

D5.2.

ECGT testing and implementation evaluation report



Deliverable Information Sheet

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Authors	Camila Canelas (ECO) Lucía Gómez Morales (ECO)
Contributing Partners	AMB, ANCI, KMA, SPXL, METROPOLIS
Reviewers	Marcel Camps (AMB) Ilaria Baglivi (AISFOR) Cristina Ramos (ECO)
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List of Acronyms

BoR	Board of Replicators
COP	COMANAGE Open Platform
DSS	Decision Support System
EC	Energy Community
ECBM	Energy Community Business Model
ECGT	Energy Communities Governance Toolkit
EU	European Union
FAQs	Frequently Asked Questions
OIS	Operational Integrated Services
OSS	One Stop Shops
PV	Photovoltaic
REC	Renewable Energy Community

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Keywords list

- *Toolkit*
- *Tools*
- *Energy Communities*
- *Templates*
- *Survey*

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Executive summary

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

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

The final goal of the project is 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 has on one hand operationalized a transnational network of knowledge and competence synergies; and on the other, it has mobilized, engaged, and operationalized key stakeholders around three Operative Integrated Services (OIS) Hubs, establish in three Pilot Cases across the European Union (EU) represented in the consortium by the Metropolitan Area of Barcelona in Spain (AMB), the Krakow Metropolis Association in Poland (KMA), the Lazio National Association of Italian municipalities in Italy (ANCI LAZIO).

This document reports on data and results obtained in the implementation of the ECG Toolkit among the Pilot Cases and Board of Replicators (BoR). The gradual utilisation and deployment of the ECGT, in different individual and shared spaces, provides COMANAGE partners with critical feedback of the usefulness of the tools. This procedure was in parallel with the refinement of the COMANAGE toolkit prototype, due to the valuable feedback the participation offers in the fine-tuning of the resources, compiled in the Deliverable D2.4. *Update Energy Communities Governance Toolkit – Prototype*.

The toolkit aims to support energy community projects and local and regional governments participating in, by developing a set of tools that expedite the decision-making process, improve management and governance strategies and reduce complexities, to boost stability of existing energy communities and territorial replicators. Two more tools assist with the main objectives of the project, the E-Learning Platform, and Decision Support System (DSS), but in this deliverable their evaluation and implementation will not be explored in-depth.

1. Introduction

Following the implementation results observed in *D4.4 – Pilot Implementation Report and the evaluation phases of Executive Plans* for each of the three Pilots, lessons have been learnt related to the Energy Communities Governance Toolkit's application (ECGT) of COMANAGE project. This deliverable aims to **describe the testing and implementation of the toolkit's final version**, assessing quantitative and qualitative data. These data have been gathered through both physical deployments and digital channels, to determine the toolkit's usefulness, usability, and impact on the Operational Integrated Services (OIS) Hubs. This is relevant to the whole basis of the COMANAGE project, since the ECGT is the central resource on which the entire idea of supporting energy communities is based on. While the nature of the ECG Toolkit is complementary to other resources of the project, this deliverable only focuses on this first pack of tools.

The collection of the data has presented two main challenges: **data volume and interpretation bias**. On account of the lack of participation on quantitative processes, the input received is mostly qualitative and reliant on the subjective opinions of multiple agents. Therefore, the validation of the toolkit is strictly dependant on the context of the OIS Hubs.

The document is divided in five chapters: chapter 2 explains the methodology considered to discuss the tools among participants, partners and replicators and determine difficulties encountered, as well as highlight good practices of the tools; chapter 3, provided an overview of the ECGT segments and summarize the specific adaptations of each pilot; chapter 4 addresses the impact assessment of the tool; and chapter 5 provides some conclusions on the matter.

2. Methodology

COMANAGE ECG Toolkit marks a significant milestone in empowering stakeholders involved in energy communities. After identifying main barriers of Energy Communities' projects during a preliminary phase, the ECG Toolkit prototype was designed to address these challenges, contributing to the creation of a thorough framework for long-term robust and tenable projects. In these terms, the ECG Toolkit affords understanding technical tools, financial mechanisms, social participation's skills, legal support and effective dissemination methods.

Gathering comprehensive feedback on ECGT and its implementation across the various pilot programs is crucial to evaluating its performance in both general and specific contexts, thereby assessing its practical utility and adaptability. The main objective of this analysis is to **assess whether the toolkit is fulfilling its primary goal**, which is essential for guiding future improvements and strategic decisions in Pilots' Executive Plans.

The methodology used for validating the ECG Toolkit consisted of the **collection of new input data** to monitor the acceptance and refinement of the tool (explained in *D2.4 – Update Energy Communities Governance Toolkit – Prototype*), by means of partners and replicators' participation. During the execution of the project, the toolkit prototype was tested and evaluated in several input collectors: Consortium Meetings, OIS Hub meetings, Board of Replicators (BoR) meetings, surveys and platform metrics. The **main challenges** related to this phase were the volume for the quantitative dataset and any bias that could stem from the subjective interpretation of participants.

Firstly, **Consortium meetings** are biannual encounters among COMANAGE partners, organised to share everything related to the development of the project, evaluate partners' insights and organise future steps. The meetings started in the preliminary phase of the project as means of providing background information of Pilots' national context, detecting barriers and goals to pursue for EC projects in each country and addressing how the COMANAGE tools could narrow these gaps and furnish customised solutions. Regarding the ECG Toolkit, these meetings enabled Pilot partners to share local-level feedback, procured in the OIS Hubs meetings and other individual encounters with municipalities. The pilots' contributions are grounded on practical experiences implementing the toolkit within their municipal practices, contributing with relevant local perspective gained during the testing phase.

Secondly, **OIS Hubs meetings** are local encounters with local entities, organised by each Pilot partner in the territory. Within the project framework, these meetings served as a valuable channel for Consortium partners to acquire more precise information on the toolkit's application from on-the-ground experiences of the local entities. The feedback on the ECG Toolkit derives from the trial of these tools in real cases.

Lastly, another interpersonal session were the **Board of Replicators meetings**. The BoR local authorities committed to extending the project's lessons in energy communities by replicating Pilots in their local territory. This group is integrated by the Rome Capital City (Italy), Energy Agency Kssena (Slovenia), Dakar (Senegal), Warsaw Capital (Poland), Diputació de Girona (Spain), Madrid Capital (Spain), Cordoba metropolitan area (Argentina), Canton de Genève (Switzerland), Grand Métropole de Paris (France) and city of Johannesburg (Germany). These replicators joined Consortium partners to discuss experiences and obtain feedback on their use of the toolkit.

While meetings are an excellent forum for acquiring tacit knowledge through direct face-to-face interaction, they inherently can capture subjective perspectives. To ensure a holistic and balanced evaluation of the ECG toolkit's feedback, a technical, data-driven analysis is indispensable. By that means, methods such as **structured surveys and digital platform analytics** have been employed to gather empirical data on user engagement, satisfaction and tool effectiveness, offering an objective approach that counterbalances personal assessments.

The **surveys** were developed in a digital format, incorporating a combination of predefined multiple-choice questions and open-text fields. This design facilitates a clearer understanding of the questions, while also enabling a comprehensive, big-picture analysis of the results. Deployment of the surveys varied by pilot. Some were either conducted synchronously during OIS Hub and BoR meetings, to facilitate immediate discussion of the results, or distributed for self-paced completion offsite, to allow for a more reflective and considered response.

Finally, the toolkit is hosted on the COMANAGE Open Platform (COP), a dedicated online platform, which automatically registers metrics linked to content visualizations and downloads. Filter **analytics** enable a critical evaluation of user engagement and patterns, revealing the interest level for each toolkit category and identifying underutilized tools for a more targeted refinement. In addition, the capacity to disaggregate data by pilots offers a more precise detection of necessities, distinguishing between the performance of common tools and personalized tools, tailored to the specific national, social, and energy context. The source material stems from Google Analytics and enables knowing the number of views by tool and the number of downloads, by URL.

3. ECGT description

The COMANAGE project provides a flexible set of tools within the COMANAGE Open Platform (COP), the Energy Communities Governance Toolkit (ECGT), an E-Learning platform and a Decision Support System (DSS), to help manage energy community projects. Each tool faces challenges from a holistic perspective that drives positive change through a coordinated and synergistic approach: the DSS simplifies decision-making with data-driven judgment; the E-Learning Platform furnishes necessary training and resources by means of an online, free, multilingual and self-paced course; and the ECG Toolkit addresses the early-stage obstacles due to lack of information.

The ECGT contributes to the main objective of helping Energy Communities by integrating a **series of documents divided into five categories**: technical, financial, social, legal and communicative topics. The COMANAGE ECG Toolkit is available online in the COMANAGE Open Platform, an integrated hub for all COMANAGE digital outputs, which guaranteed uninterrupted access to all resources for stakeholders in need of assistance organising their own project. It empowers stakeholders to overcome barriers, make informed decisions, and collaborate effectively.



Figure 1: Set of categories to group the tools included in the COMANAGE ECG Toolkit

The toolkit offers a set of tools whereby users can improve decision-making, management, stability and participation. There is a commitment, by the project partners, to maintain updated all the COMANAGE tools after the end of the project, since every tool has been deliberately designed for continuous improvement, due to the evolving nature of the energy sector.

3.1. Technical tools

The technical tools of the ECGT are planned to afford essential resources that contribute to the implementation of ECs, particularly facilitating the technical paperwork and complexities associated with energy-related projects. These tools directly address identified administrative and competency barriers by providing pre-compiled templates and methodology guides, promoting standardization of procedures and reducing the knowledge gap. As a result of more user-friendly procedures, EC members and leaders can find their administrative burden alleviated. This means a more effective utilization of resources and time. As these resources were tailored to local contexts, the development was made by pilots, according to their respective needs, with assistance of Consortium partners and external consultancy.

3.1.1. AMB

AMB's context is based on the advanced expansion of renewable energy projects in Spain and Catalunya. The urgency of the energy transition has led to an increasing necessity of more rapid legalization processes. Solar Photovoltaic (PV) installation in households have experienced an exponential growth in Spain since 2022. However, legalization processes for shared self-consumption are not as quick as individual PV installations leading to demoralizing situations in many Energy Communities. Energy Communities in Catalunya heavily rely on renewable energy installations, such as photovoltaic, for shared self-consumption in residential buildings. For this reason, AMB's technical tool created is a "shared self-consumption protocol", which offers comprehensive guidelines to help users manage the procedures involved in the legalization of shared self-consumption systems.

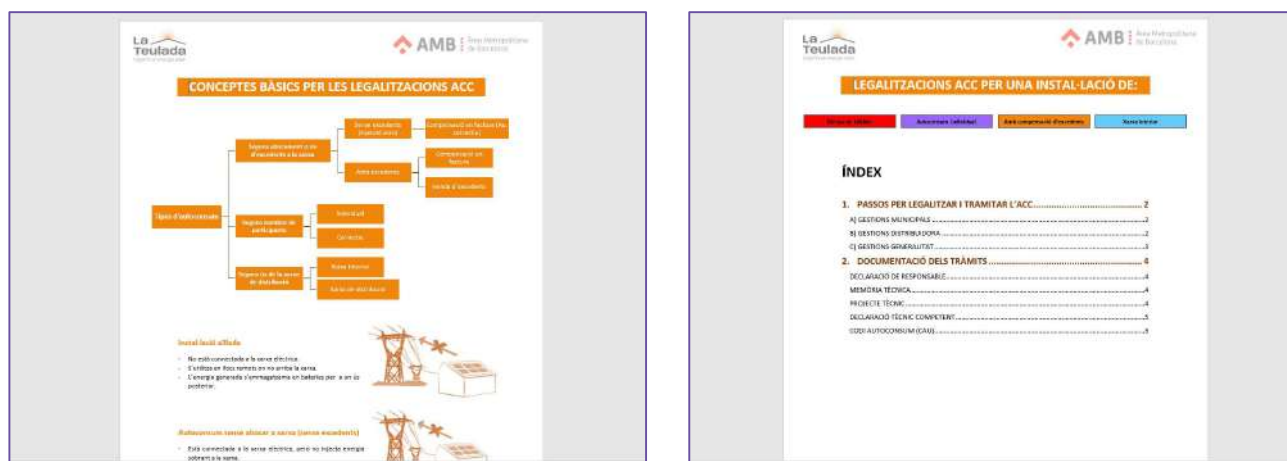


Figure 2: AMB's Technical tool

3.1.2. KMA

In Poland, KMA identified some uncovered needs corresponding to technical assistance with energy payment transactions and mechanisms to instruct citizens about their role in self-consumption installations and further connections with EC initiatives. These instruments simplify the efforts of stakeholders with relation to legalization processes. Regarding the establishment of an energy community by local governments, it is important to raise awareness of energy management within their territory. For this purpose, a methodology for municipal energy analysis has been developed to support actions aimed at increasing energy efficiency in the area. In addition, a document has been prepared describing energy communities (cooperatives and clusters) from a technical perspective, including a detailed step-by-step guide outlining the necessary actions to establish such communities. Technical tools created by subcontracted experts in KMA:

- *Energy billing model for an energy community.*
- *How to become prosumer and next step to EC.*
- *Energy analysis methodology.*
- *Model of EC – step by step.*



Figure 3: KMA's Technical tools

3.1.3. ANCI LAZIO

All the technical tools elaborated by ANCI LAZIO focus on the specific regulatory and operational needs of the Italian context. Renewable Energy Communities (RECs) are still a commonly unknown figure among Italian citizenship. Therefore, the technical tools created focus on providing basic energy-sector information and instructions to develop an EC. The actual material is the following:

- *Technical-economic tool for Renewable Energy Communities.*
- *Practical Guide to Building Your Energy Community.*



Figure 4: ANCI LAZIO's Technical tools

3.2. Financial tools

ECG financial tools directly confront identified barriers to mitigate economic difficulties, faced regularly by ECs, on account of lack of experience in monetary resources. Having standardized financial documentation reduces the uncertainty for securing funding from institutions, public tenders or private entities.

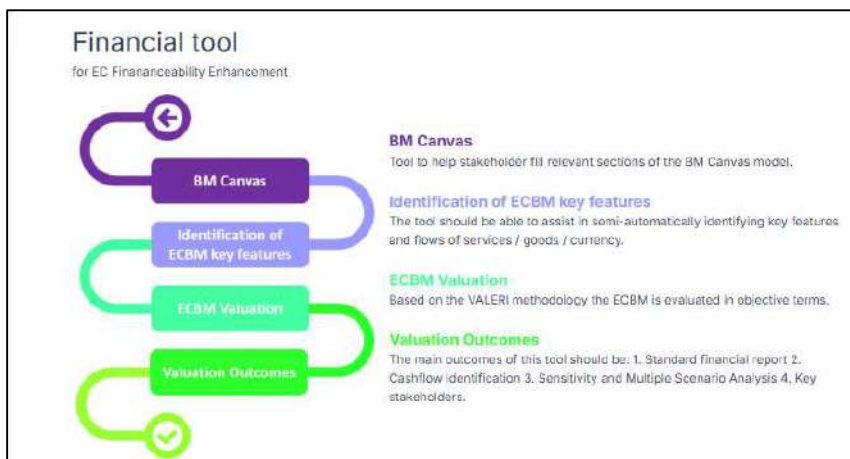


Figure 5: Financial tool

The toolkit encompasses two aspects of any economic viability assessment: the developing an Energy Community Business Model (ECBM), using a tailored canvas tool with economic, social and environmental criteria, and ECBM Valuation with a standard VALERI methodology.

3.3. Social tools

COMANAGE's social participation tools seek to mitigate the most significant barriers identified during the toolkit's preparation phase. These marked the guiding route for stablishing specific objectives: proffering frameworks and precedents to overcome the lack of experience with collective actions; laying the foundations for social encounters which address the lack of knowledge and competences; introducing trust mechanisms to foster transparency, inclusivity and accountability in involved actors and processes; and offering communication strategies to engage specific social segments, like young adults of female public.

The social tools created are:

- *DIY 10-rules-list for equality, inclusion, and intersectionality in participation.*
- *Participation Plan.*
- *Energy Poverty Tackling Plan.*
- *Gender equality checklist.*

3.4. Legal tools

The purpose of the legal and administrative toolkit is to construct a comprehensive series of templates and to expedite and simplify the bureaucratic procedures during the EC's lifecycle. The tools address key stages of any project, like foundational setup, the activation of energy-sharing services, and possible expansions.

Although regulatory stasis usually generates administrative barriers, difficult to overcome, the toolkit proposes standardized procedures and model documents to mitigate knowledge gaps in policies and regulation. Likewise, it facilitates social involvement from public authorities and external private entities by offering alternative roles that require less commitment but still build trust. These instruments have been tailored to the regulatory context and requirements of each pilot.

3.4.1. AMB

The research process identified as necessary the creation of the following documents: prepared templates for constitution and internal regulation of associations and cooperatives; a contract template for leasing of private rooftop, specially contemplated for solar PV installations; a template for municipal tax incentives, referred to shared self-consumption use; and an agreement for the inclusion of vulnerable households, thereby addressing the critical layer of energy inequality within EC projects..

The title of each model is:

- *Statutes of a Consumers and Users Cooperative (model template).*
- *Statutes of an Association (model template).*
- *Regulation of Internal Regime of an Energy Community.*
- *Agreement for the inclusion of vulnerable households in energy communities.*
- *Contract template for leasing of private rooftop.*
- *Template for municipal tax incentive for shared self-consumption projects.*

3.4.2. KMA

The legal documents for KMA were prepared by a subcontracted legal expert. The collection provides stakeholders of energy communities (ECs) in Poland, whether established or emerging, with basic pre-compiled and editable documents: a statutory model that offers a legally compliant organizational framework in line with EU and national regulations; an energy sales contract model between producers, the cooperative, and consumer members; and a lease agreement model enabling ECs to lease land or rooftops from members. All templates are accompanied by explanatory footnotes to ensure clarity and ease of use. The KMA reached also to others Polish organizations to collect their materials regarding EC.

- *Statutes of an energy community model with explanation.*
- *Model energy sales contracts with explanation.*
- *Model energy lease agreement with explanation.*
- Information material in the form of a guide sourced from another organization “*Development of agricultural cooperatives and renewable energy in rural areas in Poland through recognized producer organizations and energy cooperatives*”.

3.4.3. ANZI LAZIO

ANCI LAZIO’s legal resources give crucial guidance for the formation and operation of Italian RECs. This set of tools includes three areas reflecting three different development stages of RECs: general information, supporting tools to

establish a new REC, supporting tools to manage (mainly) an existing REC. The first area provides a FAQ document addressing common juridical challenges and in-line solutions. The second area contains an entire kit of documents which explores and compares the different legal structures and provides statutory models per each, aiming to help communities in selecting the most appropriate legal form. The third area is a bridge between the legal and the technical category and it is also the richest in documents and tools as it includes four sections: that is why a set of video-guides have been provided both to introduce the whole area and each specific section. The “Governance toolkit” area provides users with an interactive operational tool, a kit of administrative and management documents’ templates, and a guideline to deal with out-of-court dispute resolution.

- *First area: FAQs on Legal Issues.*
- *Second area: Synthetic Schemes on Different Legal Forms.*
- *Third area: Governance toolkit.*

3.5. Communication tools

A communication plan is essential to guarantee an effective social engagement in ECs’ initiatives, thus long-term sustainability and expansion of the project is ensured. Consequently, COMANAGE’s communication and dissemination tools have been carefully designed to maximize the reach of related activities through ready-to-use materials, that can be assimilated into the communication plans of local public authorities, existing ECs, and other promoting entities. The objectives of the dissemination tools were determined by the communicative barriers detected during the toolkit’s preparation phase: creating materials that illustrate the EC model and its full range of benefits, facilitating informed membership decisions; supporting EC’s leaders with ready-to-use materials to overcome knowledge gaps when engaging potential members; and aiming at hard-to-reach groups, as young adults and women, building trust and resonating with their interests, by means of inclusive communication.

The communication tools are:

- *EC communication video package.*
- *Ready-to-use materials for third parties for recruitment and expansion.*

4. Impacts assessment

This chapter explores the results of implementation of ECG Toolkit in several input collectors. As stated in chapter 2, during the execution of the project, the toolkit prototype was tested among COMANAGE partners and replicators and individual users. From this experience, feedback was compiled in different settings:

- *Consortium Meetings*
- *OIS Hub meetings*
- *BoR meetings*
- *Surveys*
- *Platform metrics*

4.1. Meetings

During the project several face-to-face and online exchanges among KMA, AMB, ANCI LAZIO, COMANAGE partners and replicators took place to leverage their insights on the COMANAGE toolkit. These encounters happened during Consortium meetings, OIS Hub meetings and BoR meetings.

4.1.1. AMB

In AMB, two meetings were held on April 25th and July 10th of 2025. AMB and ECOSERVEIS, as partners of COMANAGE, organized both events to present the COMANAGE ECGT to municipal stakeholders, gathered their feedback, and discussed potential improvements. In the meetings the following conclusions were drawn up:

- **Most useful category:** The legal category was considered the most useful. Participants highlighted the value of the legal templates and guidelines, especially in the current Catalan context of rapid expansion of shared self-consumption projects and emerging energy communities. Stakeholders underlined that these materials provide much-needed clarity in navigating legal frameworks, contracts, and compliance obligations.
- **Least useful category:** The social category was perceived as less relevant by most participants, as municipal staff attending the sessions tend to focus on technical and energy-related aspects rather than social engagement or inclusion. Nevertheless, some participants acknowledged that these tools could become more relevant at later stages, once projects are consolidated.
- **Improvement suggestions:** Stakeholders suggested (i) simplifying the navigation of the COMANAGE Open Platform to access the ECGT easier and quicker, (ii) expanding the repository of real case studies adapted to the Catalan and Spanish contexts, and (iii) keeping all legal and regulatory documents regularly updated, given the fast-evolving legislative landscape.
- **Real cases:** While no municipality reported having directly implemented the ECGT tools yet, several expressed interest in using the legal templates in the near future for drafting agreements in shared self-consumption projects. In particular, Sant Cugat and Viladecans identified these resources as potentially useful for ongoing initiatives at the municipal level.



Figure 6: AMB's OIS Hub, on July 2025.

The meetings confirmed the importance of tailoring tools to the immediate needs of municipal staff, with **legal and regulatory clarity emerging as a top priority**. At the same time, the relatively **low interest in social tools** highlighted the need to better connect technical and social dimensions of energy transition, ensuring that municipalities see their practical relevance. Overall, the sessions reinforced the value of continuous dialogue with local stakeholders to align the ECGT with real operational challenges and increase its adoption across the AMB territory.

4.1.2. KMA

In KMA, the OIS Hubs served as a space to gather ideas and feedback regarding the ECGT. The tools developed within the COMANAGE project were discussed during their creation phase and later presented after completion. Since the municipalities of the Krakow Metropolis only began establishing new energy communities towards the end of the project, the feedback received was rather limited.

On November 14th, 2024, KMA organized and held a dedicated COMANAGE ECGT meeting.

During this session, the COMANAGE Open Platform and the Decision Support System (DSS) were presented, tested, and assessed by OIS Hub participants. Attendees had the opportunity to explore the functionalities of the COMANAGE Open Platform. and the primary result was the following:

- Most useful category: The most appreciated elements of the ECGT were the **legal and technical tools and documents**, particularly those prepared by experts. These tools were considered highly useful, as they directly addressed specific legal and technical needs.
- Real cases: Several municipalities within KMA already made use of these tools during the project, especially the model *"Statutes of an energy community"* for energy cooperatives, a document required for the official registration of such cooperatives in Poland.

Participants also completed questionnaires, which helped align the quality of the project's outputs with stakeholder expectations. Survey results indicated that participants were satisfied with the workshops.

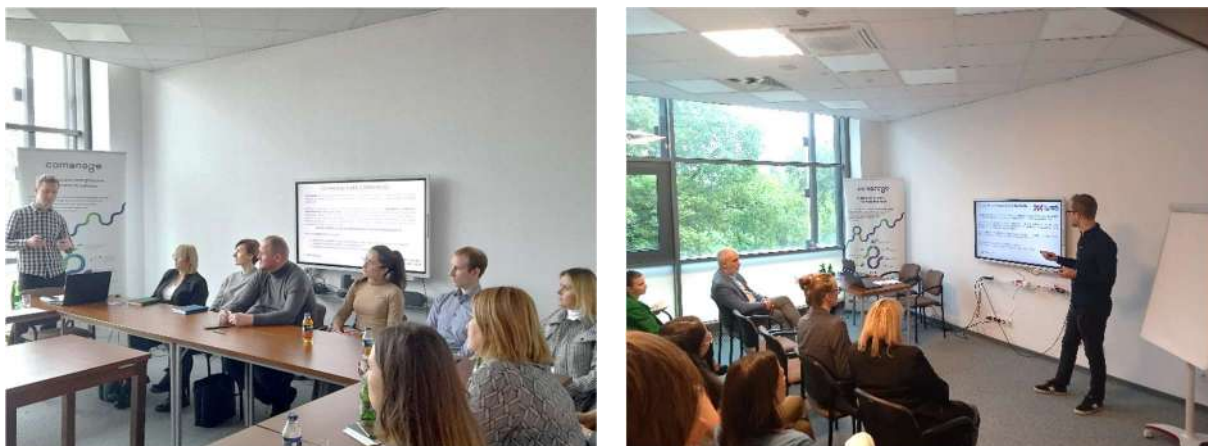


Figure 7: KMA's OIS Hub, on November 2024.

4.1.3. ANCI LAZIO

In the Lazio region, ANCI LAZIO organised a series of meetings between June 2023 and July 2025 to discuss and gather feedback on the ECGT. In particular, the stakeholder interviews conducted at the project's inception and the four OIS Hub meetings, held on June 10th, September 10th, October 7th, and November 30th, 2023, respectively, were crucial for structuring the tools for energy communities. These sessions brought together between 30 and 66 participants, including local authorities, regional associations, and technical experts. These initial sessions were designed to raise awareness of RECs, identify key obstacles and opportunities, and progressively introduce the tools and resources provided by the COMANAGE project.



Figure 8: ANCI LAZIO's workshop in Rieti, on June 2025 (left); and technical meeting, on May 2025 (right).

At the conclusion of the fourth OIS Hub Meeting, ANCI LAZIO produced a comparative matrix, the *“Quadro delle funzionalità e delle sinergie di partenariato”*, which was shared with the other pilot areas and developed in collaboration with AISFOR. The goal was to gather input from all partners to identify and refine the most effective resources for the ECGT within the Lazio pilot area. This matrix structured the ECGT functionalities across several key domains, including legal, social, communication, financial, and technical aspects, providing a comprehensive framework for the Executive Plan in the Lazio pilot area.

Following the initial Hub Meetings, ANCI LAZIO continued engagement throughout 2024 and 2025 with workshops, webinars, and lab sessions, consolidating feedback from municipalities and partners. Events included the Sun4U initiative, presentations on the Lazio Region Action Plan, collaborations with Chambers of Commerce, and sector-specific webinars on agrivoltaics and green roofs, culminating in the international Grand Challenges Conference. Across all events, a total of 687 participant entries were recorded, with the following conclusions:

- **Most useful category:** Participants consistently highlighted the utility of the ECGT, particularly the **legal instruments, technical-economic tools, and practical guides**.
- **Improvement suggestions:** Suggestions for improvement focused on providing additional sector-specific examples, enhancing visual content, and increasing interactivity in webinars.
- **Real cases:** The ECGT has already proven useful in real municipal contexts. Rocca Priora applied the practical guide to plan a municipal REC, Roccagiovine evaluated REC feasibility using technical-economic instruments, Fonte Nuova leveraged legal templates for internal regulations, and Ventotene adapted simplified tools for small-scale municipal projects. Overall, the integration of the comparative matrix and the structured collaboration with AISFOR strengthened the relevance, usability, and strategic impact of the ECGT in the Lazio pilot area, laying a solid foundation for sustainable Renewable Energy Communities and the emergence of a local community of practice around ANCI LAZIO.

Date	Event / Location	Participants	Notes / Conclusions
10 th June 2023	Operative Integrated Services Hub Meeting	30 participants; local municipalities, regional associations, technical experts	Initial awareness raising; identification of key barriers and opportunities for RECs
10 th September 2023	Hub Meeting	54 participants	Positive reception of legal and technical tools; discussion on customizing REC models for small municipalities
7 th October 2023	Hub Meeting	66 participants	Peer-to-peer exchange; municipalities shared practical challenges and successes
30 th November 2023	Hub Meeting	40 participants	Validation of COMANAGE tools; feedback on usability and clarity
31 st January 2024	Sun4U Initiative	30 participants	Technical-economic tools discussed; strong interest in case studies
20 th February 2024	Lazio Region Action Plan Presentation	52 participants	Highlighted relevance of legal tools and statutes; discussion on replicability

27 th February 2024	Chamber of Commerce of Rieti and Viterbo	21 participants	Focus on bankability and practical implementation strategies
20 th March 2024	Rocca Priora (Caiano Solare)	26 participants	Concrete interest in starting municipal RECs; positive reception of step-by-step guides
26 th March 2024	Ventotene	19 participants	Small municipality perspective; need for simplified tools
3 rd October 2024	UNICOOP Webinar	14 participants	Focus on cooperative involvement; high appreciation of legal FAQ documents
17 th October 2024	Roccagiovine	20 participants	Discussion on collaborative governance; technical-economic instruments found very useful
30 November 2024	Fonte Nuova	50 participants	Strong interest in legal templates and COMANAGE practical guide
17 th January 2025	Webinar	30 participants	Consolidation of previous feedback; interactive Q&A session valued
8 th April 2025	Agrivoltaics Webinar	82 participants	Technical guidance on hybrid projects; case studies well received
29 th April 2025	Green Roofs & Renewable Energy Webinar	35 participants	Positive feedback on sector-specific examples; suggestions to include more visual content
17 th April 2025	Energie in Comune Webinar (Legacoop)	10 participants	Cooperative-specific instruments appreciated; requests for additional examples
22 nd May 2025	Webinar	20 participants	Discussion on replicability in medium-sized municipalities
29 th May 2025	Viterbo Lab	11 participants	Hands-on tool testing; feedback on user-friendliness of ECGT
24 th June 2025	Rieti Lab	n.a.	Validation of case studies; municipalities provided specific improvement suggestions
8 th July 2025	International Grand Challenges Conference Webinar	77 participants	Dissemination at international level; positive reception of practical and legal tools

Table 1: Activities organised by ANCI LAZIO

4.1.4. Board of Replicators meetings

On 29th of May 2025, the 4th session of the Board of Replicators took place online, with 16 participants from Consortium entities and six replicators' representatives from Rome Capital City, Slovenian Energy Agency Kssena, Diputació de Girona, Madrid Capital, Warsaw Capital and city of Johannesburg. During the meeting a poll was conducted for participants to

opine about COMANAGE tools, in which three persons claimed to have used the ECGT. Respondents expressed **strong interest in adopting the toolkit** in their environment and daily practices.

There were **many suggestions to improve toolkit's documents**. For example, it was suggested to include blended financial models and Energy Community Tariffs references to charge members, as financial tools. In the social level, some recommendations were made related to expanding energy literacy, ensuring inclusive governance and portraying success energy community cases, whereas the technical aspects focused on adding more practical resources, such as GIS-based tool and a list of national-levelled experts. Another suggestion, to improve the reader experience and to know the temporal validity of the documents, was to include information about the last update of these. Lastly, since the BoR have participants from countries outside the Consortium, discussion around language barriers in the use of the toolkit were highlighted, since the tools are exclusively in English, Catalan, Polish, Italian and Spanish.

4.2. Surveys

An effective way to determine the concrete perception of the ECGT among users has been the use of surveys, open for participation during a period. KMA, ANCI LAZIO and Replicators' surveys were created in Google Forms, by AISFOR, and adapted in each of the languages of the pilots, for better understanding of the respondents (Annex 6.1). For Replicators, the default language was English. AMB's survey was adapted from the previous, in the platform Mentimeter, and used only during the execution of the OIS Hubs meetings. Meanwhile Google Forms' surveys have been open since M26 to the completion of this deliverable.

Questions were divided depending on the respondent's previous use of the tools produced by COMANAGE: ECGT (Energy Community Governance Toolkit), E-Learning Platform and Decision Support System (DSS). The results discussed below will only address the ECG Toolkit. The questions encompassed the level of satisfaction of the browsing experience of each tool, the satisfaction with the materials of each topic (legal, social, financial, communication and technical) and the deployment of the modules, by topics, in the E-learning course. The multiple selection questions were split into five levels (excellent, good, average, insufficient and bad). Moreover, respondents could share their insights about their experience, such as their browsing opinion, suggestions for additional changes, their most-liked topic and their least- liked topic. Participation for this section was scarce.

4.2.1. AMB

AMB's survey was open during the April 25th, 2025, OIS Hub meeting, using the platform Mentimeter. There were eleven participants. Answers showed that the **toolkit was deemed as the most useful implementation**, behind the E-learning Platform and the DSS. Respondents stated some recommendations for improving the toolkit, like adapting it to different levels of knowledge in citizenship or integrating the tools in "La Teulada", AMB's One-Stop Shop (OSS).

4.2.2. KMA

In KMA, there were two respondents who try the ECGT and the E-Learning platform. The impression of the ECGT was excellent overall. The **legal tools were underscored**, and the **social tools perceived as needing improvement**.

4.2.3. ANCI LAZIO

ANCI LAZIO's survey gathered four respondents, one tester of the ECGT and other three of the E-Learning Platform. The only ECGT tester, with technical background, **underlined the technical, legal and communication tools** among all, and did not claim to have disliked any category.

4.2.4. Replicators

There were no replicators answers regarding the use of the ECGT.

4.3. Platform metrics

In this section, data metrics related to the ECG Toolkit in the COMANAGE Open Platform will be assessed. The baseline data is the number of views of each topic (financial, social, communication, technical and legal) and the number of downloads of each document inside. A minimum threshold of five downloads was established for a document to be included in the dataset, as lower figures were considered to represent negligible engagement. Moreover, some categories do not have measured data and others do not have any content, thus will be omitted in the analysis.

4.3.1. Technical tools

The platform data shows that Italian and English tools have had the most significant values of documentation downloads. While traffic to the Italian site indicate engagement with all available tools, visits to the English version represent solely access to the technical replication guidelines. Additionally, Catalan and Spanish tool is web-based, which means that each view represents both access and usage and could be interpreted as the equivalent of a download.

	English	Catalan	Polish	Italian	Spanish
Views	97	35	70	91	98
Downloads	40	-	11	61	-

Table 2: Technical tool metrics

4.3.2. Financial tools

The analysis of page views reveals a strong user preference for the English version, which attracted 110 views. The Italian, Polish, and Catalan versions followed, in that order. There is no data available for English, Catalan and Italian downloads

because the final version of the tool is not downloadable but online. Therefore, all recorded views indicate direct access to the tool within the browser. In addition to this, Spanish traffic is absent because the category does not have any content in the COP.

	English	Catalan	Polish	Italian	Spanish
Views	110	34	45	60	-
Downloads	-	-	14	-	-

Table 3: Financial tool metrics

4.3.3. Social tools

The analysis reveals that the Catalan version was the most effective at driving downloads, despite smaller traffic views. The English version accumulated the second-highest number of views, after ANZI LACIO's tools. Polish version had some significant traffic too and a good conversion rate between viewership and downloads.

	English	Catalan	Polish	Italian	Spanish
Views	139	24	32	57	15
Downloads	61	65	34	50	17

Table 4: Social tool metrics

4.3.4. Legal tools

The Italian version had the highest number of views and downloads by a significant margin, more than tripling the download count of the next closest language. The Polish and Catalan versions also demonstrated effective engagement, with good download-to-view ratios. In addition, English traffic refers to the only available document: the legal replication guidelines.

	English	Catalan	Polish	Italian	Spanish
Views	81	47	63	117	52
Downloads	27	55	98	299	56

Table 5: Legal tool metrics

4.3.5. Communication tools

Communication tools viewership accumulated the highest numbers for English and Italian versions. This was not represented on the conversion ratios, except for the Polish version. In accordance with the study's methodology, and due to the threshold of five downloads, Italian and Spanish metrics were omitted.

	English	Catalan	Polish	Italian	Spanish
Views	76	49	24	64	40
Downloads	19	20	20	-	-

Table 6: Dissemination tool metrics

4.3.6. Pilots

For a more in-depth assessment, the former platform metrics have also been presented by pilots, considering the data from Catalan (AMB), Polish (KMA) and Italian (ANCI LAZIO).

4.3.6.1. AMB

The data reveals more engagement in legal and communication tools, with positive correlations between views and downloads. Meanwhile, the least used was the social set.

	Technical	Financial	Social	Legal	Communication
Views	35	34	24	47	49
Downloads	-	-	76	55	20

Table 7: AMB's tool metrics

4.3.6.2. KMA

While technical and legal tools were the most viewed, only legal documents demonstrated higher conversation rates to downloads. The social and communication tools had the least engagement.

	Technical	Financial	Social	Legal	Communication
Views	70	45	32	63	24
Downloads	11	14	34	98	20

Table 8: KMA's tool metrics

4.3.6.3. ANCI LAZIO

	Technical	Financial	Social	Legal	Communication
Views	91	60	57	117	64
Downloads	61	-	50	299	-

Table 9: ANCI LAZIO's tool metrics

ANCI LAZIO's tools achieved the highest traffic among the three pilots. The legal category obtained the most views and downloads, followed by the technical category.

5. Conclusions

In conclusion, the assessment conducted within this deliverable affords significant insights into the impact and utility of the Energy Communities Governance Toolkit (ECGT). The feedback, gathered by previous explained methods, was representative and overall positive. The key lesson learned is that, while the toolkit's structure is robust, its effectiveness is inherently tied to careful adaptation to local contexts and the mitigation of their challenges.

Qualitative data among three Pilot partners highlighted a consensus on the most impactful categories of the ECGT; **legal and technical tools** were acclaimed as the tools with more benefits for the OIS Hubs. These results are aligned with the quantitative data of the COP, that presents more views and downloads for these categories. For instance, AMB's meetings revealed a low level of interest in social documentation, a finding corroborated by the lack of user traffic for this category within the corresponding section of the COP. This correlation between qualitative and quantitative data provides a more objective analysis, that it is not solely based on interpretative data. Furthermore, the lack of participation of the surveys is compensated with the massive information of metrics in the COP, allowing to overcome the data volume challenge by these means. A gap remains in understanding users' dislikes, as the existing data was collected from a more limited number of sources.

	AMB	KMA	ANCI LAZIO
Meetings	Legal and technical	Legal and technical	Legal and technical
Surveys	Not stated	Legal	Legal, technical and communication
Platform metrics	Legal and technical	Legal and technical	Legal and technical

Table 10: Comparison of ECGT's top rated category in each input collector, by pilot.

	AMB	KMA	ANCI LAZIO
Meetings	Social	Not stated	Not stated
Surveys	Not stated	Social	Not stated
Platform metrics	Social	Social	Social

Table 11: Comparison of ECGT's worst rated categories in each input collector, by pilot

Future recommendations, based on feedback, focused on adding to the ECGT new resources, such as the following:

- **More energy literacy:** sector-specific examples for each pilot.
- **More practical resources:** list of experts; technical simulation tools; and guidelines for inclusive governance.
- **Improvement of reader experience:** update of documents regularly; addition of last update date; translation of documents in Replicators' languages; and simplification of COP's navigation.

Further deliverables will address improvements in the toolkit based on this evaluation.

6. Annex

6.1. English survey

The survey was the same for Italian and Polish pilots, adapted to their languages.

Evaluation of COMANAGE tools

Your opinion is important to improve the contents and methods of both the COMANAGE project tools and our workshops.
Fill out this short survey and tell us your ideas (answers will be anonymous).

Adreça electrònica *

Adreça electrònica vàlida

Aquest formulari recull les adreces electròniques. [Canvia la configuració](#)

HOW IT WORKS AND WHAT IS THE PURPOSE

The questionnaire is divided into 4 sections: 3 of them are dedicated to each of the COMANAGE tools: COP (COMANAGE Open Platform) DSS (Decision Support System) and e-learning platform, while the last section is dedicated to the event you may have attended today.

Haven't tested all the tools and/or haven't tested them during a workshop? In this case, the survey will direct you or skip some parts based on your answers.

Your collaboration is pivotal to improve the tools meant to support the set-up and the managing of RECs!

Thank you.

0.1 People included in the Energy Communities' world may have different roles. Which of the following categories represents you? *

Find the category you fall into and if it is not among these, click "other" and give us more information.

- ☐ Public institution
- ☐ Technical (engineer, architect...)
- ☐ Small or Medium Enterprise
- ☐ Citizen
- ☐ Third sector bodies (ONG, volunteer organization, associations...)

0.2 Which of the 3 tools produced by COMANAGE you have got to know and/or have tested? *

If you have tested at least 2 out of 3 tools, select the first one now and, in the next steps, the others.

☐ Energy Community Governance Toolkit (ECGT)



☐ E-Learning platform



☐ Decision Support System (DSS)



☐ None

1. ECGT (Energy Community Governance Toolkit)



This kit includes legal, financial, technical, communication and social tools to support RECs.

1.1 How did you find the browsing experience?

Select the level of satisfaction where:

- excellent: the platform is intuitive and well structured. The tools are well organized and easy to find on the platform.
- good: the platform is clear but not well structured. The tools are easy to find but are not properly organized.
- average: the platform is sufficiently accessible but generally unclear. The tools are not easy to find on the platform.
- bad: the platform is chaotic and poorly structured. The tools are not organized at all and not easy to find on the platform.

☐ excellent

☐ good

☐ average

☐ bad

1.3 How do you rate the tools' categories available on the ECGT from 5 (excellent) to 1 (terrible)?

Rate your satisfaction from 5 (excellent) to 1 (bad), where:

- 5 (excellent): useful, complete and user-friendly tools.
- 4 (good): useful, user-friendly but incomplete tools.
- 3 (average): useful but incomplete and not user-friendly tools.
- 2 (insufficient): potentially useful but incomplete and/or not user-friendly tools.
- 1 (bad): useless or superfluous tools.

	5 (excellent)	4 (good)	3 (average)	2 (insufficient)	1 (bad)
legal tool	☐	☐	☐	☐	☐
social tool	☐	☐	☐	☐	☐
communicatio...	☐	☐	☐	☐	☐
financial tool	☐	☐	☐	☐	☐
technical tool	☐	☐	☐	☐	☐

1.4 Which tool category did you like the MOST?

- ☐ legal tool
- ☐ social tool
- ☐ communication tool
- ☐ financial tool
- ☐ technical tool
- ☐ None.

1.5 What did you like about the tool category you chose?

Text d'una resposta llarga

1.6 Which tool' category did you like LESS?

- ☐ legal tool
- ☐ social tool
- ☐ communication tool
- ☐ financial tool
- ☐ technical tool
- ☐ I liked all of them.

1.7 What did you NOT like about the tool category you chose?

Text d'una resposta llarga

2. E-LEARNING PLATFORM

A completely free online learning space to acquire the legal, administrative, economic, social and management knowledge to create and manage a REC.

2.1 How did you find the browsing experience?

Select the level of satisfaction where:

- excellent: the platform is easily accessible, intuitive and works well. The lessons are well organized and easy to reproduce.
- good: the platform is accessible, quite intuitive and works well. The lessons are well organized and easy to reproduce.
- average: the platform is sufficiently accessible but generally unclear. The lessons are not well organized and/or have problems in reproduction.
- bad: the platform is chaotic and poorly structured. The lessons are not organized at all and have problems in reproduction.

☐ excellent

☐ good

☐ average

☐ bad
2.2 Briefly motivate what you liked and what you didn't like about the browsing experience.

...

2.3 How do you rate the contents available on the e-learning platform from 5 (excellent) to 1 (bad)?

Select the level of satisfaction where:

- 5 (excellent): useful, complete and clearly explained content (well-made slides and explanations).
- 4 (good): useful, complete and fairly clearly explained contents (good slides and/or explanations).
- 3 (average): useful but incomplete and/or not very clearly explained contents (unclear slides and/or explanations) or contents that are only partially useful.
- 2 (insufficient): potentially useful but incomplete and/or difficult to understand contents (poorly made slides and/or explanations) or contents that are generally not very useful.
- 1 (bad): completely superfluous content or potentially useful but incomprehensible (terrible slides and/or explanations).

	5	4	3	2	1
Module 1 (intro)	☐	☐	☐	☐	☐
Module 2 (tech...	☐	☐	☐	☐	☐
Module 3 (busi...	☐	☐	☐	☐	☐
Module 4 (lega...	☐	☐	☐	☐	☐
Module 5 (part...	☐	☐	☐	☐	☐

...

2.4 Which module did you like the LEAST?

Which module do you think presents the most problems, both technical (accessibility issues, audio, etc.) and content-related (lessons too difficult and too banal, excessive length, etc.).

- ☐ Module 1 (intro)
- ☐ Module 2 (technical tools)
- ☐ Module 3 (business models and financial tools)
- ☐ Module 4 (legal and administrative tools)
- ☐ Module 5 (participation and dissemination tools)
- ☐ All of them are well done.

...

2.5 What would you improve about the module you chose?

2.6 Which module did you like the MOST?

Which module do you think offers the best clarity, both technically (clear audio, easily accessible, etc.) and in terms of contents (clear lessons, appropriate length, etc.).

- ☐ Module 1 (intro)
- ☐ Module 2 (technical tools)
- ☐ Module 3 (business models and financial tools)
- ☐ Module 4 (legal and administrative tools)
- ☐ Module 5 (participation and dissemination tools)
- ☐ None.

2.7 What did you like about the module you chose?

3. DECISION SUPPORT SYSTEM (DSS)

An AI-powered chat that provides useful documents and targeted answers on the topic of RECs.

3.1 How did you find the browsing experience in the DSS?

Select the level of satisfaction where:

- excellent: The DSS has an intuitive interface, is fast and precise in its responses. The documents it provides are useful and up-to-date.
- good: The DSS has a clear interface overall, is quite fast and precise in its responses. The documents it provides are useful and up-to-date.
- average: The DSS is sufficiently clear but in general not very fast and/or precise in its responses. The documents it provides are sufficiently useful and/or up-to-date.
- bad: The DSS is chaotic, slow and/or imprecise in its responses. It does not provide documents or they are not useful and/or up-to-date.

- ☐ excellent
- ☐ good
- ☐ average
- ☐ bad

3.2 What suggestions would you like to leave us to improve the DSS?

4. TELL US MORE!

Descripció (opcional)

4.1 Is there another COMANAGE tool that you have got to know and/or tested? *☐ yes☐ no**5. ANOTHER COMANAGE TOOL**

Descripció (opcional)

5.1 What is the other COMANAGE tool that you have got to know and/or tested? *☐ ECGT (Energy Community Governance Toolkit)☐ E-Learning platform☐ Decision Support System (DSS)

6. WORKSHOP or ON YOUR OWN?

Let us know how you learned about and/or tested COMANAGE tools (or some of them).

6.1 Have you tried using these tools during an event/workshop (both online and phisical) or on your own? *

☐ event/workshop (both online and phisical)



☐ on your own



☐ Altres...

7. WORKSHOP EVALUATION (both online and phisical)**7.1 How did you find the event you attended today? ***

Select the level of satisfaction where:

- excellent: well-organized, engaging and educational workshop.
- good: engaging and educational workshop but not optimally structured.
- average: educational workshop but not optimally structured and not very engaging.
- bad: workshop not very/not at all educational, not engaging and poorly organized.

☐ excellent

☐ good

☐ average

☐ bad

7.2 What suggestions would you give us to improve our workshops?