



Implementation Plan of Sun4All Programme

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Table of contents

1. Executive Summary	6
2. Objectives and Methodology	7
3. Almada	8
3.1. Energy Generation: Description and Management.....	8
3.2. Financial Scheme of User Benefits	10
3.3. Involved Stakeholders	11
3.4. Data Management and Protection	13
3.5. Beneficiaries: Selection, Communication and Response to Feedback	14
3.6. Action Plan	16
3.7. Risk Management.....	18
4. Barcelona	19
4.1. Energy Generation: Description and Management.....	19
4.2. Financial Scheme of User Benefits	20
4.3. Involved Stakeholders	22
4.4. Data Management and Protection	23
4.5. Beneficiaries: Selection, Communication and Response to Feedback	25
4.6. Action Plan	26
4.7. Risk Management.....	29
5. Communauté de Communes Coeur de Savoie	30
5.1. Energy Generation: Description and Management.....	30
5.2. Financial Scheme of User Benefits	30
5.3. Involved Stakeholders	32
5.4. Data Management and Protection	33
5.5. Beneficiaries: Selection, Communication and Response to Feedback	33
5.6. Action Plan	34
5.7. Risk Management.....	37
5.8. Other option for pilot 2: self-consumption scheme.....	37
6. Rome	39

6.1. Energy Generation: Description and Management.....	39
6.2. Financial Scheme of User Benefits	42
6.3. Involved Stakeholders	42
6.4. Data Management and Protection	45
6.5. Beneficiaries: Selection, Communication and Response to Feedback	46
6.6. Action Plan	47
6.7. Risk Management	49
7. Conclusions of Implementation and Next Steps	50

List of Tables

Table 1: Features for PV system at Almada Pilot.....	10
Table 2: Involved Stakeholders at Almada Pilot.....	13
Table 3: Type of information, procedures in case of sensitive information and the information use.....	14
Table 4: Action Plan for Almada Pilot	16
Table 5: Features for PV system at Barcelona Pilot	20
Table 6: Involved Stakeholders for Barcelona Pilot	23
Table 7: Dataset 1 information for Barcelona pilot.	23
Table 8: Dataset2 information for Barcelona pilot	24
Table 9: Dataset 3 information for Barcelona pilot.	25
Table 10: Action Plan for Barcelona Pilot	27
Table 11: Involved Stakeholders at CCCS.....	32
Table 12: Action Plan for CCCS Pilot	35
Table 13: List of the 14 pre-selected PV plants, with Peak Power, Energy yearly production, number of households member of each potential Sun4All Energy Communities	41
Table 14: Involved Stakeholders at Rome Pilot	44
Table 15: Preselection beneficiaries' activities	46
Table 16: Risks and mitigation on Rome Pilot.....	49

List of Figures

Figure 1: Almada Location	9
Figure 2: Aerial view of the municipal buildings.....	9
Figure 3: Gantt Chart for Almada Pilot	17
Figure 4: Use case 1 data and benefits flow for Barcelona pilot	21
Figure 5: Use case 2 data and benefits flow for Barcelona pilot	22
Figure 6: Gantt chart for Barcelona Pilot	28
Figure 7: PV installations at CCCS	30
Figure 8: CCCS financial scheme	32
Figure 9: Gantt Chart for CCCS Pilot	36
Figure 10: A schematic approach of Rome Use case 02 "Third Party belonging with Third Sector"	39
Figure 11: Photovoltaic systems managed by Roma Capitale (SIMU) or Concessionaries	40
Figure 12: Distribution of PV plants on municipal roofs by Peak Power	40
Figure 13: GIS analysis of Energy Poverty households being within 1 km from the 12 pre-selected municipal PV plant	41
Figure 14: Istituto comprensivo Renzini: school, 1 PV plant 20,1 kWp, 40 potential beneficiaries	42
Figure 15: Gantt Chart for Rome Pilot	48

1. Executive Summary

This deliverable establishes the Implementation Plan for each pilot.

This plan consists of describing the implementation processes that the pilots will follow in order to make Sun4All work. This deliverable is linked to *D2.1 Blueprint model for the Sun4All programme*, where the different use cases to be implemented in the different pilot regions were described. Therefore, this implementation plan aims to take those use cases as a baseline, including any existing modifications in the pilot regions and provide a pathway covering the following topics:

- Solar energy generated
- Financial scheme of users' benefits
- Involved stakeholder
- Data management and protection
- Recruitment and communication actions with beneficiaries

Additionally, the Action Plan for the main activities that will take place during the implementation process are detailed in this document, concerning duration, starting dates, and responsible persons for those activities.

2. Objectives and Methodology

The main intention of this deliverable is to design the implementation plan of the Sun4All program for the pilot cities, by setting all the parameters and the path to be followed to start running Sun4All in Almada, Barcelona, Coeur du Savoie, and Rome.

The parameters to be defined by all pilots include operational aspects of the billing and communication process with beneficiaries and preparation of the installations for the pilots, legal and administrative aspects, and involvement with various stakeholders.

There is detailed information about the features, location, power capacity, and ownership of the energy generation units that will be part of the Sun4All programme, information on how the energy generated will derive into money and how will these finally result in an economic benefit for beneficiaries.

In order to define the criteria to be considered regarding data management (procedures for data collection, processing, and storage of personal data) in accordance with current European standards, the General Data Protection Regulation (GDPR) content, is specified in detail.

Communication with participants is approached with information on recruitment actions, informative sessions, and registration process. The pilots also describe how will it be organized to handle problems as they come, for example, beneficiaries dropping out, issues in receiving benefits, doubts, and data concerns, among others.

Moreover, the action plan lists the steps needed to achieve the main goals and objectives and a timeline for the tasks or actions to be made. Stakeholders to be involved in the implementation, are also identified, and this information is complemented with a Gantt chart with the activities to be done and their timing for a better visualization of the process.

Finally concerning risks and management each pilot has identified its main fragilities which will be properly followed-up along the implementation phase, to apply the necessary corrective or mitigation actions on time.

3. Almada

3.1. Energy Generation: Description and Management

Almada is a Portuguese city located in the Lisbon Metropolitan Area. It has an urban area of 13.98 km² and 88,202 inhabitants in 2021, hence a population density of 6,309 inhabitants per km², making it the 10th largest city in the country. It is the seat of the municipality of Almada which has an area of 70.21 km² and 177,268 inhabitants in 2021.

Almada's Pilot is located in Monte da Caparica at (38°40'07.4"N 9°11'12.5"W) [google coordinates](#).

In Almada, the pilot's objective is to bring to **social housing residents** the benefits of the solar installations available in the vicinity existing and planned in the community, boosting acceptance and recognition of renewable energy empowerment. For this reason, beneficiaries will be renters from social housing in Almada (Social Housing users).

The **first step** of the Portuguese pilot consists of activating the self-consumption of the small-scale hybrid PV thermal solar plant (4kW_e) owned by the City Council of Almada (CMA), which is located in one of the buildings of the mentioned social housing complex. Almada pilot will capitalize on the extensive engagement and awareness raising activities developed during the HERB 'Holistic Energy Renovation of Building' project: a programme which sought to include vulnerable households in the energy transition as well as to fight energy poverty through the energy refurbishment of social housing. The energy refurbishment of social housing buildings was only possible through the engagement and involvement of its residents.

At the present, 10 households that participated in HERB are already benefiting from hot water from hybrid PV and they will be the first beneficiaries of energy self-consumption as a pilot. Another 8 to 10 buildings in the area surrounding the HERB building at Rua dos 3 Vales and Rua São Lourenço Poente, have been identified as potential beneficiary for Sun4All project, each building accounting for ten or more households.

The approach in the current regulatory framework is the constitution of a Collective Self-Consumption that can evolve into a Renewable Energy Community.



Figure 1: Almada Location



Figure 2: Aerial view of the municipal buildings

PV capacity dedicated to the project	Energy generated dedicated to the project (kWh/year)	Technical Details	PV cost (€/MWh)	€ Invested per pilot
4 kWe installation	5.000 kWh	Monocrystalline (200w*20)	-	Already existing facility
22,5 kWp installation	35.052 kWh	Information not yet available	0,7	25k €

Table 1: Features for PV system at Almada Pilot

Almada City Council is the owner of the PV facility, and Ageneal will act as managing entity for the Collective Self-Consumption, liaising with E-Redes, Portugal's distribution system operator. Management of data and financial flows will be done by Ageneal and Almada Municipality. For the operationalization of this Community, there is the need to develop some administrative and management procedures, namely:

- the need to approve the already existing draft for an Internal Regulation Proposal - Phase 1 - Collective Self-Consumption, which also complies with GDPR;
- the establishment of a contract between Ageneal and the end users due to this being the only possibility of accessing energy data;
- and the involvement of the local community centre as both an end user and a link to the beneficiaries.

3.2. Financial Scheme of User Benefits

CMA - Environment department with supervision of Social Intervention and Housing Department will lead the implementation of the financial support scheme and the Community part of the project, in collaboration with Ageneal.

Each month, beneficiaries will receive a bill discount with a fixed coefficient that will be returned as a bonus. If possible, the bill will also include energy saving tips, information on the energy generated by the Sun4All PV installations, and community activities linked to the community plan (Task 3.2) such as, for example, a specific workshop invitation. During the 12-month period, beneficiaries will receive energy advice too, from local partners in order to optimise their bills and improve their comfort.

Smart electricity meters will be installed and its integration into smart grids will allow access to a set of advanced capabilities that consist, for example, of measuring and recording consumption and injection into the grid with a 15-minute detail or the maximum power used, in readings without the presence of the reader or the beneficiary at the installation, or carrying out other remote operations, such as changing the contracted power or activating and deactivating it.

Smart grid infrastructures include not only smart meters, but also communications and energy data processing systems and technologies.

However, given that in the first phase the municipality is willing to actively promote this first “community”, a complex and dynamic solution does not present great advantages. It may even be counterproductive as beneficiaries are likely to feel more comfortable and satisfied with a system that is simple and understandable. The consumption structure itself has reduced flexibility and the sharing is relatively small.

So, as a first approach, it is proposed to select one of two options:

- Distribution of collective self-consumption production, for each household, relative to the consumption measured in each Consumer Facility, for each 15-minute period (default option in accordance with the Self-Consumption Regulation) – proportional coefficients.
- Allocation through fixed coefficients that can be defined for each 15-minute period – fixed coefficients – it is suggested that this coefficient is the same for all members in all periods, that is, 1/11, assuming eleven members (10 households + CMA/building common spaces).

However, these two options are left open for community members to decide. This may in fact be one of the first deliberations of the assembly of members.

3.3. Involved Stakeholders

Ageneal will be responsible for all the tasks of managing the workshops, involving the communication and providing technical support to citizens with the support of Almada City Council. **CMA** will be responsible for the formal processes of establishment of the scheme to be developed, for photovoltaic installations (ownership, maintenance and management) with the support of Ageneal.

E-Redes will be responsible for energy distribution, and the entity with which we will have to verify the data sharing features and the installation of smart meters and communication at points of energy production and consumption.

Institutional contacts are being developed with the main actors: other departments and divisions of the CMA (e.g., Municipal Social Housing Services, Legal Department, Data Protection Office, Communication Department).

Stakeholder	Stakeholder category	Specific Role	Other roles related to implementation	When to be involved (MX+ MY...)	How to be involved (Meetings, workshops, webforms coms, phone, etc)
Local Energy Agency (Ageneal)	Municipal Energy Agency	Implementation, management, technical support	Managing workshops, involving community and providing technical support to beneficiaries	M1 – M36	Meetings, phone and e-mail
CMA - Climate & Environment Department	Public Authority	Implementation, management, technical support	Implementation of the financial support scheme and the community part of the project	M1 – M36	Meetings, phone and e-mail
CMA – Municipal Social Services	Public authority	Contacts facilitator, beneficiary recruiter	Involved in the planning of activities involving the beneficiaries and in contact with beneficiaries	M9-M14, M16	Meetings, phone and e-mail
CMA - Social Housing Services	Public Authority	Owner of the building, contacts facilitator, beneficiary recruiter	Involved in the planning of activities involving the beneficiaries and in contact with beneficiaries	M9-M14, M16	Meetings, phone and e-mail
E-Redes	Private Company	Portugal's energy distribution system operator	-	M9, M10, M13	Meetings, phone and e-mail
Building users	End-users	Pilot beneficiaries, building residents	-	M10-M36	Workshops, one-to-one meetings, phone and e-mail
Community Centre	Community Neighbourhood Self-Management Area	Might be beneficiary for surplus	Facilitate place for meetings and workshops. Community	M10, M12	Workshops, meetings, phone and e-mail

			activities in the neighbourhood		
School Monte da Caparica	Municipal Building	Might be beneficiary for surplus		M17	Workshops, one-to-one meetings, phone and e-mail
Valdeão - Wastewater Treatment Plant	Municipal Building	Might be beneficiary for surplus	Energy producer and consumer for Sun4All pilot in Almada	M17	Workshops, one-to-one meetings, phone and e-mail

Table 2: Involved Stakeholders at Almada Pilot

3.4. Data Management and Protection

In order to define the criteria to be taken into account in information management (procedures data collection, processing and storage) in accordance with current standards, Almada Pilot defined a proposal for a Regulation of the "Energy Community/Collective Self-Consumption" based on the Action Plan for the creation of the Local Energy Community of 3 Vales in Almada, which also includes a section dedicated specifically to the management of data in complementarity and in accordance with the legislation in force, which is affirmed as fundamental for the performance of the Municipality of Almada and Ageneal, as responsible for the processing of personal data of members of the Almada Energy Community.

Regarding data management, the Regulation of Intelligent Grid Services for Electric Power Distribution (Regulation No 610/2019) is also applied.

The households that will be part of the Sun4All project, because they will constitute a Collective Self-Consumption, must be integrated in smart grids. Thus, the proposal for a regulation includes the figure of a "contract" to be established between CMA and/or Ageneal and the other members, since access to energy consumption data by third parties is subject not only to the consent of the beneficiaries, but also to the existence of a contract to which the end user is a party (cf. Article 31 of Regulation No. 610/2019).

The Municipality of Almada and Ageneal, as well as any public or private entities that eventually process personal data such as data relating to the members of the Almada Energy Community, are covered by the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

Data protection issues are particularly relevant when it comes to processes that require obtaining data from vulnerable consumers, for example, the identification of these vulnerable consumers or those at risk of energy poverty, given the social stigma that may be associated with them. As such, this can be a barrier for the implementation and acceptance of an Energy Community by the target audience.

The following table summarizes the type of information, the procedures required in case of sensitive information, and the use made of this information.

Information Type	Sensitive Information	Information Use
Energy Consumption	Group by categories	Sun4All Program Beneficiary Selection Criteria
Potential for energy production	Individualized for each category	Sun4All Tasks: energy bills, energy advice, savings potential, energy optimization of facilities, improving knowledge about energy poverty and energy transition
Personal Data (e.g., name, address, ...)	Ensure anonymity	Definition of an action plan and definition of priorities. Monitoring progress made during the project
Socio-economic data (e.g., annual income, ...)	Consent form required	Sinergy with other projects/municipal departments
Energetic Poverty	-	Dissemination, publication
Conservation Condition of the household	-	Workshops, training

Table 3: Type of information, procedures in case of sensitive information and the information use

3.5. Beneficiaries: Selection, Communication and Response to Feedback

In July 2022, the pilot will seek to recruit ten households which were previously beneficiaries of the HERB program in the pilot buildings. Due to their experience in sustained engagement, these households could act later as multipliers and assist the program in building trust, recruiting, and communicating with future beneficiaries of Sun4All.

In August 2022 an **informative session** will be held, inviting other potential beneficiaries to participate in the project. Some participants of the HERB project will be presented and will give a reinforcement on the dissemination of the project to the community. Also, the municipal social services agents and the independent facilitator of Ageneal will engage with potential beneficiaries through an information campaign, in which they will be introduced to the social, economic, and environmental goals of Sun4All, and will be informed that they qualify for participation.

The duration of the program, the main responsibilities and benefits of participation, and the date and time of the various informative sessions will also be communicated. Informative material such as leaflets will be handed to attendees.

A third session will be happening in September or October in order to inform, interact with and recruit some more participants.

In addition, during the sessions, beneficiaries' expectations will be documented, information on energy literacy and a reminder of the action plan timetable shall be disseminated.

Since the electricity generation capacity of the PV plant selected for the start of the program is significantly limited, the pilot will evaluate the possibility of holding community workshops in which the expansion of the program in terms of both electricity generated and beneficiaries involved will be discussed to incorporate the needs and preferences of the residents.

Through these workshops the pilot plans to further adapt Sun4All to the residents' vision and desires for the future in the community. In these workshops the informative video developed by the consortium introducing Sun4All will be projected.

Moreover, in these same events the Local Energy Agency will conduct energy diagnosis on volunteers from the pilot buildings, with a three-fold objective: an extra free benefit for the community, increasing trust in the project, and "profiling" to check who has a consumption pattern linked to excess demand in order to optimize the system. It will also be useful to find opinion leaders in the community, who can later be better prepared to serve as motivators for other energy communities, together with a coffee and cake and other small gifts approach will bring people on board, learn about their expectations, and build the community around their defined constraints/opportunities and needs.

For those who may not have been able to attend the informative sessions/community workshops, a **door-to-door information campaign** will be implemented, targeting the lacking households. In this way, the pilot plans on making registration easier for those residents to whom participation in in-person events may not be their preferred option, or of difficult access (e.g., due to severe disability or advanced age).

Registration will be possible in any of the informative sessions/community workshops, as well as in the door-to-door visits. During registration, beneficiaries will be required to fill in the Sun4All questionnaire, provided by CMA and Ageneal staff.

Furthermore, the pilot is developing informative material (e.g., flyers, poster, roll-up, leaflets) jointly with ICLEI Europe and the Municipal Social Housing Department (DISH) in order to make the content of the program, and the benefits and responsibilities of beneficiaries the most accessible and understandable to the households of the pilot buildings.

Additionally, Almada Municipality will later validate a **potential partnership** with the community center, existing in the building area, which could act as a multiplier to organize events and hence boost recruitment.

Ageneal along with the Municipal Social Services Department, will be handling any problems that might come related with Sun4All beneficiaries and communication will be done face-to-face, by email or phone call. In the eventual drop-out of any beneficiary a door-to-door information campaign will be implemented, targeting the lacking households.

Should it not be possible to recruit enough participants in the first appointment of buildings, additional social housing buildings would be incorporated into the pilot. Preference will be given to municipal social housing units over those administered by the National Housing and Rehabilitation Institute.

3.6. Action Plan

Action	Start Date	Duration	Responsible
Determine definitive locations for PV installation	M9	M10	CMA
Design and Sizing new PV	M9	M10	CMA/Ageneal
Approve of Regulation of the "community"/collective self-consumption	M9	M10	CMA/Ageneal
Financial Scheme for Collective self-consumption (CSC)	M9	M10	CMA
Adjudication and contract with hired company for PV	M12	M12	CMA/Hired Company
PV Installation and registration	M13	M13	CMA/Hired Company/E-Redes
Pilot Test	M11	M14	CMA/E-Redes
Define project Energy Community	M9	M14	CMA/Ageneal
Define Communication Plan	M9	M10	CMA/Ageneal
General meeting with beneficiaries, recruitment for 10 beneficiaries (from HERB project) and registration	M10	M10	CMA/Ageneal
General meeting with beneficiaries, engagement activities, recruitment for 45 new beneficiaries and registration – Phase 1	M11	M11	CMA/Ageneal
Meeting with beneficiaries, recruitment for 70 new beneficiaries and registration – Phase 2	M12	M13	CMA/Ageneal
Contact with WWTP Valdeão in order to be part of the Energy Community	M17	M17	CMA/Ageneal

Table 4: Action Plan for Almada Pilot

Almada Pilot

Select a period to highlight at right. A legend describing the charting follows.

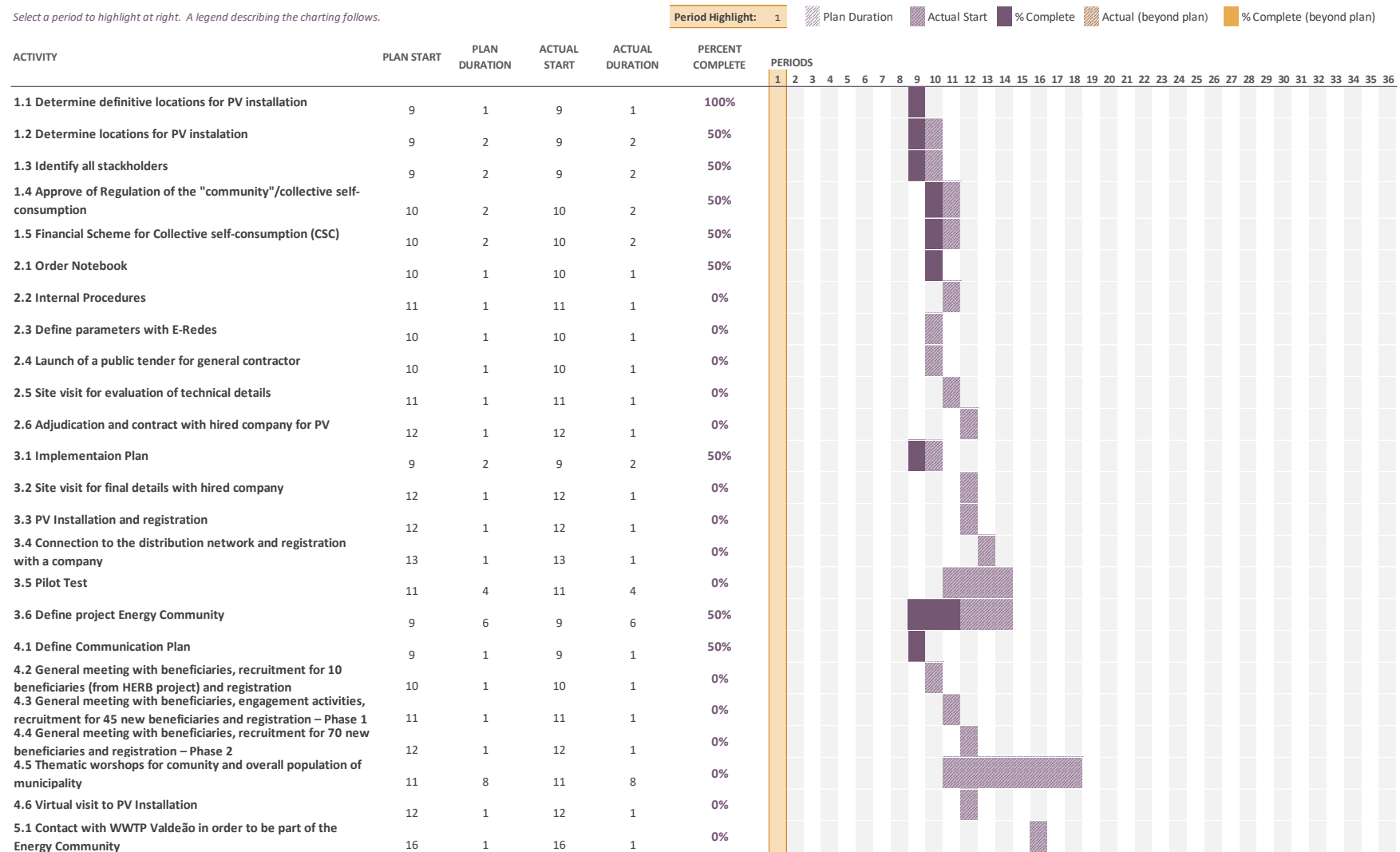


Figure 3: Gantt Chart for Almada Pilot

3.7. Risk Management

Main risks identified are:

- a possible delay due to slow administrative procedures to finalize contract with hired company for construction and installation of new PV unit.
- late delivery of new PV panels.
- beneficiaries do not adhere to the project.

4. Barcelona

4.1. Energy Generation: Description and Management

The Barcelona pilot will encompass two distinct models, involving in both cases buildings in which vulnerable people live.

The first pilot site will include public social housing buildings administered and owned by Barcelona's Municipal Housing and Rehabilitation Institute (IMHAB). In the first year, the selected building will be one inhabited by youth aged under 35. Given the high rate of unemployment among young people, the municipality expressed its interest to include young citizens during the first-year project actions. Young people have demonstrated in past projects to possess high motivation in comparison to other age groups: this characteristic can be advantageous in order to fruitfully undertake mentoring during the second year.

In this first site, the pilot building will benefit from a PV installation of 11,76 kWp owned by IMHAB, in which we estimate to generate around 14.700 kWh/year. This installation will be managed as a shared self-consumption among all dwellings and IMHAB. Each dwelling will have a share of a 2,5% of the generated energy, while IMHAB will retain the 12,5% to use in the common services of the building. The exploitation of the PV installation will be led by TERSA, a public company that manages all City Council PV installations, and who will be in charge of maintenance and energy generation.

In the second year of the programme, IMHAB will choose a social housing building that hosts elderly people. Seniors are amongst the most vulnerable social groups in society. They often have large health-related expenses, live in inadequate housing, and have special needs and requirements. These buildings offer senior citizens a safe, adapted, comfortable home in the city. This social housing complex also ensures that all required care services are provided: 24-hour specialised service, personal care at the centre, and telecare that provides them, self-sufficiency. The elderly people have shown a high rate of participation in different activities and workshops.

The second pilot site concerns a 'high complexity building' (HCB): privately-owned multiple-household building blocks identified by public bodies as affected by socioeconomic poverty and exclusion, rarely benefitting from social funds and services. In the city of Barcelona, 'Pla de Barris' (The Neighbourhood Plan), is a programme that seeks to redress multidimensional inequality within the city, and which already operates a project in which people living in high complexity buildings have been actively engaged by social services agents to help them access available public support (e.g., housing rehabilitation).

The HCB pilot site will benefit from a PV installation of 4,53 kWp that will generate around 5.400 kWh/year. This number could slightly change when the final installation is fully built. The City Council will be the owner of the installation, and it will be managed and maintained by TERSA. PVs will be in the HCB roof, which will be rented by City Council to install the PVs. A nearby City Council building will also benefit from this installation.

This approach is slightly different than what was foreseen on the proposal. The approach had to be changed due to the difficulty of establishing direct contact with social services' users in the vicinity of the public PV facilities. With the new approach, all the beneficiaries

will inhabit the same building block, and already enjoy a lasting relationship with the city council regarding energy generation.

This project will build on previous initiatives that have been active for years in Barcelona, led by the Barcelona Energy Agency, in the areas of energy efficiency, involvement of citizens, and energy poverty alleviation, such as:

- Energy Advice Points (since 2017 onwards)
- Share the sun (2019)
- Climate plan (2018) and Climate Emergency Declaration (2020).
- Solar boosting plan (2017)

Facilities for year 1	PV capacity dedicated to the project	Energy generated dedicated to the project (kWh/year)	PV cost (€/MWh)	€ Invested per pilot
IMHAB	11,76 kWp	14.700	2.1	31.044€
High complexity building	4,532 kWp	5.400	2.8	14.936€

Table 5: Features for PV system at Barcelona Pilot

4.2. Financial Scheme of User Benefits

- **IMHAB building** (adapted from Use Case 4): although the owner of the PV facility is the Barcelona City Council, IMHAB (Municipal Institute of Housing) is the owner of the buildings where Sun4All beneficiaries live. In this case, the financial flow will be managed directly between the Distribution/Utility company and the end-users, as they will see a direct discount in their bill, which will also include information about how much energy is generated thanks to their share of the PV installation. The management of the data flows will be shared between the Distribution (DSO) and the Utility company: the utility company is given these data by the DSO, which is the stakeholder that monitors how much of the energy is self-consumed from the PV panels, and how much is sourced from the grid. The image below illustrates the scheme to be applied.

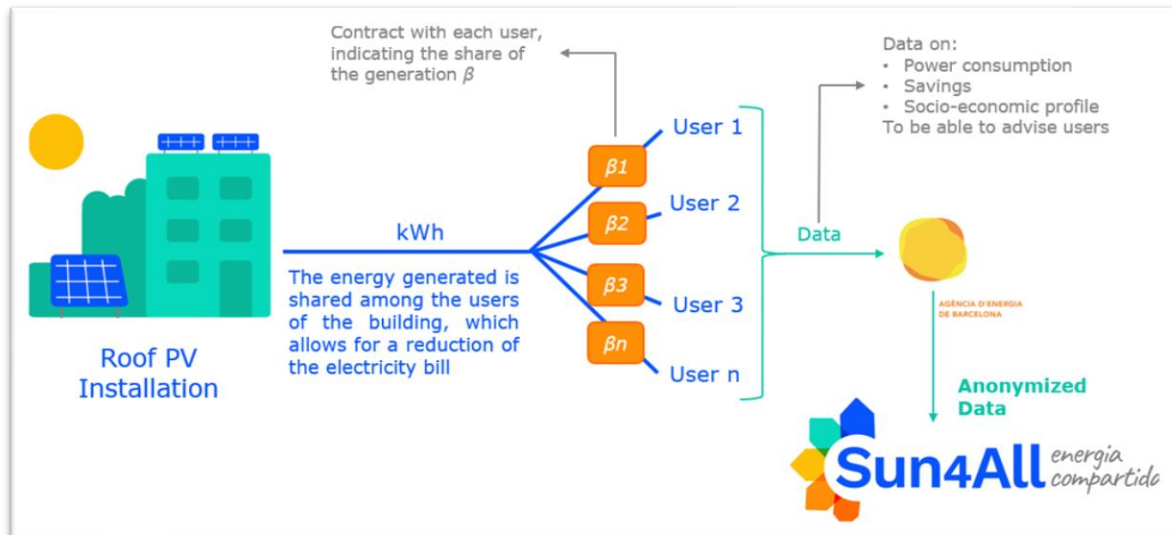


Figure 4: Use case 1 data and benefits flow for Barcelona pilot

This model fits into the current energy legislation in Spain regarding collective self-consumption.

- **“High Complexity buildings”:** These buildings include a mix of energy uses other than residential. This approach will be highly challenging, because the benefits obtained from the electricity produced by the PV facility owned by the Barcelona City Council will be shared between the City Council (90% of the financial benefit) and the beneficiaries (10%). Nonetheless, beneficiaries will also benefit from 50% of the City Council’s financial benefits, which will be disbursed to the neighborhood community for the renting of the roof. Benefits will be transferred to the community, and therefore community bills will be cheaper to afford. Distribution/Utility company will support ALEB, ECOSERVEIS and Barcelona City Council in the management of the data and financial flows.

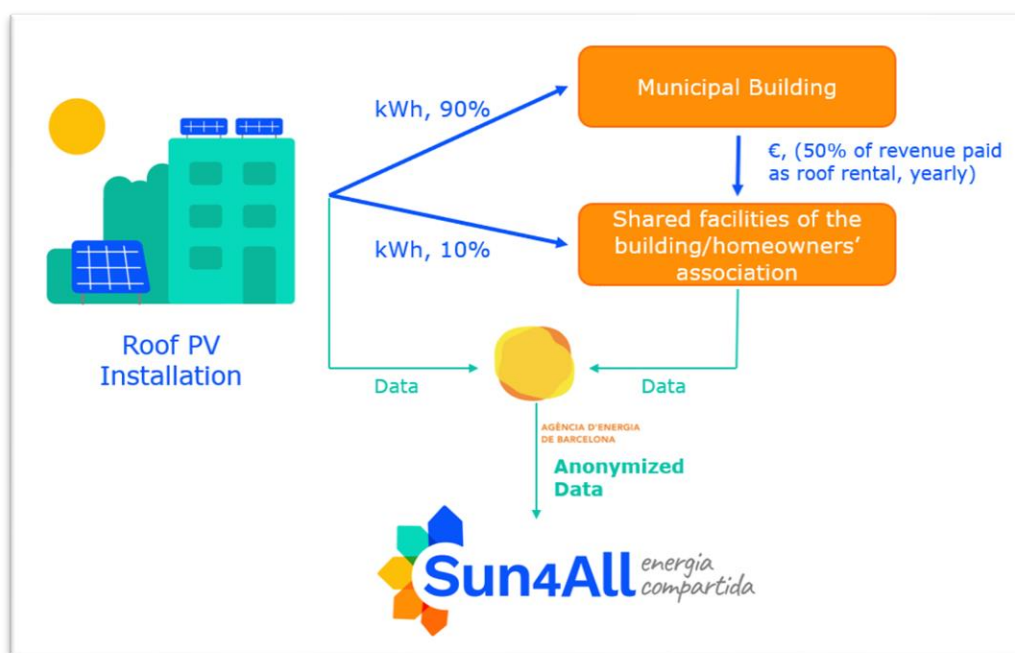


Figure 5: Use case 2 data and benefits flow for Barcelona pilot

The High complexity building scheme represents a challenge to properly define a sharing contract between the City Council and a private building in these terms, as described in the Risks section below.

4.3. Involved Stakeholders

Stakeholder	Stakeholder category	Specific Role	When to be involved (MX+ MY...)	How to be involved (meetings, workshops, webforms coms, phone, etc)
Building inhabitants	End- users	Pilot beneficiaries	Since month 8	Workshops One-to-one meetings Phone and mail
Institut Municipal de l'Habitatge (IMHAB)	Public sector	Owner of the building Contacts facilitator	Since month 3	Meetings
"Pla de barris" (Neighborhood plan)	Public sector	Contacts facilitator	Since month 3	Meetings
Institut Municipal de Serveis Socials (IMSS)	Public sector	Contact facilitator 2n year pilot		Meetings
Carrega't d'Energia	Public program	To carry out energy workshops	Since month 13	Workshops, meetings

Energy Advice Points (PAE)	Public service	To carry out energy advice and energy workshops	Since month 13	Workshops, meetings, energy advice
TERSA	Publicly owned utility	To carry out visit to PV installations	Since month 13	Visit to FV installations
Espai Germanetes – Associació Jardins d'Emma	Community Neighbourhood Self-Management Area	Community Neighbourhood for IMHAB building beneficiaries	Since month 8	Facilitate locations to develop meetings and workshops. Community activities in the Neighbourhood
The REC (Real Economy Currency)	Barcelona's social currency	Citizen exchange system allowing transaction in the community, for FAC Building beneficiaries	Since month 8	Social currencies favour local businesses, and the profits revert to the community

Table 6: Involved Stakeholders for Barcelona Pilot

4.4. Data Management and Protection

Currently, the Sun4All consortium and Barcelona pilot foresees the following datasets:

DATASET NUMBER	1
DATASET NAME	Data from participants in the pilots
DESCRIPTION OF DATA	Personal data of each engaged participant (name, surname, address, phone number, email...). All sensitive information will be anonymised before being stored.
ORIGIN OF DATA	The data will be collected by the project pilots, more concretely by: ALEB. Ecoserveis Housing Institute
USAGE	To identify all project participants and to be able to communicate and locate them when needed.
DATA SCIENTIFIC PUBLICATIONS	N/A
FORMAT	Microsoft Office Word, Excel sheets; pictures; notes; other documents.
DATA FREQUENCY	N/A
DATA VOLUME	Small (Kbs)
PURPOSE	To select, filter and engage with potential participants. Assessment of the Sun4All implementation activities.
ACCESS POLICY	Only to project partners involved in the specific pilot.

Table 7: Dataset 1 information for Barcelona pilot.

DATASET NUMBER	2
DATASET NAME	Consent of participants recruited for the pilots

DESCRIPTION OF DATA	Formal consent of each participant in the pilots. This document is mandatory and must include all implications for the participants due to their participation in the project (type of information to be collected, purposes of the data collection, who will have access to them...). Additionally, this document must include the right to withdrawal, whenever participants may decide so, without any consequences or specific requirements. Aggregation and anonymization are required for statistical use.
ORIGIN OF DATA	The data will be collected by the same stakeholders as Dataset number 1
USAGE	Data will be a proof of consent for: Data treatment, storage, use and publication of personal data, detailing the format and the time extent in which the data is going to be treated, stored, and used.
DATA SCIENTIFIC PUBLICATIONS	N/A
FORMAT	Signed documents. In case these are in-paper copies, they will be digitally scanned for safe storage.
DATA FREQUENCY	Once, during the registration process.
DATA VOLUME	Kbs
PURPOSE	Legal requirement to treat, use and store Sun4All participants' data along the project with high standards of safety, and for project publications during and after the project timeline.
ACCESS POLICY	Secured and restricted.

Table 8: Dataset2 information for Barcelona pilot

DATASET NUMBER	3
DATASET NAME	Assessment and statistical analysis
DESCRIPTION OF DATA	General data to be used for statistical analysis will have to be cleaned, standardised, and integrated. For this purpose, the data collected through this Dataset will include: Socio-economic characteristics: average gross income, level of education, household size, type, and size of housing Energy consumption and practices: source of energy for heating/cooking, monthly electricity consumption, evolution of electricity tariffs, arrears on bills, etc.
ORIGIN OF DATA	The data will be collected by the project pilots. Some data will be collected through questionnaires which will be filled in by participants themselves, including both socioeconomic and energy data. Additionally, some technical and general socioeconomic data will be collected from the DSOs webpage (if the municipality shall be the owner of the building) or from smart meters if applicable.
USAGE	Data will be used to monitor and control the implementation process and to assess the project both in terms of beneficiaries' engagement, satisfaction, and benefits, in relation to participating in Sun 4 All.
DATA SCIENTIFIC PUBLICATIONS	N/A
FORMAT	Data measurement points (Time-series or similar). Excel sheets and other documents
DATA FREQUENCY	Event driven.

	Surveys will be done twice per participant (at the beginning and at the end of the pilot year).
DATA VOLUME	Relatively high data volumes (Mbs)
PURPOSE	Assessment of the project implementation. Survey data (WP4) as described in the Grant Agreement (Task 4.5), shall be used for the statistical evaluation of the pilots in terms of: Energy advice Savings potential Continuous monitoring Business model definition and application Action planning.
ACCESS POLICY	Secured and authorized access to the Sun4All consortium

Table 9: Dataset 3 information for Barcelona pilot.

These datasets will be stored in register number 0675 of the Barcelona City Council, under the name: "Management of climate change support campaigns". Therefore, the legal entity responsible for the protection of data is the Barcelona City Council. Subsequently, an agreement for the cession of data for the above-established Sun4All purposes is signed with Ecoserveis and the Consortium, who shall also manage, access, and consult these datasets.

4.5. Beneficiaries: Selection, Communication and Response to Feedback

Beneficiary selection in Barcelona pilot is uncomplicated, as either IMHAB and High Complexity Building use cases rely on previously selected buildings. Therefore, beneficiaries are families that live in dwellings located in these buildings.

Methods of communication were successfully tested in IMHAB in June 2022. Firstly, an email was sent by the Housing Institute of Barcelona to all potential beneficiaries. The main purpose was to schedule a community-wide informative session with all beneficiaries to present the Sun4All project's content and benefits. A link was provided to families in order to sign up for the meeting. With those who did not sign up through this method, additional strategies were deployed to make sure they were offered this opportunity. Also, posters and flyers were used to reinforce communication in common spaces of the building.

A key achievement of this informative session was the scheduling of in-person individual dates for participants to talk through the details of the project with Sun4All officers and to sign the data consent form, the project participation form and the solar energy sharing contract. Also, a first questionnaire regarding personal and energy information was completed in these individual sessions.

Finally, a WhatsApp channel was set with most of the participants to give them regular feedback and advice. Also, a dedicated phone line is available to all the beneficiaries to solve any doubt they could retain regarding the project. Other means to communicate with Sun4All officers, such as email, are also available to beneficiaries.

4.6. Action Plan

Barcelona's Action Plan for Climate Emergency includes many action lines related to the implementation of the Sun4All pilot. Its main lines reflect common European environmental policy goals, which are mitigation, adaptation and resilience, but also it includes two additional areas that tackle citizen awareness and action. The entire plan is complemented by a policy guideline regarding a "just transition". Sun4All pilot is aligned with this latter goal since it intends to make a fairer use of currently available solar power in Barcelona, as it is the main resource available within the city limits. A just transition also requires the eradication of energy poverty, which now affects roughly 10-11% of the population of the city. This is a goal to which a successful and replicable Sun4All pilot will contribute the most. In terms of awareness-raising, the dissemination activities of the pilot will have a notable impact, as it is crucial for this goal to be reached also in the vulnerable environments targeted in the plan.

The implementation of the pilot has an overall timeline of 2 years, distributed in two stages of a single year. The first year will begin its implementation in September 2022, while the second year is due to start in September 2023. The beginning of the implementation means that this is the moment in which benefits of PV installations will begin to be shared.

Throughout the duration of each pilot year, different activities or workshops will be held, approximately one every two calendar months. This will include workshops to understand properly electrical bills, to assess if less power could be contracted, and general individual energy assessments. These will be the first issues to be tackled, as some time is needed to evaluate improvements in terms of energy savings. Also, by the end of the first pilot year, an event welcoming the new participants will take place, allowing mentors to begin their mentoring task with new beneficiaries.

Action	Start Date	Duration	Responsible
Preparation of contract models	Ongoing	6 months	ALEB
Preparation of data policy	Ongoing	6 months	ALEB/ECOSERVEIS
Preparation of dissemination activities	Ongoing	3 months	ALEB/ECOSERVEIS
First general meeting with beneficiaries (1st year)	May 22	1 months	ALEB/ECOSERVEIS
Engagement activities (1st year)	June 22	4 months	ALEB/ECOSERVEIS
Registration and first form (1st year)	September 22	1 month	ALEB/ECOSERVEIS
First year pilot	September 22	12 months	ALEB/ECOSERVEIS
Second form (1st year)	June 23	1 month	ALEB/ECOSERVEIS
First general meeting with beneficiaries (2nd year)	May 23	1 month	ALEB/ECOSERVEIS
Engagement activities (2nd year)	June 23	4 months	ALEB/ECOSERVEIS
Registration and first form (2nd year)	September 23	1 month	ALEB/ECOSERVEIS
Closure-opening meeting	September 23	1 month	ALEB/ECOSERVEIS

D2.3 Implementation Plan of Sun4All Programme

Second year pilot	September 23	12 months	ALEB/ECOSERVEIS
Second form (2nd year)	June 24	2 months	ALEB/ECOSERVEIS
Compare and evaluate use cases	September 24	2 months	ALEB/ECOSERVEIS

Table 10: Action Plan for Barcelona Pilot

Barcelona Pilot

Select a period to highlight at right. A legend describing the charting follows.

Period Highlight: 1

Plan Duration Actual Start % Complete Actual (beyond plan) % Complete (beyond plan)

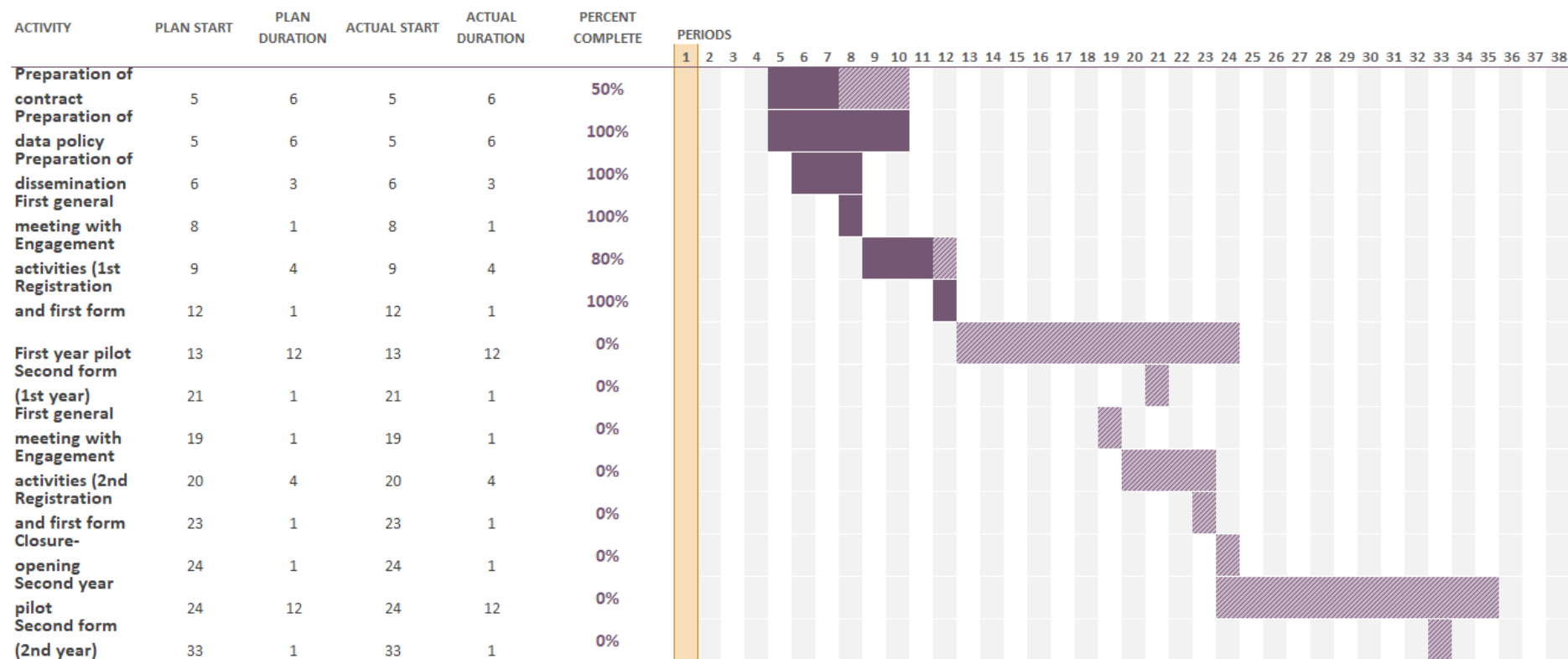


Figure 6: Gantt chart for Barcelona Pilot

4.7. Risk Management

The main risk concerns identifying a proper solution regarding the legal framework to be set in the use case of High Complexity Buildings. It is not without complexity to establish a sharing contract between the City Council and a private building in these terms, as it is a really novel practice for the City Council. In case any barrier could not be overcome on time for the pilot, another building working within the model of Barcelona Housing Institute will be added to the pilot.

Another risk worth addressing is not to have enough beneficiaries between the two pilot buildings. In this case, it will be assessed whether the pilot can be developed with less than 50 beneficiaries, or whether it is necessary to look for another IMHAB building to reach that milestone.

Finally, it is also necessary to develop a befitting protocol to apply in case any participant wants to stop being part of the pilot project. In this case, the vacancy will not be replaced.

5. Communauté de Communes Coeur de Savoie

5.1. Energy Generation: Description and Management

Energy generation for Sun4All in Coeur de Savoie (CCCS) comes from PV installations owned by the Community of Communes. These installations concern five existing solar power plants (total power 60kWp) situated on roofs of public buildings (two nurseries, one gymnasium, one police station, one office) which already generate an average of 61,000 kWh/year.

Moreover, CCCS is currently developing nine new PV plants which will be ready between October 2022 and December 2023, four of which are already on construction phase in July 2022. These new PV plants should amass an approximate total of 1000 kWp. CCCS is considering the inclusion in the pilot of the biggest one of these novel installations, which corresponds to a power generation of 500 kWp on car park sheds at la Chavanne. These PV installations are spread over the CCCS territory, as evinced by the map below, and they are directly managed by CCCS technical and sustainable development services. An online tool allowing to follow the production is under development.

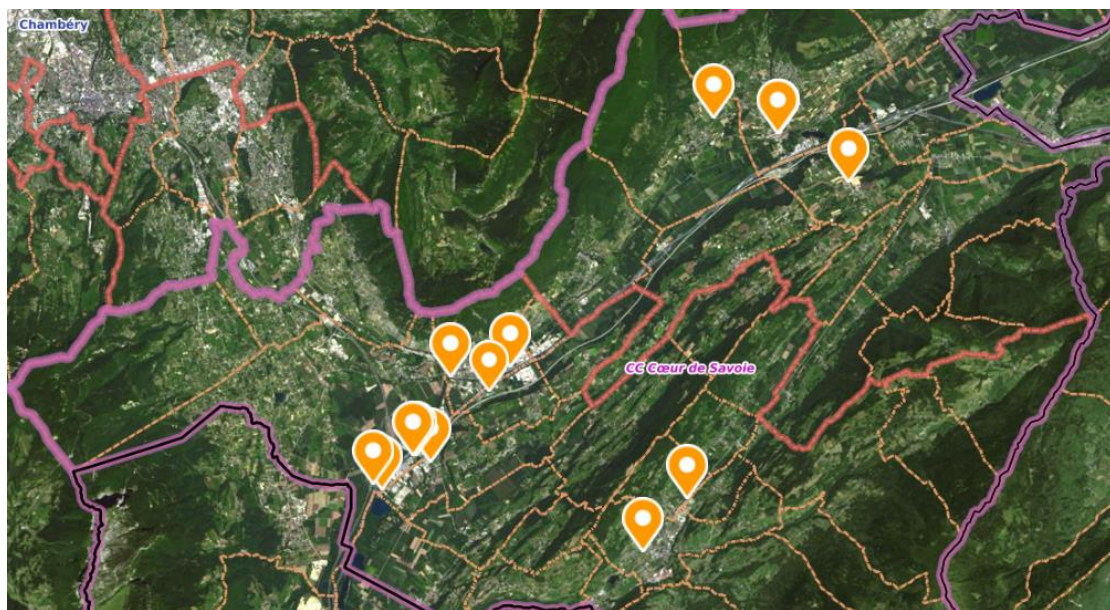


Figure 7: PV installations at CCCS

5.2. Financial Scheme of User Benefits

Altogether, the already operative installations described above generate an average income of 20,000 € per year. On one hand, this amount may vary depending on annual produced power due to solar radiation variation. But this amount does not change depending on the price of electricity as the contract signed, years ago, with EDF-OA includes a fix price for 20 years. That means that CCCS already knows the price that it will invoice per kWh, being just the number of kWh, depending on solar radiation, that changes. Of course CCCS will take into account these variations. The level of monetary

revenue will be updated every year (anniversary date of each installation), when CCCS will receive financial compensation from EDF-OA, the state institution buying the solar power. Additionally, the new 2022-2023 installations will generate about 10,000 € per year. This yearly (calculated) revenue will be disbursed in the photovoltaic budget of CCCS. This amount of money will subsequently be used to finance Sun4All actions.

1. On first use case - CCCS renovation scheme, subvention will be distributed to households to renovate/change their heating system for a new wood system or heat pump. The idea is that this subvention helps vulnerable households to:

- Save money on a long term basis by saving on energy source (heat pumps with a 3 to 4 COP consumes 3 to 4 times less electricity and wood is the cheapest source of energy in our region)
- Reduce their carbone footprints using wood or efficient electricity instead of fuel, gas or normal electricity system.

This subvention will be distributed through a well-known channel as CCCS already operates a renovation platform. Identified beneficiaries will send quotes and a financial plan for their new heating system to CCCS. Then, CCCS will notifiaty an agreement on paying if the expected objectives are met. Further on, CCCS will directly pay beneficiaries once the heating system is changed and/or the necessary work has been done.

On this use case, CCCS plans to engage about 35 beneficiaries for an average budget of 17,500 € (the other 3,000 € being dedicated to the other scheme for about 15 households) giving an average of 500 € to each household. Then, the exact plan is to help by providing around 600 € to the most vulnerable households (très modestes) and by 400 € the “only” “modestes”.

Being clear, this subvention is considered to help the households, to “commit to take the step” to change their heating system, but it will not finance the entire price of the system (coasting a few thousands Euros).

2. The second use case – aiming to help even more vulnerable households (non-owners) solar energy will directly benefit people by reducing their yearly energy bills. The most vulnerable identified househlods (about 15) accepting to enter Sun4All program and engaged to participate in the community program / PV plant visit / individual visit (further detailed in D3.2) will be given a yearly 200 € bonus to save on their energy bill. As there are too many electricity providers to contact with, CCCS decided to pay this bonus directly to the beneficiaries.

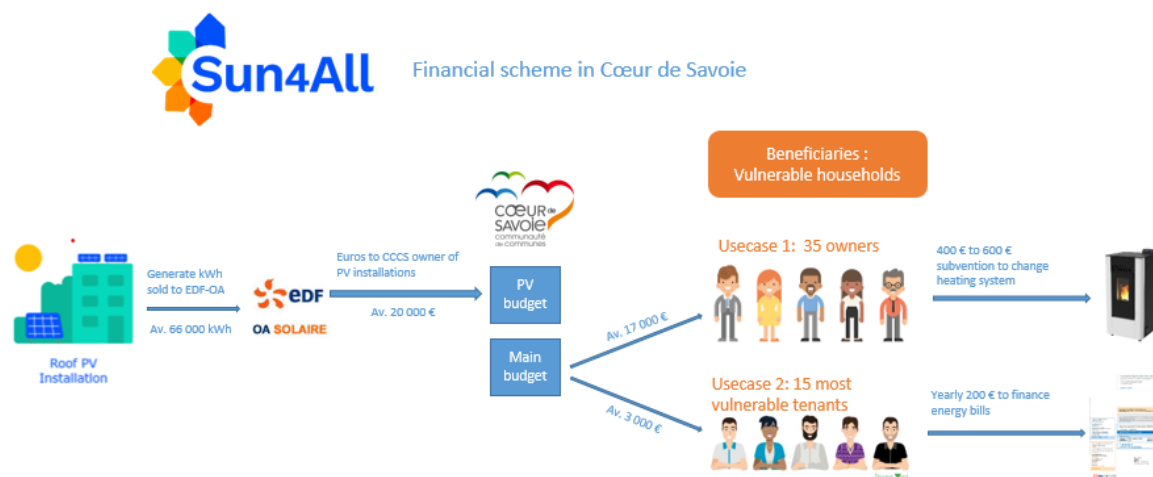


Figure 8: CCCS financial scheme

5.3. Involved Stakeholders

Stakeholder	Specific Role	When to be involved (MX+ MY...)	How to be involved (meetings, workshops, webforms coms, phone, etc)
ADIL	Information	From June 2022	Information
ASDER	Sustainable energy	From the beginning	Efficiency support
Département	Social coordination	From June 2022	
Enedis	Electricity DSO	From 2023	Data
OPAC 73	Social housing	From 2023	With social housing households
Social services	Vulnerable people contact	From June 2022	Recruitment
Le Solaret	Local Energy solar community	From 2023	
OPAH Operator		From October 2022	Recruitment – Energy efficiency support

Table 11: Involved Stakeholders at CCCS

The main stakeholders involved will be:

- **ASDER:** They will establish and communicate recruitment to the Sun 4 All project as the main access path to housing renovation in Savoie
- **Department of Social Services:** They shall be central to the activities of communication and recruitment

- OPAH Operator: They will participate sustainedly in the recruitment phase
- OPAC 73: They will be involved with every household located in their buildings.

5.4. Data Management and Protection

Data will be collected by CCCS itself and OPAH operator at the household engagement. It will include civil status (name, surname, etc.), address and contact information, household composition, details about their accommodation (insulation, type of heating system, energy bills and consumption) fiscal information, and bank account).

These data will be collected on a form handed to participants either by email or in-person. The data will be stored digitally on Coeur de Savoie's protected server. Only the OPAH Operator and CCCS employees related to Sun4All and to the institution's financial accountability will have access to these files. Data will be kept only for the duration of the project and will be deleted in October 2024.

Every household will sign the Sun4All engagement form as well as the Sun4All consent form.

5.5. Beneficiaries: Selection, Communication and Response to Feedback

As seen in D3.1, eligibility criteria in Coeur de Savoie have been established as follows:

- Residency within the perimeter of Communauté de Communes.
- Living in a poorly insulated house.
- Having a low income, qualified as "modeste" or "très modeste" by the National Housing Agency.

In addition, the following aspects will be applied if necessary to select and prioritize participants:

- Presence of children aged under one-year
- One or more household members are affected by a disability
- One or more household members are unemployed
- Single motherhood or parenthood
- Large family
- One or more household member belongs to the elderly: people aged over 65

As concerns interactions with beneficiaries throughout the project, the main communication channels will be email and phone. CCCS will work with 1 or 2 people who will act as trusted officers of reference for Sun4All in Coeur de Savoie, and they will be the main contact of beneficiaries in any situation.

5.6. Action Plan

Main stage of the Sun4All project	Action	Start Date	Duration	Responsible
Implementation plan	Finalise partner's way of involvement	Ongoing	Until Sept 22	CCCS/INES
Recruitment plan	Refine Strategies of Engagement in CCCS (including leaflet)	Jan 22	Until Sept 22	CCCS/INES
Recruitment plan	Precise beneficiaries' profiles	April 22	1,5 months	CCCS/INES
Implementation plan	Refine implementation plans in CCCS (financial and organisation model)	Jan 22	Until Sept 22	CCCS/INES
Implementation plan	Therefore precise 2 use cases	April 22	Until Sept 22	CCCS/INES
Communication plan	Refine Communication plan for local implementation - to beneficiaries - for dissemination	May 22	Until Sept 22	INES
Community Workplan	List means of engagement for beneficiaries	June 22	Until Sept 22	CCCS/INES
Implementation plan	Refine Community Strategy: Activities and Calendar for workshops, Visits to the PV installations, Individual Energy Advice Sessions	Jan 22	Until Oct 22	CCCS/INES
Pilot Implementation	Implementation of the communication Plan / Information Campaign	October 22	All along the project	CCCS/INES
Implementation plan (long term)	Define long term solution for Sun4All (collective auto-consumption schemes)	July 22	6 months?	CCCS/INES
Implementation plan (long term)	Political discussion to validate long term Sun4All use cases	May 22	As long as necessary	CCCS
Pilot Implementaation	Recruit OPAH operator	October 22	1 month	CCCS
Pilot Implementation	Start recruitment on usecase 1	September 22	Until summer 2023 (ongoing process)	CCCS
Pilot Implementation	Start recruitment on Usecase 2 (need OPAH operator recruited)	November 22	Until summer 2023 (ongoing process)	CCCS
Pilot Implementation	Start engagement of beneficiaries on usecase 1	September 22	Until summer 2023 (ongoing process)	CCCS

Pilot Implementation	Start engagement of beneficiaries on usecase 2	November 22	Until summer 2023 (ongoing process)	CCCS
Pilot Implementation	Organise energy efficiency support actions (workshops, advice sessions, PV visits)	Autumn 22	3 months	CCCS/INES
Pilot Implementation	Build and organise workshops (including virtual solution?) and Individual Energy Advice sessions	Autumn 22	≈ 6 months	CCCS/INES
Pilot Implementation	Build and organise plants visits (including virtual solution?)	Autumn 22	2 months	CCCS/INES
Pilot Implementation	Testing of the use cases	October 22 to Summer 2024	22 months	INES
Pilot Implementation	Build and organise mentoring	Spring 23	≈ 3 months	CCCS/INES
Evaluation	Evaluation of the pilot	Jan 22	All along the project	CCCS/INES
Dissemination	Developing and maintaining communication and dissemination products and channels	Nov 21	All along the project	CCCS/INES

Table 12: Action Plan for CCCS Pilot



5.7. Risk Management

The implementation of the pilot in Coeur de Savoie may be affected by the following risks, and attenuation arrangements shall be set in place.

The first risk concerns the difficulty in complying strictly with the general schedule of the project. This risk may be triggered by a mismatch between the time of finalisation of the new PV installation, and the schedule of the Sun4All project.

Likewise, due to the high dispersion of the population of Coeur de Savoie, it may be difficult for the pilot to recruit all beneficiaries in accordance with the timeline set out by the project. Therefore, recruitment will be a process all along the project and not only at the beginning of every pilot year. Finally, the need for the pilot to simultaneously implement other programmes such as SLIME or OPAH may entail at times delays in the implementation of Sun4All.

The second risk is related to the complexity of adapting the NYSERDA use case taking into consideration the differences in terms of cultural and legal dimensions together with the French national and local legal constraints.

A third risk concerns the capacity of CCCS to be able to involve 100 beneficiaries in two years, given the low-populated nature of CCCS, which counts with 37,000 inhabitants.

Finally, it is pertinent to note that new COVID waves might complicate the face-to-face work with beneficiaries, and hence further hinder the engagement of beneficiaries.

5.8. Other option for pilot 2: self-consumption scheme

It is pertinent to note that CCCS and INES shall explore the possibility to work on another scheme for pilot 2: a self-consumption program.

Electricity would be generated by one or two of the three following PV plants, which are under construction, and which will be owned by CCCS.

- Atelier des quais Saint Pierre d'Abligny - 36 kWp
- Ateliers du Héron (La Croix de La Rochette) - 100 kWp
- Petit Poucet Nursery (Montmélian) - 9 kWp

This program would target 50 more beneficiaries belonging to vulnerable household (« modeste » or « très modeste ») located in one or more buildings. These three PV plants will enjoy a strategic location, as they will all be within a maximum of 2km of distance from a few hundred vulnerable households, a prerequisite necessary to comply with French regulation¹ on self-consumption. These buildings are owned by two key social owners: OPAC73 and La Savoisienne.

¹ French Regulation on self-consumption: <https://www.legifrance.gouv.fr/loda/id/JORFTEXT000039417566/>

The fact that beneficiaries will be concentrated in small, more-densely populated areas will make it easier to contact, communicate with and engage beneficiaries. To adopt this self-consumption scheme, CCCS would have to include social owner as a partner.

Further, the electricity self-consumed shall be calculated by the “personne morale organisatrice” (PMO) involving all partners and consumers, which in this case would require either CCCS or a social owner to play this role. Consumption data would be transferred to ENEDIS (DSO) and then redirected to all electricity providers that would discount self-consumption from the bills of beneficiaries.

To study the possibility to implement a self-consumption program in more details, CCCS and INES will have to undertake the following actions:

- Conduction of a legal viability analysis
- Conduction of a financial viability analysis
- Validation of this option and of its financial scheme with politicians
- Outreach and establishment of a partnership with the identified building owner/owners
- Launch of an accommodation renter’s call

More concrete aspects are yet to be defined, but legal and financial analysis shall be conducted to validate or dismiss the feasibility of the self-consumption model.

6. Rome

6.1. Energy Generation: Description and Management

Rome's strategy has been to select buildings managed by the Municipality of Roma Capitale: mainly schools, with photovoltaic systems on the roofs to function as PV plants for the pilot. Thanks to a spatial analysis with GIS (Geographic Information System), clusters of vulnerable households around available PV plants shall be identified.

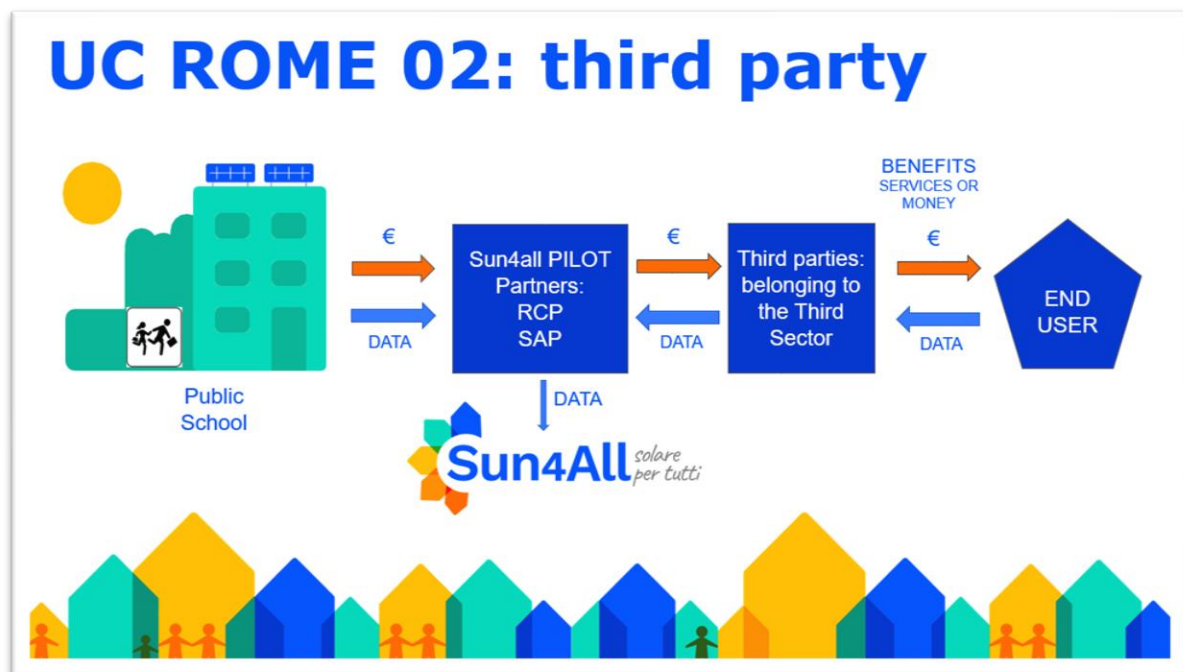


Figure 10: A schematic approach of Rome Use case 02 "Third Party belonging with Third Sector"

As such, for the Sun4All pilot 12 PV plants have been preliminarily selected to secure a total power of 186 kWp, with a production capacity to serve 372 beneficiaries, with 0.5 kWp per household. These plants shall be chosen from a range of 157 existing PV plants managed directly by the SIMU Department in Roma Capitale, or by one of its concessionaries, which jointly amount to a total power of 2 MWp.

The location of these plants corresponds to areas matching the criteria above described in terms of vulnerable households' proximity and energy community potentialities. All are installed on the roofs of public-school buildings.

Drawing on GIS analysis, the pre-selection is guided by the distribution of the 24,000 Bonus Energia already active in Rome (i.e., the main indicator for energy poverty) and their concentration next to the PV plants (proximity buffer analysis).

As a second step, the PV plants have been selected by applying the following feasibility criteria: larger power size of the plant, accessibility to the plant, availability of data flows from the plant and presence of an operation and management (O&M) contract.

Both the location of all photovoltaic systems and the beneficiaries of Bonus Energia are represented in the maps below.

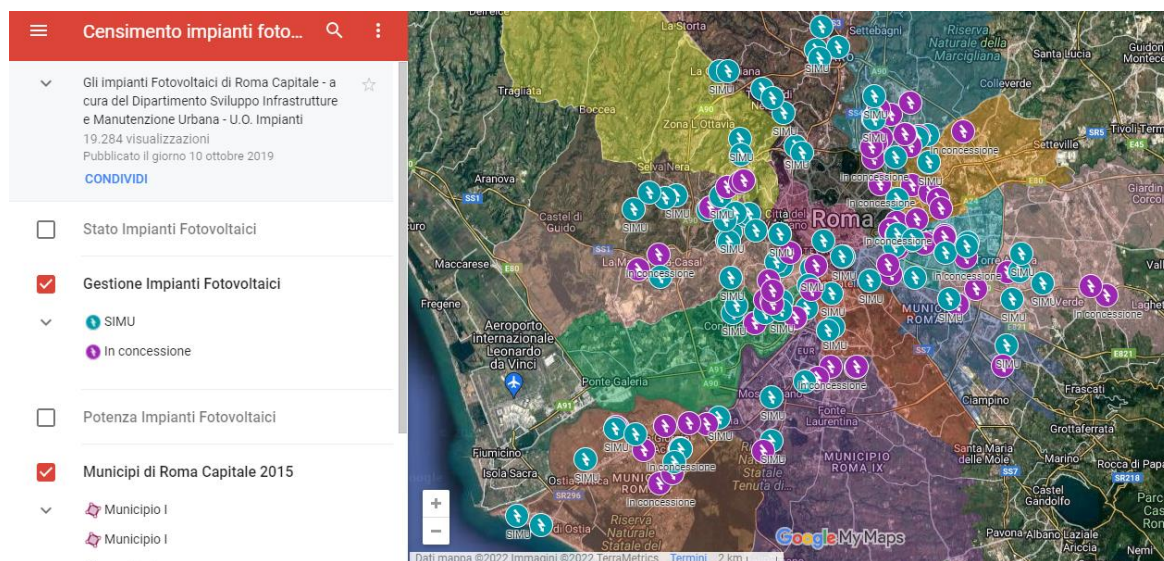


Figure 11: Photovoltaic systems managed by Roma Capitale (SIMU) or Concessionaries

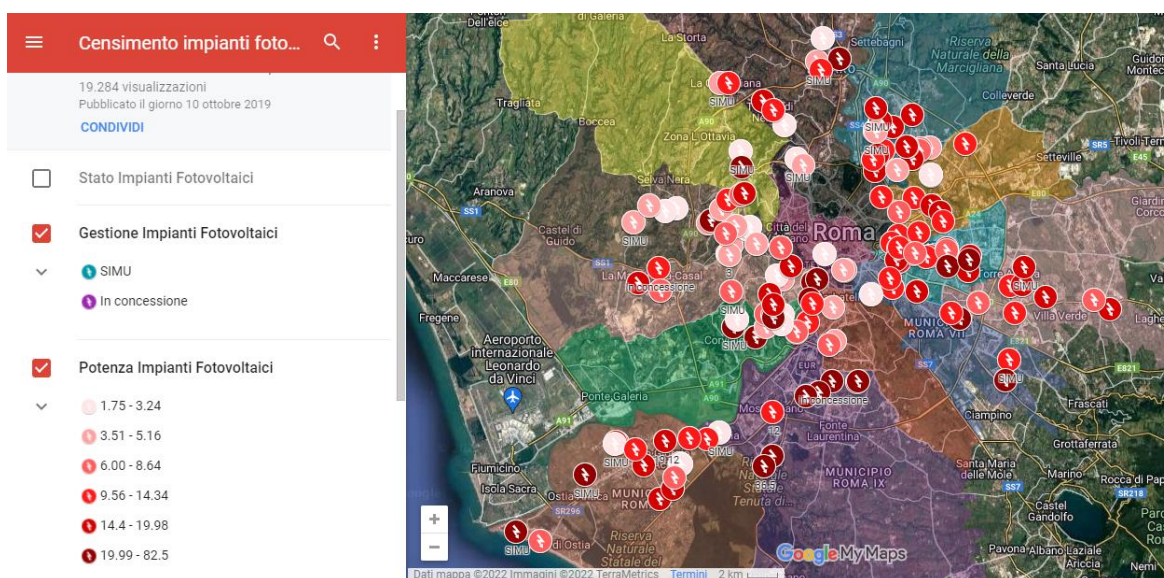


Figure 12: Distribution of PV plants on municipal roofs by Peak Power

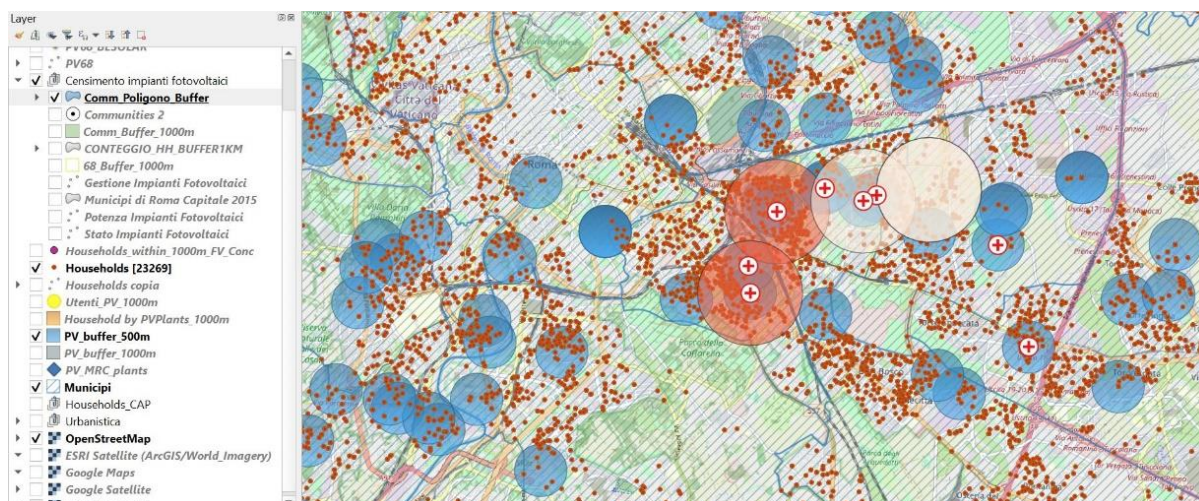


Figure 13: GIS analysis of Energy Poverty households being within 1 km from the 12 pre-selected municipal PV plant

In the following table 13, the pre-selected 14 PV plants are aggregated into 10 Sun4All Energy Communities, since for every two communities the PV plants on the roofs will be two within the same perimeter.

NUM	Public activity	Year built	Address	Municipality	Public Incentives (C.Ener)	S4A Communities	potential beneficiaries (n)	kWp	Modules	Inverters	estimated yearly production (kWh)
1	School IC Manzi	2013	Via Del Pigneto 301	5	4	2	21	10,56	n. 44 da 240W	n. 2	13728
2	School IC Via Anagni	2013	Via Anagni 48	5	4	7	21	10,56	n. 44 da 240W	n. 2	13728
3	School IC Via Pirotta	2013	Via P. Romualdo Pirotta 95/A	5	4	1	29	14,4	n. 60 da 240W	n. 3	18720
4	School IC Via Pirotta	2013	Via P. Romualdo Pirotta 95	5	4	1	11	5,28	n. 22 da 240W	n. 1	6864
5	School IC Via Casale Del Finocchio	2013	Via Del Casale Del Finocchio 56	6	4	3	36	18,24	n. 76 da 240W	n. 3	23712
6	School Scuola M. Amulio	2013	Via Amulio 4	7	4	8	23	11,472	n. 48 da 239W	n. 1	14914
7	School IC C. Battisti	2009	Piazza Damiano Sauli 1	8	2	11	10	4,84	n.22 da 220W	n. 1	6292
8	Kindergarten Monelli	2010	Via G. Casalinuovo 32	8	2	11	8	4,025	n. 23 da 175W	n. 2	5233
9	Municipality VII town hall	2011	Via Benedetto Croce 50	8	3	11	11	5,32	n. 24 da 220W	n. 3	6916
10	Primary School	2009	Via Salvatore Pincherle, 142	8		10	40	11,88		n. 6	15444
11	Primary School Ghiglia	2013	Via Oscar Ghiglia	10	4	4	38	19,12	n. 80 da 239W	n. 1	24856
12	School Felce	2013	Via Della Felce 19	10	4	5	38	19,12	n. 80 da 239W	n. 1	24856
13	School IC Herzl	2013	Largo Theodor Herzl 51	10	4	6	38	19,12	n. 80 da 239W	n. 1	24856
14	School IC. M.U. Traiano	2013	Via Di Dragone 404	10	4	9	38	19,12	n. 80 da 239W	n. 1	24856
	School IC. M.U. Traiano	2013	Via Di Dragone 405	10	4	9	38	19,12	n. 80 da 239W	n. 1	24856
						10	401	192,177			249830

Table 13: List of the 14 pre-selected PV plants, with Peak Power, Energy yearly production, number of households member of each potential Sun4All Energy Communities

For illustration, one of such schools may be the Renzini school (see Figure 13), which is a pilot in the project Platoon - H2020 aimed at monitoring the energy flows of the building. This will facilitate the measurement of the excess production over self-consumption to be allocated to the Sun4All project.

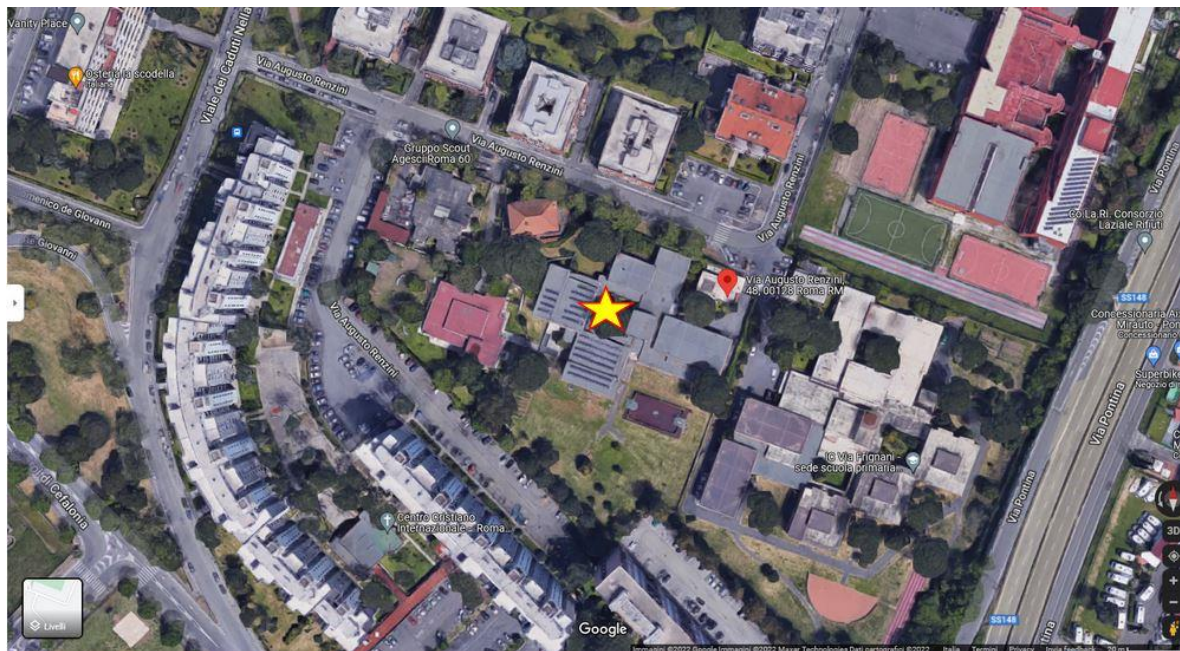


Figure 14: Istituto comprensivo Renzini: school, 1 PV plant 20,1 kWp, 40 potential beneficiaries

When the Open Call for selecting beneficiaries will close, the PV plant list may change to better respond to the proximity requirements between end-users and plants. The table will therefore be updated accordingly in M12.

6.2. Financial Scheme of User Benefits

The financial scheme in the city of Rome will be organized around the constitution of ten separate energy communities, with the support of GSE and SGAtE. ACEA-ARETI DSO will be responsible for the management of the data flow monitoring both energy generation and the consumption bills of beneficiaries. These data will be key to providing financial remuneration to end-users and keeping them updated and engaged with the solar installations (discounts, REC membership, and services foreseen in the Sun4All pilot).

The Rome pilot will select a third party, which is likely to be a non-profit organization, to act as an “intermediary” between the municipality and the end-users/beneficiaries. The municipality will collect the monetary benefits from the RES plants, and transfer these to the Third Party once per year. With this revenue, the third-party will then provide adequate benefits (public transport discounts, vouchers, low-carbon devices such as bulb lamps, discounts for EE devices, etc.) to the beneficiaries of the project. The corresponding value of the benefits delivered to the households will be around 20 euros per month, and the added value will derive from the low carbon impact criteria in the selection of the specific benefits.

6.3. Involved Stakeholders

All the involved stakeholders – institutional, technical, educational, third sector and civil society – will contribute to the engagement of households, paying specific attention to the

needs of the energy-poor, and to the importance of empowering them to be active actors in the energy transition.

Stakeholder	Stakeholder category	Specific Role	Other roles related to the implementation	When to be involved (MX+ MY...)	How to be involved (meetings, workshops, webforms coms, phone, etc)
Vulnerable households	Citizens	End users / Beneficiaries	10% of them turn into Mentors	M10	Call for participants + series of Meetings.
ARETI	Publicly owned utility	DSO of Rome, implementing bill discount benefit (see UC01)	Support the pilot (LOS). Key stakeholder for communication (through bills addendum) and replication (eventually as an investor on new RECs).	M8	Institutional Meetings Workgroup
FEDERESCO	Italian ESCOs association	Replication (see UC04) involving ESCOs as investors;	FEDERESCO supports the pilot (LOS): is a non-profit association promoting the culture of energy efficiency and the EPC model; Carry out a visit to other PV installations	M12	Meetings + Workshops
Vendors (ENEL, ACEA Energia, Edison, ENI, ...)	Energy utilities	implement bill discount benefits through DSO (see UC01).	Key stakeholders for communication (through bills addendum) and replication (eventually as an investor on new RECs).	M12	DSO relations
Students at selected schools and their families	Citizens	REC beneficiaries, formal-informal participants	Promoting the energy community; extending participation; replication	M10	Meetings + Workshop in the schools
Personnel of the selected schools	Educational	Promoting the project inside the schools	Supporting the PV plants visit on the roof of their schools	M10	Workshops/web and paper communications

hosting PV plants					
GSE Gestore dei Servizi Energetici -	RES and Energy Efficiency incentives public authority	Support and accelerate the creation of formal REC managed by public entities and give access to incentives	Support the pilot (LOS). Key stakeholders for implementation of the REC schemes; replication at a national level.	M10	Meetings + Workshop
OIPE Osservatorio Italiano sulla Povertà Energetica	Research centre	Analyse energy poverty by collecting/supplying data	Discussion on good practices to combat energy poverty	M10	n.2 Workshops
RESS – Rete Economica Sociale e Solidale	Network of operators in RES and RECs	Promoting the project within the energy efficiency sector to attract new investors for RECs	Key stakeholders for replication at a regional and national level. Eventually, visit PV plants	M10	Meetings
Grass-root associations and Churches (To be Contacted)	Socio-Territorial animation Key-players	Mobilizing the beneficiaries and extending the local participation	Promoting and supporting the creation of formal REC for replication	M10	Local meetings/web initiatives / social networks
FREE Energia	Energy Efficiency Association (3000 operators at national level)	Promoting the project within the energy efficiency sector to attract new investors for RECs	Support for the pilot (LOS). Key stakeholders for replication at a regional and national level. Eventually Visits PV plants	M12	Meetings
NEXT	Policy consultancy focused on the social aspects of energy and climate transitions.	Key stakeholders for policy advocacy, assessing the role of Municipality in formal RECs	Support for the pilot (LOS): replication and scalability.	M12	Meetings + Workshop

Table 14: Involved Stakeholders at Rome Pilot

6.4. Data Management and Protection

According to Article 4 of the GDPR Legislative Decree n.101 10th August 2018, the data processing means the performance of any operation or set of operations concerning the management of personal data. For the project of Sun4All, data management shall adhere to the principles of lawfulness (a legal basis that justifies the processing of data), correctness, and transparency, which are fundamental tenets of the processing and protection of personal data.

The GDPR of the pilot also provides that the processing must be adequate, relevant, and limited to what is necessary concerning the purposes for which it is carried out (principle of data minimization) and take place in compliance with the principles of integrity and confidentiality to guarantee data security.

The processing of personal data in public administrations is considered lawful if at least one of the following conditions is met (Article 6 of the GDPR):

- a) The interested party has consented to the processing of their data for one or more specific purposes.
- b) the processing is required for the performance of a contract to which the interested party is a party or the performance of pre-contractual measures taken at the request of the same;
- c) the processing is required to fulfil a legal obligation imposed on the Data Controller;
- d) d) the processing is required to protect the data subject's or another natural person's vital interests;
- e) e) the processing is required for the performance of a public interest task or is related to the Data Controller's exercise of public authority.

As an independent holder of the processing of personal data, Roma Capitale will be obliged to prepare adequate information to be provided to the interested parties/beneficiaries.

Regarding the possibility of carrying out the collection of personal data through a Third Sector Entity affiliated with Roma Capitale, it would be mandatory to sign a letter of appointment of the Data Processor according to art. 28.

The Data Controller and the Manager must identify the appropriate security measures (eg: minimization and pseudonymization) for data protection, as well as implement adequate technical/organizational measures to ensure that, by default, only the personal data necessary for each specific purpose of the processing is disclosed.

Finally, the Data Controller and Manager shall be obliged to prepare and keep a register of the processing activities carried out under their responsibility, which will constitute an overview of the processing of personal data carried out within the functional organization as well as the data treatments that present particular risks for the rights of the data subjects.

6.5. Beneficiaries: Selection, Communication and Response to Feedback

The communication will be managed in synergy between the Department of Social and Health Policies of Roma Capitale and third sector companies operating in the selected areas. A consent form will be shared with beneficiaries for the proper data collection and management, then flyers will be sent, as well as the pilot pre-selection questionnaire addressing selected subjects via mail and WhatsApp. Moreover, the selected subjects will be asked for their availability for a telephone appointment in the slots indicated in the questionnaire. The following table 15 shows the planning of these activities.

WHO	WHAT	WHEN
Roma Capitale RCP	Verification of the methods of processing the personal data of the selected subjects who will be contacted for the administration of the questionnaire and possible engagement	M10
Roma Capitale	Processing and delivery of a list of chosen subjects, including name and surname, address, phone number, and e-mail address (if available).	M11
Sapienza	Preselection criteria: Georeferencing of the 400 potential beneficiaries and assignment to the PV system / school	15 th September M12
Roma Capitale Sapienza Third sector, grassroots municipality stakeholders	Processing of lists of beneficiaries for telephone contacts. Groups can be divided according to proximity to the PV system/school.	15 th September M12
Roma Capitale- Sapienza	Social channel, WhatsApp, dedicated email opening	15 th September M12
Roma Capitale Sapienza Third sector, grassroots municipality stakeholders	Consent form, sending flyers, pilot pre-selection questionnaire Rome, via WhatsApp to the preselected 400 subjects with a request for availability by telephone appointment in the slots indicated in the questionnaire.	15 th October M12
Roma Capitale Sapienza	Subsequent elaboration of lists for the selection of the 200 beneficiaries.	30 th Sept- 15 th Oct M12

Table 15: Preselection beneficiaries' activities

Along these lines, Roma Capitale website will publish a map of the Sun4All communities and PV plants.

6.6. Action Plan

To respond to environmental and energy crises, bottom-up responses in new forms of energy management, self-production and sharing are most urgent. In this context, the organisation of energy communities for the sharing of renewable sources is an opportunity for all civil society components to boost innovative actions based on solidarity and knowledge.

Rome Sun4All Pilot wants to start a path in this direction, involving many social actors, networks, associations, local entities and citizens to encourage the processes of creation of energy communities based on solidarity.

With this approach, the information and training initiatives will ultimately aim to improve the living conditions of beneficiaries who belong to the section of the urban population of Rome in conditions of energy poverty. Participation as active users in Sun4All Communities, and even more in a formal REC, is thus a valuable way to activate, through targeted engagement activities, virtuous and conscious behaviours towards energy sustainability.

The Rome Pilot through its activities intends to implement some relevant policies of the SECAP recently approved by Roma Capitale:

1. Energy poverty mitigation measures: in collaboration with the Observatory on energy poverty (OIPE) as foreseen by the Integrated National Energy and Climate Plan (PNIEC).
2. Development of the Energy Communities, open, inclusive, solidarity-based.

The Sun4All Rome pilot is structured to implement the following tasks:

1. Preselection criteria: Georeferencing of the 400 potential beneficiaries and assignment to the PV system / school.
2. Selection of 200 beneficiaries/end-users through a procedure for selection beneficiaries coordinated by the DPSS of RCP.
3. Promotion and citizen engagement: activities carried out by experts, with competencies in socio-territorial animation.
4. Energy Poverty definition and monitoring (KPI).
5. Communication addressed to beneficiaries and other new participants.

In the final phase of the project, the experience accumulated by all local partners and stakeholders will enable the replication process in other areas or cities.

Rome pilot

Select a period to highlight at right. A legend describing the charting follows.

Period High 1

Plan Duration

Actual Start

% Complete

Actual (beyond plan)

% Complete (beyond plan)

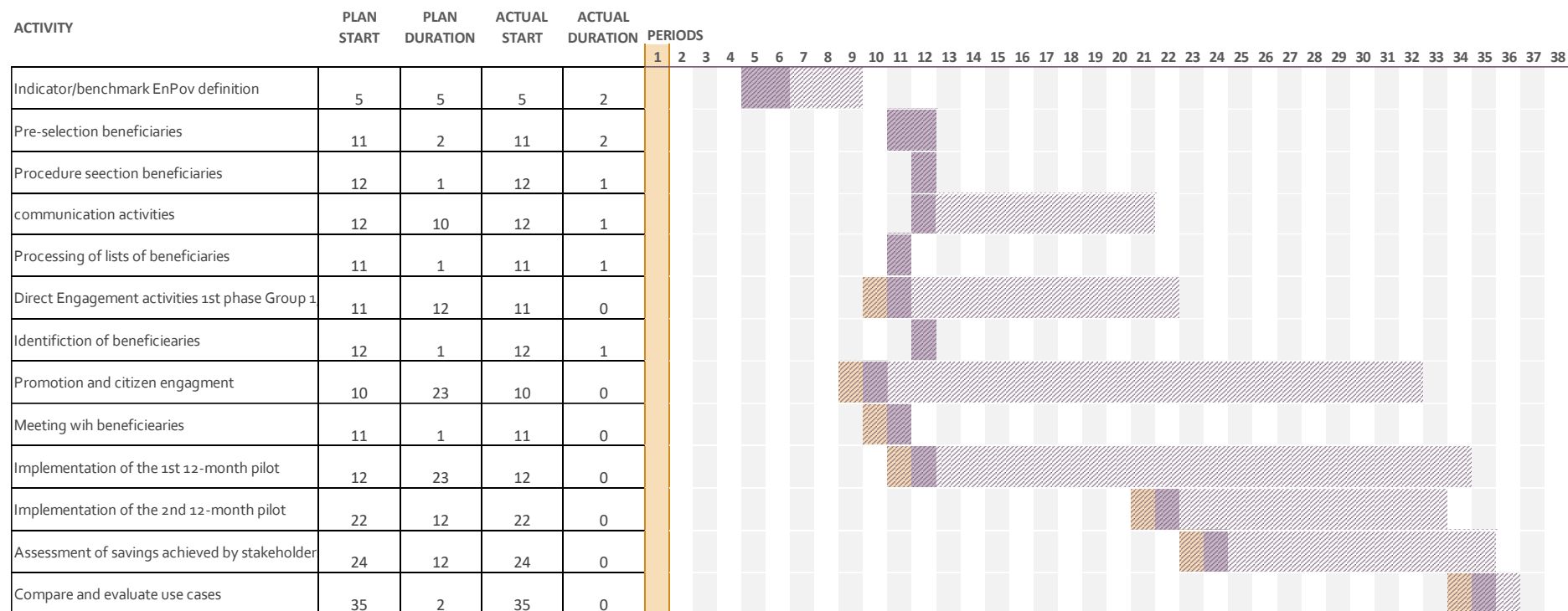


Figure 15: Gantt Chart for Rome Pilot

6.7. Risk Management

The following table shows the risks for the implementation of the project activities and the mitigations foreseen.

RISK	MITIGATION
Possible delay due to slow administrative procedures resulting in difficulties with the management of the second-year cycle of the pilot	First-year Open Call extended to more end-users (200 in total) to avoid a second Open Call in the second year.
End user's early exit from the project	Possibility of adding new end users from the list of those eligible by the call launched by RCP
Difficulties in turning beneficiaries into Mentors	If few Mentors will be available their team will be integrated with volunteers (proposed by DPSS) and/or animateurs and/or experts from SAP

Table 16: Risks and mitigation on Rome Pilot

7. Conclusions of Implementation and Next Steps

The elaboration of implementation plans for Sun4All has specified and programmed the identification and management of energy generation installations, the financial scheme established to compensate project participants, the selection and methods of communication with beneficiaries, and the plan of action for each pilot, together with their risks. These plans have produced diverse results, depending on the geographic, population and legal characteristics of each site. Given this variation, and the need to mitigate the risks specified above, the information detailed in this deliverable may be modified in subsequent deliverables and work packages.

The lessons learnt from the development of this deliverable shall inform and guide the replication of the Sun4All model in Work Package 5. Therefore, this deliverable will be able to promote a smoother and more effective scalation of Sun4All's format to promote both affordable, inclusive, and renewable energy generation in Europe.

All pilots identified as key for sustained engagement, and for the raising of energy literacy, the geographical closeness of renewable energy generation plants, and the housing location of participants.

The closeness and in-person interaction between participants themselves, as well as between Sun4All officers and beneficiaries was likewise stressed as key for community-building, and for the consolidation of a sense of entitlement, belonging and of energy citizenship. As such, the CCCS pilot, whose population is rural and geographically dispersed, faces higher barriers to engagement and community-building, than may a priori do its urban, population-dense counterparts in Barcelona, Almada and Rome.

Furthermore, the decisiveness of a close understanding of each national legal framework has been remarked by all pilots. Since energy communities and self-consumption are still relatively new phenomena, their regulation is still being revised in many European countries. As such, its monitoring will be equally crucial.

Finally, the establishment of operationalizable, straight-forward financial schemes has been singled out as highly complex. The implication of multiple public and corporative entities, as well as consumers may require additional juridical advice. It is also worth stressing that both national regulations, and the involvement of third parties such as DSOs or energy utilities shall have an effect in shaping the possibilities of compensating beneficiaries through either fixed or variable rates.

Overall, this deliverable will serve as a base guideline for the implementation of the pilots in WP4. Additionally, it shall contribute to the establishment of best practices in the replication of Sun4All, or in the development of analogous models.

