Gantt chart

Each of the 3 OIS Hubs will develop a Gantt chart. Activities should be planned between April 2023 (M6) and January 2024 (M15).

	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15
Recruitment										
Action 1										
Action 2										
Action 3										
Action 4										
Action 5										

Table 3: OIS Hubs GANTT Chart

4. Tailored engagement and mobilization strategies

COMANAGE main aim is to address the governance and management challenges faced by citizen-led and public-participated energy communities' projects. This has to be accomplished through the creation of a comprehensive Energy Communities Governance Framework (ECGF) and by providing public administration involved in such projects with integrated services, supporting mechanisms, and tools ensuring their long-term growth and sustainability. This will be achieved through the development and implementation of the Energy Communities Governance Toolkit (ECGT), which aims at simplifying decision-making processes, reducing complexity, and stimulating replication of community energy projects. To achieve this aim, COMANAGE **SO2** focuses on the development of the Hubs and testing of the ECGT by engaging with local and regional government representatives and other stakeholders, in three European metropolitan and regional areas OIS Hubs.

This section follows the SO2 and describes in detail how the stakeholder engagement and mobilization plan will be tailored for each of the three OIS Hubs organised in COMANAGE (AMB, KMA, and ANCI LAZIO) taking into consideration the specific needs and specificities of every hub and deploying a specific range of Theory U tools. The main goal of the COMANAGE OIS Hubs is the co-creation of the following tools: the Governance Toolkit (ECGT), the Decision Support System (DSS), the E-learning Platform and the Digital Hub.

- The **Governance Toolkit (ECGT)** will provide communities with a range of resources and tools to support the management and promotion of energy communities, including also best practices, case studies, and decision-making frameworks.
- The **Decision Support System (DSS)** will provide communities with an interactive platform for evaluating and comparing different renewable energy implementation strategies and energy efficiency measures.
- The **E-learning Platform** will provide educational resources to support community-level strategies for sustainable energy implementation, as well as energy education for community members. Those tools will provide to public authorities and citizen-led energy communities initiatives with enough tools and knowledge to ensure the CELs growth and sustainability in the medium and long term.
- The **Digital Hub** is the online platform supporting the engagement and operational activities of stakeholders throughout the project. It will be open and accessible to all the interested and prospective replicators, including other cooperative projects and public administration entities.

4.1. AMB OIS Hub

4.1.1. Background

The AMB, in its commitment to energy communities, has identified key challenges and barriers that have not been addressed by any existing authority or initiative. The current *Public Sector Contracting Law* ensures transparency, accountability, and anti-corruption measures but restricts public-community collaborations with complex procedures, posing a threat to emerging initiatives relying on the public authority. Additionally, the RD 244/2019, governing self-consumption, limits the involvement of public buildings in shared projects and imposes bureaucratic hurdles. Disinformation campaigns have led to a lack of knowledge among the population, hindering their interest and ability to self-organize into cooperatives. The implementation of PV rooftops faces challenges due to inefficient regulations and limited collaboration, leaving unused rooftop areas. To address these barriers, the AMB plans to provide specialized legal support and facilitate integration of local authorities into citizen energy communities. Innovative business models are also needed for long-term sustainability and reducing energy dependence. Collaboration between municipalities and territories offers promising prospects to overturn the individualist culture in urban areas. This comprehensive approach aims to promote growth and replicability of existing projects, surpassing their current limitations.

4.1.2. Objectives

Ensuring the fulfilment of the COMANAGE main goal and SO2 outlined in the introduction of this section, the AMB OIS Hub targets the following specific objectives within the Barcelona Metropolitan Area that counts with several on-going initiatives and serves as a network for stakeholders to collaborate, exchange knowledge and replicate best practices.

Renewable energy implementation: The objective is to encourage the adoption of renewable energy sources, such as wind and solar power in Barcelona metropolitan area. By transitioning to clean energy sources, communities can reduce their reliance on fossil fuels and reduce their carbon footprint. The AMB OIS Hub will play an essential role by:

- equipping communities with the necessary resources and tools to assess the feasibility of RE initiatives implementation
- supporting the development of effective strategies for implementing RE projects.

Energy efficiency: The objective is to reduce energy consumption and promote energy savings. By implementing energy-efficient technologies and practices, communities can reduce their energy costs and reduce their environmental impact. The AMB OIS Hub will:

- provide communities with resources and tools to assess their energy consumption patterns
- identify areas for improvement
- and develop effective energy efficiency strategies that suit the current needs

Promoting community-level strategies: The aim is to foster collaboration among communities and stakeholders to develop and implement sustainable energy practices. By working together, communities will be able to share knowledge and resources, and best strategies to address common challenges. The AMB OIS Hub will:

- provide communities with resources and tools to facilitate stakeholder engagement
- encourage collaboration to develop effective community-level strategies for sustainable energy implementation.

Energy awareness: the objective is to raise awareness and increase knowledge about sustainable energy practices among community members. By educating community members about the benefits of sustainable energy practices, communities can increase public support for these initiatives and promote behaviour change. The AMB OIS Hub will:

- provide educational resources and tools to support energy education initiatives, including online courses, training materials, and outreach programs. Herein the Digital Hub will serve to increase the pool of individuals and organizations that can follow training and increase their knowledge

4.1.3. Engagement strategy

Stakeholders' segmentation

Role	Why is it important to include this person	Participant's Expectations from the project	Project's expectations from participant
Energy Provider	Energy provider dedicated to the generation and commercialization of energy. It is a cooperative with advanced mechanisms for citizen participation in issues related to energy communities	Have access to tools that make their model of energy communities sustainable	Its expertise in social dynamization and participatory processes for the creation of energy communities
Energy Provider	Energy provider involved in DSO and commercialization of energy	Get in touch with important players in the energy sector, in order to show the products created for the management of energy communities and get their feedback	Its technical expertise in the distribution of energy in large-scale energy communities

Energy Provider	100% renewable Energy provider, involved in shared self-consumption projects	Get in touch with important players in the energy sector, in order to collect experiences from other participants in the management of shared self-consumption projects	It is a large-format energy supplier with a very powerful IT department and with very advanced management tools
Public administration – civil servants	Pioneer municipality in the creation of an energy community with public participation	Have a space where they can show their model of public-private participation, and obtain information about other pioneering experiences with public participation	This participant is a reference in the sector because they have created the first energy community where one of the partners is municipality
Public administration – civil servants	Municipality with a publicly owned company that has started 3 pilot tests of energy communities	Learn from other public administrations that have launched very pioneering public-private participation models	Take advantage of the participant's experience in the legalization processes of shared self-consumption photovoltaic installations
Public administration – civil servants	Municipality actively involved in energy transition	Learn from other public administrations that have launched very pioneering public-private participation models. They have a lot of citizen demand about energy communities	It is the municipality with the most installed photovoltaic power in Catalonia, and the municipal technicians have a lot of experience in European projects in the field of energy
Public administration - elected officials	Pioneer municipality in the creation of a public-private consortium for the energy transition	Possibility to feed on tools that help them to improve the management of the shared energy projects that they have already running	Collect their valuable experience in participatory processes with citizens, and his experience in the management of a public-private consortium, and

			about how the political process was
Public administration – civil servants	Pioneer municipality in the creation of a public-private consortium for the energy transition	Possibility to feed on tools that help them to improve the management of the shared energy projects that they have already running	Collect their valuable experience in participatory processes with citizens, and his experience in the management of a public-private consortium
Public administration - elected officials	Public administration that is part of several pioneering energy communities	Possibility to feed on tools that help them to improve the management of the energy communities that they have already running	Collect their valuable experience in participatory processes with citizens, and his experience in the management of different types of energy communities
Public administration - elected officials	Pioneer municipality in the development of energy communities	Possibility to feed on tools that help them to improve the management of the energy communities that they have already running	Collect their valuable experience in participatory processes with citizens, and his experience in the management of different types of energy communities
Consumers	It is a cooperative of consumers with advanced mechanisms for citizen participation in issues related to energy communities	Get in touch with actors in the energy sector who are facing similar challenges, and find solutions to common problems	Collect their valuable experience in participatory processes with citizens, and his experience in the management of different types of energy communities, from the perspective of the private sector

Technical Expert	Association of Energy Efficiency companies	Stakeholders of different energy communities, in terms of creation. It is formed by companies that their work will be to create and maintain energy communities from the private sector perspective	Collect their valuable experience in processes of creating energy communities, and their technical knowledge in energy
Legal Expert	Law bureau specialized in energy law	Get in touch with actors in the energy sector who may need legal advice in their processes of creating energy communities	Collect their valuable experience in the development of Spanish regulations for energy communities
Legal Expert	Association of photovoltaic solar energy installers	Get in touch with actors in the energy sector who may need technical advice in their processes of creating energy communities	Collect their valuable experience in development and legalization of shared self-consumption photovoltaic installations
Technical Expert	Catalan Energy Research Centre	Get in touch with the most innovative experiences of energy communities	Collect their experience in the research for solutions that help to improve the management of energy communities
Policy makers	Association of Municipalities, responsible for the legislation and stakeholders in promoting energy communities	Get in touch with the most innovative experiences of energy communities and get ideas that help to improve current regulations	Collect their valuable experience as a promoter of energy communities with public participation

Policy makers	Catalan Institute of Energy, in charge of the energy legislation in Catalonia	Get in touch with the most innovative experiences of energy communities and get ideas that help to improve current regulations	As the entity responsible for the development of the regulations, their participation is very important
Policy makers	Catalan government, in charge of the energy legislation in Catalonia	Get in touch with the most innovative experiences of energy communities and get ideas that help to improve current regulations	As the entity responsible for the development of the regulations, their participation is very important
Policy makers	Catalan Public Energy Company	Get in touch with all kinds of potential stakeholders of energy communities	They have the specific mission of promoting energy communities from the public sector
Policy makers	Spanish Energy Regulator	Get in touch with the most innovative experiences of energy communities and get ideas that help to improve current regulations at national level	As the entity responsible for the development of the regulations, their participation is very important

Table 4: AMB Stakeholder Segmentation

Recruitment strategy

The stakeholder recruitment strategy of the AMB Hub aims to engage a diverse range of stakeholders from across the region in the co-creation of the project. The Hub team recognizes that effective stakeholder engagement is critical to the success of the project and is committed to providing stakeholders with the opportunity to shape the project to best meet their needs.

To achieve this goal, the Hub team has developed a recruitment strategy that emphasizes the value of stakeholder participation and co-creation. The Hub manager will engage with a variety of stakeholders, including community members, local government officials, market actors, and environmental organizations, to raise awareness of the project and more importantly, to collect and incorporate their feedback. The Hub team has also emphasized the flexibility and

adaptability of the project, highlighting the fact that stakeholders will have the opportunity to tailor the DSS, e-learning platform, and toolkit to best meet their needs. By empowering stakeholders to co-create the project, the team hopes to build strong relationships and foster a sense of ownership and commitment among stakeholders.

The recruitment phase will be implemented in two steps, as the stakeholders will be segregated, high end profiles such as regional politicians and policy makers will be contacted at least 3 months in advance, and the rest will be contacted 1 month prior to the first workplan activity. This strategy is based on previous experience by the pilot area, and it will guarantee that the OIS Hub incorporates a wide variety of stakeholders and ensures their participation. This tailoring process will ensure the Hub meets its maximum potential and ensure further replication in the area, ultimately leading to the successful implementation of sustainable community energy practices in the region.

4.1.4. Workplan definition

Key Action	Expected outcome	Stakeholders involved	Timeline	Preconditions & resources	Format
Stakeholder definition	List of approx. 25/30 people	Hub Manager	April 2023	Brainstorming on key stakeholders	Excel document
Recruitment	Invitation Letter explaining the project and the outcome of the hub meetings	All the stakeholders identified for the HUB meeting invitation	July/ first days of September 2023	Shared invitation text and graphics	Invitation letter
Preparation meetings	Tools and materials useful for the 4 Hub meetings	Hub Manager	April 2023 to September 2023	Definition of the meetings outcome	Project deliverables and templates shared among partners
Hub Meetings	4 Hybrid meetings	Approx 25/30 individuals	From September 2023 to January 2024	Hub manager; Workshop Materials; Catering.	Minutes meetings Final report of the meetings

Dissemination	Increase of followers and people contacted with related update of project mailing list	All the COMANAGE target groups	From September 2023 to January 2024	Press releases relating to the results of each meeting	Digital press releases. Banners and flyers
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Table 5: AMB Hub workplan

4.1.5. Theory U Tools adaptation

This section outlines a structured approach to stakeholder engagement and co-creation, aligning with the project's conceptual framework. The Theory U framework, renowned for its transformative nature, offers a profound methodology that fosters deep listening, empathy, and collective intelligence. All of which are essential in community-led initiatives. During the first foundational meeting, stakeholders will be exploring diverse perspectives, sharing valuable insights, and establishing a common understanding of the project's purpose and scope. Through this co-sensing and co-initiating process, we aim to cultivate a sense of shared ownership, trust, and commitment among the stakeholders, laying the groundwork for meaningful collaboration and co-creation throughout the AMB OIS Hub. Building upon this foundation, subsequent meetings will be aligned with specific project components.

The second meeting, centred on the stage of Presencing, invites stakeholders to embark on a profound exploration of their individual and collective aspirations for the Decision Support System (DSS). Through profound dialogue and introspection, stakeholders envision the desired outcomes and functionalities of the DSS, thereby creating a fertile ground for meaningful collaboration.

In the third meeting the stakeholders unite to shape the Energy Governance and Community Toolkit (EGCT). Leveraging their diverse perspectives and extensive expertise, participants collaborate in the co-creation of a comprehensive toolkit that empowers effective decision-making and governance structures within communities. Lastly, the fourth meeting where stakeholders diligently contribute to the design and development of an innovative e-learning platform. By infusing their invaluable insights and backgrounds, stakeholders ensure that the platform provides rich educational resources and fosters a culture of continuous learning throughout the project's lifespan.

By integrating the Theory U Tools adaptation, the AMB Hub harnesses the collective intelligence and creativity of our esteemed stakeholders, empowering them to shape the DSS, EGCT, and e-learning platform in alignment with their needs and aspirations. This collaborative approach not only nurtures a profound sense of ownership and commitment but also amplifies the potential for sustainable and impactful outcomes within the COMANAGE project.

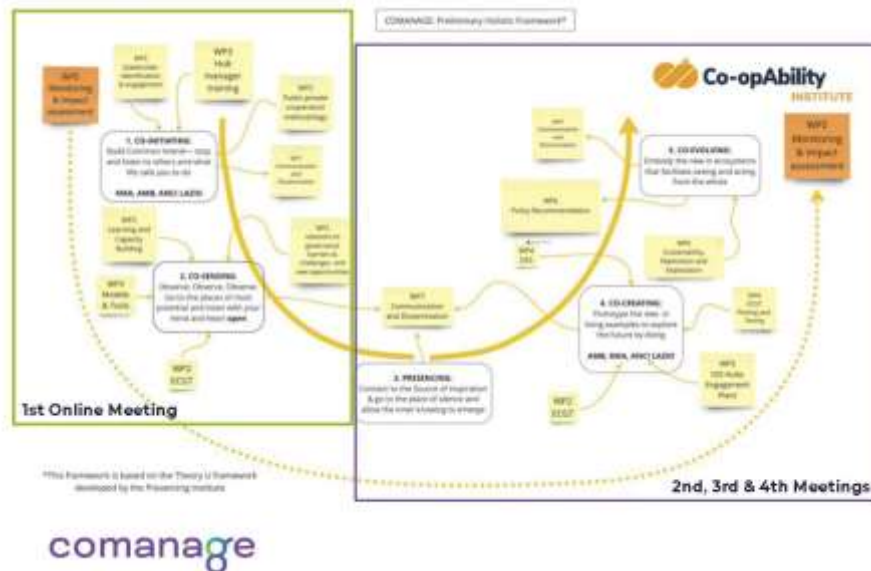


Figure 2: Theory U adaptation to AMB Pilot

Strategic meeting: Co-creating and Co-sense

Time (min.)	SCOPE OF WORK
10'	OPENING Introduction and presentation of the agenda Welcome and introduction: - What's the COMANAGE project about? - Session's structure
5'	ENERGY COMMUNITIES' INTRODUCTION - State of the art - Objectives: What should Energy Communities strive for?

15'	DATA GATHERING - Stakeholder's expectations - Useful tools for Energy Communities
20'	ENERGY COMMUNITIES: BRAINSTORMING OF CONTENTS - Toolkit - E-learning platform - DSS
5'	CLOSURE

Table 6: AMB strategic meeting

2nd, 3rd, and 4th meeting: Presencing, Co-Creating and Co-Evolving

Time (min.)	SCOPE OF WORK
10'	OPENING Introduction and presentation of the agenda Welcome and introduction: - COMANAGE project - Session's objectives
15'	PROTOTYPING 1 - Define different tools: Brainstorm session. 1st couples and then the whole group / journaling - List of questions

30'	EMPATHY WALKS – ROLE PLAY - COFFEE <i>Different stakeholders' points of views: There will be different profiles defined in different parts of the room. Stakeholders will have to walk around the room and think specific actions and products that satisfy the different profiles.</i>
10'	SHARING EMPATHY WALKS
40'	PROTOTYPING 2 <i>Redefine the tools according to the learnings on the empathy walk, previously done. The format is again a brainstorming session.</i> <i>Idea generation: small groups of 3,4 or 5 people (General questions - World coffe)</i>
10'	<i>Debriefing part (5'- 10')</i>
5'	CLOSURE

4.1.6. Gantt Chart

	M6 April	M7 May	M8 June	M9 July	M10 Aug	M11 Sept	M12 Oct	M13 Nov	M14 Dec	M15 Jan
Preparation										
Recruitment										
1st Meeting										
2nd Meeting										
3rd Meeting										
4th Meeting										

Table 7: AMB Hub meetings GANTT Chart

4.2. KMA OIS Hub

4.2.1. Background

In the Krakow Metropolis, an energy cluster has been established by the municipalities of Igołomia - Wawrzeńczyce, Kocmyrzów - Luborzyca, Wielka Wieś, and Zielonki, who are associated with the KMA. The cluster aims to reduce greenhouse gas (GHG) emissions in the area by investing in renewable energy, enhance energy security through diversification of energy sources, and promote the active involvement of citizens as energy prosumers. Lack of knowledge is identified as a major barrier for the municipalities in developing community-based energy initiatives, particularly among employees. To address this, there is a need for a compendium of knowledge and best practices from more advanced partners. Furthermore, Poland lacks a clear legislative framework to support distributed renewable energy systems, along with viable and accessible funding schemes. The absence of profitability guarantees and limited access to grants necessitate exploration of innovative business models for long-term sustainability. KMA aims to establish an inter-cooperation hub that facilitates new opportunities, including collaboration with local authorities, universities, and academic researchers. Access to knowledge, law interpretation, and active involvement in the legislative process are crucial for effective energy transformation and long-term management. Tools such as dedicated IT systems are required to administer contracts, facilitate communication among members, analyse energy consumption, exchange information, and store best practices. KMA also engages in lobbying activities to advocate for energy policies that support and promote local energy communities. Implementing new energy policies and regulations that promote renewable energy communities is essential for transforming Poland's energy mix, maintaining EU membership, and complying with international agreements.

4.2.2. Objectives

KMA OIS Hub has undertaken several activities that aim to establish a long-term strategy for cooperation among various stakeholders and the building up of the Hub which serves as a network for stakeholders to collaborate and exchange knowledge and experiences. Additionally, the Hub Manager will develop a toolkit that provides the necessary knowledge and tools for promoting energy communities. The cooperation between residents and institutions facilitated by the Hub with the support of the toolkit will allow for the development of rules of cooperation, which will contribute to the effective resolution of various problems related to energy management. The Hub team aims to:

- compare the expectations of various stakeholders with the possibilities and principles of proper problem definition and resolution,
- equip municipalities, civil servants, as well as citizens, with the necessary knowledge and tools needed to build energy communities. The primary goal of this effort is to present the benefits of creating energy communities, which can ultimately bring measurable benefits to everyone involved. Through cooperation and knowledge sharing, stakeholders can work together to achieve their energy goals.

The KMA OIS Hub goals, aligned with the general COMANAGE project, aim at fostering energy efficiency and security for the residents of the Kraków Metropolis. The latter are considered a key actor since the beginning of the process of

developing an Action Plan for cooperation to promote efficient energy management and high air quality within the region. The plan is structured around four main areas:

- **Energy Planning area** aims to establish a framework for cooperation between energy suppliers and consumers. The intended outcome is the creation of rules that stakeholders can use to undertake joint actions aimed at meeting energy management needs and expectations.
- **Technical and Market area** - the Hub will be in charge of preparing guidelines for establishing energy community management activities. Additionally, the Hub team will address issues related to energy inventory and balance, optimization of tariff group selection and connection capacities, as well as PPA and CPPA contracting formulas.
- Within the **Renewable Energy Sources area**, the KMA Hub plans to promote the establishment and use of renewable energy resources to improve air quality, reduce and minimize energy poverty, and make important steps towards a more sustainable area.
- Finally, through the last and one of the most important sectors, the **education area** - KMA Hub team aims to raise awareness among citizens on the importance of information, especially now, when energy communities are getting more and more recognition in Poland. KMA Hub will connect local government administration, citizens, and different representatives from various sectors and train them to collaborate more effectively following a step-by-step approach.

4.2.3. Engagement strategy

The engagement strategy of the KMA Hub is built on the following assumptions:

- Presenting the potential of RES and promoting their development alongside the whole territory. Recently, prosumerism has been quickly growing in the KMA area. However, it remains quite based on individual choices and lacks an organized form. The Polish legislation is prone to receiving several modifications in the short-term in order to support and promote energy communities.
- Equipping representatives of local authorities such as communes' staff and regulators with appropriate knowledge on energy communities
- Creating a space/platform for dialogue between local government, residents, experts (e.g., representatives of universities, research units), owners of energy networks. This includes establishing dialogue rules at different levels and between different political parties.

Taking into account specific goals, the most important stakeholders were identified and segmented as follows:

- Representatives of local authorities, including heads of municipalities and civil servants
- Representatives of regional authorities
- Experts, researchers, and representatives of energy communities who have successfully implemented a business model
- Residents - representatives of local action groups
- Representatives of the energy market - grid owners

An effective engagement and involvement of the identified stakeholders is a crucial factor that will significantly impact the quality of the project expected results. Given the challenges associated with energy communities and energy management, many stakeholders may show concerns or reservations in participating due to a lack of knowledge and/or expertise. This barrier will be addressed and overcome by creating a non-technical narrative around the energy communities' sector.

Therefore, it is essential to create the opportunities and the space for the widest number of stakeholders to connect, collaborate, share ideas, and co-create in order to advance in the deployment of energy communities.

Stakeholders' segmentation

Role	Why is it important to include this person/organization	Participant's expectations from the project	Project's expectations from the participant
Publicly Owned Energy Operator	The organization is planning to construct a photovoltaic farm that will provide electricity to the city of Krakow, its units, and its residents. This project is a crucial component of the planned energy community in Krakow	Better understanding business models for energy communities	The project expects the organization to demonstrate expertise and innovation in the generation of renewable energy
Publicly Owned Energy Operator	The operator is responsible for the transmission of electricity in Poland and plays a critical role in the country's economy. It is also specified in the Energy Law	The organization expects the project to possess knowledge of business models for energy communities. Additionally, the project is expected to have knowledge of the energy communities that are being planned or established in the Krakow Metropolis. This knowledge is crucial for determining demand and planning the appropriate development or modernization of the energy network	The project expects the organization to have experience and innovation in producing green energy. Additionally, the project requires the organization to possess knowledge of how the energy market operates and the ability to conduct negotiations on a local level

Public Authority-Municipality	The public authority has a strong commitment to topics related to renewable energy sources and low-emission transport	The organization expects the project to have knowledge of business models for energy communities, as well as knowledge of the energy communities being planned or established in the Krakow Metropolis. This knowledge is essential for determining demand and planning the proper development or modernization of the energy network. Additionally, the project is expected to provide experiences and best practices from functioning energy communities in the EU and other countries, as well as support in management methods	The project expects the organization to have experience and innovation in producing green energy. Additionally, the project requires the organization to possess knowledge of how the energy market operates and the ability to conduct negotiations on a local level. The project also includes the implementation and testing of energy community operating models, sharing knowledge and experience, and being a leader in implementing new tools for other municipalities in the KMA
Public Authority-Municipality	This public authority has established an energy cooperative (a Polish type of energy community), consisting only of municipal units	Expertise, experience, and support in managing energy communities	The possibility of implementing and testing potential solutions
Public Authority-Municipality	Searching for innovative solutions	Expertise, experience, and support in managing energy communities	The possibility of implementing and testing potential solutions
Public Authority-Municipality	They are motivated to follow the example of others and utilize the residents/organizations who have renewable energy sources	Gaining knowledge and skills about energy cooperatives	Knowledge transfer and involvement in creating energy communities in their area

Public Authority- Municipality	They are planning to establish an energy community	Sharing knowledge and experience, support in managing energy communities	The possibility of implementing and testing potential solutions
Public Authority- Regional Public Administration Office	Plan laws at the regional level, e.g., the air protection program for the Malopolska region and the development strategy for the region	Creation of Energy Communities and promotion of green energy and renewable energy sources (RES)	Collaboration on subsidy programs to finance the activities of energy communities and the potential for promoting the solutions developed in the project
University	Access to experienced scientists and resources of one of the top technical universities in Poland, including an innovative energy department that contributed to the preparation of the strategy for the development of energy communities (the document is to be submitted for adoption by the Polish government)	The possibility of implementing the energy community's strategy	Sharing their technical expertise and experience
Local Action Group	The local action groups have implemented EU projects on renewable energy sources (RES) for residents and have experience in collaborating with residents	Expertise in energy communities, design, and financing models	The potential for engaging residents and direct access to them

Table 8: KMA Hub stakeholder segmentation

Recruitment strategy

In the KMA pilot area, the recruitment started with preliminary discussions with representatives of key stakeholders to verify the accuracy of assumptions of the Action plan for energy efficiency and present the key assumptions of the COMANAGE project.

The second part of the recruitment strategy will follow the succeeding steps:

- Sending invitations to stakeholders: an official invitation will be dispatched to stakeholders with a request to nominate a representative to collaborate within the Hub. Invitations are scheduled for July 2023.
- Establishing working contact with stakeholders: throughout the summer, the selected representatives will be informed about the work schedule and requested to attend the planned meetings. The goal is to establish and maintain regular communication, ensuring that approximately 25 attendees at meetings.
- Conducting meetings: 4 meetings are planned from September to December (once a month). However, it is also possible to organize short, additional online meetings, depending on the needs and progress of work.

4.2.4. Workplan definition

Key Action	Expected outcome	Stakeholders involved	Timeline	Preconditions & resources	Format
Stakeholder identification	Create the appropriate stakeholder mix for participation in the meetings (20-25 people)	Public authorities, municipalities, university, local action groups	June-July 2023	Consulting peers and brainstorming. Making initial inquiries	Excel document with suggested names
Stakeholder recruitment	Create and send invitation letter for participation in the meetings	Public authorities, municipalities, university, local action groups	July-August 2023	Include in the invitation letter information about the Comanage project and energy communities in general	Invitation letter

Organize 4 meetings (Sept-Dec 2023)	Initiate an energy community in the Kraków Metropolitan Area. Create a shared vision for the energy community. Create 2-3 different scenarios on the future of the energy community.	Public authorities, municipalities, university, local action groups	Sept-Dec 2023	Venue (meeting place) meeting agendas and workflow Materials Catering	4 face-to-face meetings.
Dissemination	Establish a steady connection among EC members, that will be sustained in the long run	Public authorities, municipalities, university, local action groups	September 2023 - January 2024 (and later if needed)	Choose different dissemination tools to make the meeting results available to the wider public	Meetings, leaflet, events, press releases

Table 9: KMA Hub workplan

4.2.5. Theory U Tools adaptation

Theory U is a framework for leading change that consists of five main phases. Each phase is associated with specific tools that can be used to support the process. This specific section provides an in-depth overview of the tools that can be used for every specific phase of COMANAGE's U process with a detailed description, process, and steps to take. As for ANCI LAZIO, that will follow in the next section, KMA Hub only outlined the Theory U tools adaption to the first meeting.

Adopting the first phase of theory U (Co-initiating), the primary objectives of the **first** meeting were:

- To introduce the project and the activities of the KMA to the participants
- To familiarize the participants with each other and understand their motivation to engage in the HUB
- To provide an overview of energy communities
- To define the goals of the HUB and establish a work schedule for future meetings.

Strategic meeting: Co-initiating

Time (min.)	SCOPE OF WORK
10'	LAUNCH Introduction and presentation of the agenda Welcome and introduction: • KMA is a cooperation space for 15 communes; • KMA supports the idea of local government; • KMA creates a space for exchanging views and experiences; • KMA has a real impact on improving the quality of residents' life.
25'	ICE-BREAKER – LET'S GET TO KNOW EACH OTHER
10'	SOME INFORMATION ABOUT THE KRAKOW METROPOLIS ASSOCIATION: 7 areas of metropolitan cooperation of associated municipalities, including striving for climate neutrality through the energy transformation of the region Goals and tasks - Assumptions of the action plan for cooperation in the field of energy efficiency and high-quality air in the Krakow Metropolis.
10'	INFORMATION ABOUT THE COMANAGE PROJECT • Main goals (including standard project presentation, financing, partners) • What the HUB is? (expectations) • Toolkit

20;	ENERGY COMMUNITIES • law basics, types • benefits/barriers • summary of workshops organized by Krakow (opportunities to create energy communities in Krakow)
45'	WORKSHOP • Identification of the main problems and needs of stakeholders; • Prioritization of issues and tasks; • Exchange of opinions and experiences; • Next steps and work schedule
5'	CLOSURE • Meeting summary • Follow-up meetings

Table 10: KMA 1st meeting agenda

4.2.6. Gantt Chart

	M6 April	M7 May	M8 June	M9 July	M10 August	M11 Sept	M12 Oct	M13 Nov	M14 Dec	M15
Recruitment										
Meeting 1										
Meeting 2										
Meeting 3										
Meeting 4										

4.3. ANCI Lazio OIS Hub

4.3.1. Background

One notable energy community established in the Lazio Region is the Renewable Energy Community of Ventotene, situated on the island of Ventotene. This initiative was launched through a combination of grassroots efforts and support from the local municipal administration, resulting in a hybrid constitution process that combined bottom-up and top-down approaches. Currently, the Ventotene Energy Community consists of citizens, accommodation facilities, and public buildings that generate, consume, and share sustainable energy derived from solar power plants.

However, ANCI LAZIO has identified various existing barriers through ongoing pilot projects, revealing a lack of confidence in such initiatives, which are sometimes perceived as risky ventures. The regional laws pertaining to the administrative and legislative aspects are relatively restrictive and should ideally facilitate the establishment of energy communities by providing economic resources without imposing bureaucratic burdens, such as mandatory energy balances. Legislative decrees have been subject to changes over time and have yet to be definitively settled, resulting in limited standardization and considerable challenges when interactions occur between the energy service provider (DSO) and the communities.

Despite some financial constraints encountered in the ongoing pilot projects, the main difficulty lies in the absence of a dedicated public contact point that can offer continuous assistance and guidance to individuals interested in joining an energy community. Establishing offices and designated roles to provide initial support during the establishment phases is crucial in order to stimulate grassroots initiatives, which would otherwise remain exceptional cases. Fortunately, the Lazio region is already taking steps to address both of these issues in the coming months by establishing advisory services and allocating funds specifically for emerging communities.

It is important to note that the challenges related to the experience and training of municipal staff are being addressed, as 17% of them are over 60 years old, with 3% under 30. Additionally, four out of 10 employees hold a degree, but resources for training have decreased by half in the past decade. Given the aforementioned obstacles and barriers, efforts in Lazio have primarily focused on fostering trust in these types of initiatives. However, local authorities recognize the significance of data management and transparency in community projects as key areas for improvement. Thus, tools are being developed to efficiently manage such projects and create engaging and empowering initiatives.

4.3.2. Objectives

The planning of the HUB conducted by ANCI Lazio with the support of AISFOR is constituted by a program of **six meetings** with stakeholders, aimed at achieving the COMANAGE objectives for the strengthening of energy communities in Lazio, starting from the pilot community of Ventotene and for the validation and further development of the COMANAGE Toolkit. The ANCI LAZIO Hub objectives are proposed to foster the development of Renewable Energy Communities (RECs) are grouped in specific work fields:

Within the area of **renewable energies and energy efficiency** the main goals are:

- Working collaboratively between energy communities to identify opportunities for the development of renewable energies (such as solar, wind, geothermal, hydro, and biomass).
- Sharing best practices, overcoming current challenges, and fostering partnerships with local authorities, academia, research institutions, and industry stakeholders.
- Accelerate the adoption of renewable energies in a just and inclusive manner through joint planning, strategies, and resource pooling.

Within the field of **community-level strategies**, the objective is to prioritize energy efficiency and conservation at the community level to reduce energy consumption, lower costs, and minimize environmental impact. This involves sharing information on energy-efficient technologies, strategies to reduce energy waste, and best practices for energy saving within energy communities.

In **energy planning and management**, the objective is to develop and implement the COMANAGE Toolkit, which will guide energy development, conservation, and management within communities. Participants will collaborate with local governments and stakeholders to integrate energy planning into overall community planning efforts.

In **community education**: the main goals are:

- to increase the reception capacity of the RECs
- promote energy awareness, participation, and support for renewable energy and energy conservation efforts.

To fulfil these, Hub participants can propose and organize public events, workshops, and educational programs to share information, raise awareness about renewable energy, and generate support for energy-related initiatives.

For **policy and regulatory support**, ANCI LAZIO Hub aims at:

- overcoming regulatory issues related to RECs management,
- support policies that facilitate renewable energy and energy savings.

To this extent, the Hub team will propose solutions with legal experts and collaborate with local, state, and national policymakers to create policy environments conducive to energy development.

Finally, within the area of **financing and investment** ANCI LAZIO Hub aims at

- exploring funding and investment opportunities for REC energy development projects. Participants will share experiences and knowledge to help others pursue energy development projects in their communities, including accessing government grants, tax incentives, and private investment.
- strengthen the economic model of renewable energy communities for the benefit of the whole community.

4.3.3. Engagement strategy

The ANCI LAZIO Hub, as a participatory local development initiative, has been conceptualized as a process aimed at engaging and empowering local communities with necessary knowledge and skills to effectively use the COMANAGE Energy Communities Governance Toolkit. This process started within the pilot area of Ventotene, with the goal of enabling communities to pursue the development of their own renewable energy community within the area in which they operate.

AISFOR and ANCI Lazio collaborated to create an engagement plan to ensure the engagement of a shortlist of participants with different roles in the planned HUB meetings, according to the instructions provided by Co-Opability and the other partners inputs. In synergy with the survey activity conducted through interviews (Survey T2.4⁴), the different types of stakeholders (representing, respectively the Pilot community of Ventotene, Energy communities of Lazio, Experts at regional and national level; local administrators, universities and research and citizens) were contacted based on a predetermined contact list. Subsequently, efforts were made to develop a stakeholder engagement plan identifying the types of stakeholders and the most appropriate channels to use to engage them. In summary:

- The stakeholder mapping allowed to identify the main stakeholders, and a list of about 40 stakeholders was drawn up, considering their structuring/prioritization.
- Work preparation and engagement plan were carried out, defining the methods of involvement, and carrying out of the COMANAGE HUB activities in hybrid mode, taking into account the physical presence of the Hub Manager to be ensured for the 5/6 meetings scheduled in the island of Ventotene, therefore a place of limited accessibility and possible under certain conditions.

Stakeholders' segmentation

Role	Why is it important to include this person/organization	Participant's Expectations from the project	Project's expectations from the participant
Members of the Ventotene Pilot Renewable Energy Community	Ventotene Energy Community is the Italian pilot case of COMANAGE and is the first institutionalized Renewable Energy Community in Lazio	Receive specific support to the problems encountered; use the COMANAGE Toolkit as an open-source tool and with added value for the European scope it has	Receive specifications and inputs on the issues of the 5 dimensions of the toolkit and validate the toolkit itself

⁴ The survey results of T2.4 are partially reflected on D2.2

Representatives of the public administration	Municipalities are crucial for the support of the Energy Communities since they have public areas where it is possible to install renewable plants and because they can attract funds for the efficiency and production of renewable energies	Obtain technical, legal, and specific guidance to support local energy communities	Receive feedback for the validation of the COMANAGE toolkit, disseminate the project
Industry/SMEs representatives	The participation of industries and businesses implies collaboration with citizens and administrations in the production and sharing of renewable energy in an exchange between equals	Gain value-added knowledge and practical opportunities to improve performance of RECs	Receive specific inputs regarding the validation of the toolkit and contribute to the dissemination activities
University/Research representatives	Make sure that the innovation and research point of view are satisfied	Receive added value thanks to the holistic COMANAGE approach and take advantage of the European dimension on the topic of RECs	Added value inputs regarding the toolkit and indications of further tools to be integrated
Citizens	Offer the possibility of participation in the HUB to a sample of citizens, starting from those who are vulnerable or doubtful about the functioning of the RECs	Receive specific inputs to improve and adapt the toolkit in favor of the most vulnerable citizens	Clarification of doubts and criticalities. Get opportunities to improve their conditions and network
Other areas than the pilot area	Ensure further consensus for replicability and dissemination of the COMANAGE toolkit at national level in Italy	Receive information on the value and uniqueness of the COMANAGE toolkit	Receive inputs from different experiences from the use cases and increase the dissemination

		to be used beyond pilot areas	
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Table 11: ANCI Lazio Stakeholder segmentation

Recruitment strategy

The planned recruitment considers the following key points:

- inform about the opportunity offered by the Hub;
- involve stakeholders through specific inputs on the issue of RECs;
- motivate stakeholders by highlighting the European added value and the value of the COMANAGE Toolkit;
- definition and analysis of the contents that will characterize the event;
- calendar content;
- offer and identification of expert speakers for any further insights that will emerge from the meetings;
- creation of the graphic line of the invitation

Each of the points mentioned above was considered for the elaboration of the invitation text to be sent to the stakeholders, shown below:

YOU ARE INVITED to a series of 6 meetings on the theme

"Support to the governance of energy communities and co-creation of the COMANAGE Holistic Toolkit"

date - September 2023 | 11:00 – 13:00 | Venue: Ventotene, Art Café and online

The COMANAGE project, co-funded by the European Union pursues the main objective of providing answers to the needs that Energy Communities have to move forward with their Community energy project, to address and counter the main obstacles to governance and management - including set of legal, administrative, financial, social, and organizational hurdles - faced by energy community projects, both citizen-led and publicly participated.

The meetings will host thematic experts dedicated to validating the Energy Community Toolkit made available free of charge to Energy Communities.

For more information, visit the meeting's event page.

Please confirm your participation in the meeting via this link until 6 September 2023.

The meeting will be held in Italian.

We can't wait to see you there!

4.3.4. Workplan definition

The diagram reported below collects the main activities and the elements to be taken into consideration to ensure the organization and implementation of the 6 Hub meetings planned in Lazio region.

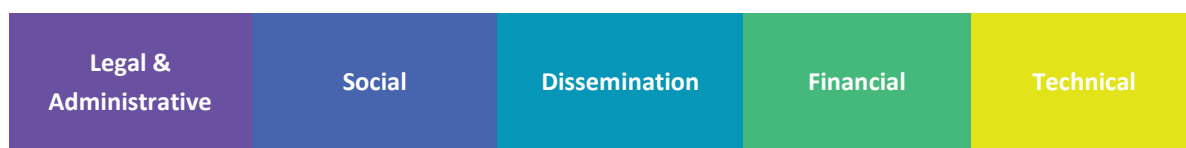
Key Action	Expected outcome	Stakeholders involved	Timeline	Preconditions & resources	Format
Surveys (T.2.4)	SWOT analysis based on interviews	13 key stakeholders, representative of the different COMANAGE target groups	February 2023	Survey preparation and staff effort	Documents in word and excel summary
Stakeholder map	List of approx. 25/30 people to send for hub meetings	representative of the different COMANAGE target groups	April 2023	Brainstorming on stakeholders in the Lazio region and availability check; staff effort	Excel document
Recruitment	Graphic flyer solution and Invitation (including tools for the meeting management)	All the stakeholders identified for the HUB meeting invitation	July/ first days of September	shared invitation text and graphics	- Design a flyer and - Eventbrite invitation -Jam board
Preparation meetings	Tools and materials useful for the 6 Hub meetings	-	April 2023 to September	Dialogue among partners and internal training (devoted to Hub manager)	Project deliverables and templates shared among partners

Hub Meetings	6 Hybrid meetings (in Ventotene and online)	Approx 25/30 individuals	From September to December 2023	Hub manager; Conference Call platform (GoToMeeting); Experts involvement; Workshop Materials; Catering.	Minutes meetings Final report of the meetings
Dissemination	Increase of followers and people contacted with related update of project mailing list	All the COMANAGE target groups	September to December 2023 and beyond	Press releases relating to the results of each meeting	Digital press releases; Banners and flyers

Table 12: ANCI LAZIO Hub workplan

The meetings will be conducted according to the COMANAGE methodology to deal with the changes known as Theory-U, and the contents proposed for the six meetings are as follows:

1. **An initial meeting scheduled for the general presentation and sharing of the objectives for the evaluation of the COMANAGE Toolkit, the roles and activities planned based on Theory-U and offers for the strengthening of renewable energy communities.** Participants are invited to select an activity among those illustrated by the TOOLKIT to their liking. The selection aims to support reflection on the role and generation of social change that the community could produce, while considering the needed conditions for such a change. Each input/contribution will be sent to the facilitator who will prepare the results during the next meeting.



2. **COMANAGE in Lazio region – Co-initiating session:** this session will serve simultaneously both to evaluate the TOOLKIT and to develop a **STAKEHOLDER MAP** according to the following topics:
 - To enable technical understanding of energy and energy for an REC;

- Promote energy efficiency and the development of renewable energy skills at a decentralized level;
 - Promoting market participation of users who would otherwise be excluded;
 - Fighting vulnerability and energy poverty.
3. **Co-sensing session:** Projection Mapping on the holistic dimension of the COMANAGE TOOLKIT (if made available to the COMANAGE partnership, by using a spatial augmented reality techniques through 3D modeling to create interactive and immersive visualizations that facilitate exploration and group reflection).
 4. **Co-presencing:** COMANAGE TOOLKIT Prototyping - test new ideas and concepts safely and iteratively.
 5. **Co-creating:** Design Thinking to address the resolution of the problems that have emerged, with a human-centered focus, to create innovative solutions that meet the needs of each of the stakeholders.
 6. **Co-evolving:** feedback and evaluation to gather experiences and evaluate the effectiveness of the implemented solutions.

The meetings will take place in a hybrid mode both to involve the pilot community of Ventotene and to host other stakeholders from the metropolitan area and from the territory of the Lazio region. Tools such as **MIRO** or **JAMBOARD** will be used in order to share **infographics** and create interactive sessions as well as the possibility of creating rooms separate from the central meeting in which to deepen particular aspects in small groups, and then share them in plenary. The same infographics will be printed and posted in the room where the face-to-face meetings will take place. The facilitator will be responsible for reporting digitally what will be made with post-it notes.

4.3.5. Theory U Tools adaptation

As outlined in detail and summarized in the previous paragraph, the Hub meeting activity incorporates participatory methodologies derived from the Theory U framework and other systems-based approaches. These methodologies are designed to actively involve community members in the decision-making process, fostering a sense of ownership and dedication to the project, while also ensuring that their unique needs and preferences are taken into account.

A Draft Agenda for the First Meeting is provided below:

Time (min.)	SCOPE OF WORK
	1st HUB MEETING – SET-UP and Pro-active participatory process

10'	LAUNCH Introduction and presentation of the agenda Welcome and introduction: • ANCI Lazio presentation • Community energy as a real instrument on improving the quality of life of communities
25'	ICE-BREAKER – LET'S GET TO KNOW EACH OTHER (selection of one of the 5 Comanage dimensions providing a contribution "I participate as" and "I choose this theme over all because")
10'	SOME INFORMATION ABOUT THE VENTOTENE PILOT AREA and the other RECs followers: Goals and tasks - Assumptions of the action plan for cooperation in the field of energy efficiency and high-quality air
10'	SOME INFORMATION ABOUT THE COMANAGE • Main goals (including standard project presentation, financing, partners) • <i>What is the HUB - expectations</i> • Toolkit
20;	ENERGY COMMUNITIES • law basics and news, types • benefits/barriers
45'	5 HUB MEETING SESSIONS • Identification of the main problems and needs of stakeholders; • Prioritization of issues and tasks; • Exchange of opinions and experiences; • Toolkit validation

5'	END - Meeting summary - Follow-up meetings - Next steps - work schedule
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Table 13: ANCI LAZIO 1st Hub meeting agenda

4.3.6. Gantt Chart

	M6 April	M7 May	M8 June	M9 July	M10 Aug	M11 Sept	M12 Oct	M13 Nov	M14 Dec	M15 Jan
Preparation										
Recruitment										
1st Meeting										
2nd Meeting										
3rd Meeting										
4th Meeting										
5th Meeting										

Table 14: ANCI LAZIO Timeline

5. Conclusions

The COMANAGE project recognizes the governance and management challenges faced by citizen-led and public-participated energy community projects, encompassing legal, administrative, financial, social, and organizational barriers. To overcome these hurdles and achieve successful outcomes, the project has proposed the implementation of a Stakeholders' Engagement and Mobilization Plan that incorporates participatory methods from the Theory U framework and other systems-based approaches.

The literature review section served to provide valuable insights of stakeholder engagement, through the definition of the main concepts, examining practices in metropolitan areas and delving into the main processes, strategies, and potential incentives that can foster active participation from the community. The identification of examples and best practices at both the local and EU level have been considered useful as ground knowledge to leverage and develop effective engagement strategies tailored to suit the specific context of energy communities and the three COMANAGE Hubs or piloting regions.

The integration of Theory U, theoretically outlined in the D2.1, in the stakeholder engagement aligns with the COMANAGE overall design, where all WPs complement each other and contribute to achieving the general objectives. As an innovative approach, every step of the stakeholder engagement strategy is directly linked to one or more steps of Theory U, ensuring that stakeholder engagement is seamlessly integrated throughout the Hubs implementation. The aim was to gain a comprehensive understanding of stakeholder perspectives and needs, enhancing the promotion of collaboration, co-creation, and the development of more sustainable and equitable management practices within energy communities across Europe. The Theory U framework offers a transformative potential for the COMANAGE pilots, enabling them to drive positive change in their community, specific geographical context, and socio-economic environment.

This outlined strategy has been adjusted and specifically tailored to the three OIS Hubs (AMB, ANCI LAZIO and KMA) within the COMANAGE project. The three pilots selected the Theory U tools and methods for stakeholder engagement to better address the unique requirements and local conditions of each Hub. In this sense, specific attention will also be given to a just and inclusive implementation and deployment of activities to ensure that the gender mainstreaming strategy fits in the best way possible the specific stakeholders needs. The formulation of the workplan involved collaborative efforts, co-creation, and follow-up meetings between Coopability, ECO and the respective OIS Hub Managers, based on thorough stakeholder identification and segmentation.

The last section was entirely focused on the co-creation and co-evolution of the toolkit prototype, with a strong emphasis on validating the tools that will be used in the final version of the toolkit. The structure for each hub establishes a common structure differentiating between main objectives (shared across the entire project), local objectives, and lines of action – linking the lines of action to the desired outcomes.

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