Monitoring Report on implementation

Sun4All D4.1 | September 2023

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Abbreviations and Acronyms

ACRONYM	DESCRIPTION
CoP	Community of Practice
DGEG	National Energy and Geology Directorate
DMP	Data Management Plan
DSO	Distribution System Operator
FCL	Federconsumatori Lazio
FTS	Forum Terzo Settore
GA	Grant Agreement
GDPR	General Data Protection Regulation
HERB	Holistic Energy Efficient Retrofitting of Residential Building
IEPAW	International Energy Poverty Action Week
IEA	Individual Energy Advice
IMHAB	Municipal Institute of Housing and Renovation
M	Month
MS	Milestone
OPAC	Public Planning and Construction Office
OPAH	Housing improvement program
PM	Person-Month
RECS	Solidarity Renewable Energy Communities
RECs	Renewable Energy Communities
RMP	Risk Management Plan
SEDIA	Single Electronic Data Interchange Area
SO	Specific Objective
SOLIHA	Solidaires pour l'habitat
SPD	Social Policies Department
Sun4All	Eurosolar for all: energy communities for a fair energy transition in Europe
WP	Work Package
WPL	Work Package Leader

Executive summary

The aim of the Sun4All project is to experiment with the implementation of energy communities for an equitable energy transition in Europe, by lowering the energy bills of the beneficiaries and empowering them to tackle energy poverty. The project started in October 2021, with implementation scheduled to start by Summer 2022 in the 4 areas of, Barcelona (Spain), Coeur de Savoie (France), Almada (Portugal), and Rome (Italy).

A year after the tests began, in September 2023, the 1st pilot phase is underway and has great achievements. Many activities have been carried out with beneficiaries or beyond and the first households have started benefitting from photovoltaic installations to reduce their energy bills, directly or indirectly. Still, the total number of 50 households per pilot for the 1st pilot phase has not yet been reached in all cities. The administrative processes, in particular the validation of the collective self-consumption system, took time, as the public authorities were often unaccustomed to them. The technical problems associated with plant installation also represent a difficult task for some of the partners.

The second piloting phase has just begun. The partners are doing their best to catch up on any delays from the first piloting, thanks to the experience gained so far. The pilot cities are still facing some challenges, especially regarding the mentoring activities and the motivation of the beneficiaries.

To monitor challenges and successes, but also to help find solutions to problems encountered by the pilot cities, INES and Ecoserveis regularly follow-up on the implementation through meetings and workshops. They are supported in this by the impact assessment carried out by the University of Stavanger, whose first results confirmed that a large majority of the selected beneficiaries are facing energy poverty.

The lessons learned here will be useful not only for the rest of the project that will end in September 2024, but also to foster a sustainable replication of the defined schemes.

1. Introduction

The Sun4All project is testing a scheme across the EU to help vulnerable households access renewable energy, while reducing their energy bills and empowering them to tackle energy poverty.

The project is scheduled to run for 3 years, with experimentation in 4 cities/regions, Barcelona (Spain), Coeur de Savoie (France), Almada (Portugal) and Rome (Italy). The 1st year was dedicated to the building of the pilots' models and of the organisation of the project. The implementation of the 1st piloting phase in the 4 cities started at the beginning of the 2nd year, in Summer 2022. Then the 2nd piloting phase was planned to start by Summer 2023.

An intermediate status of the pilots' implementation was thus relevant to be done in September 2023, after the 1st year of implementation and testing in each city and at the beginning of the 2nd piloting phase.

This document is therefore a monitoring report on the implementation of the Sun4All project. Its purpose is to describe the progress of the implementation, to summarize the main achievements and issues, as well as the most significant results. This first analysis permits to draw the lessons learned and to list the next steps, together with good practices both useful for the 2nd piloting phase and for Community of Practice Observer's Group members, who are currently working in the definition of their implementation plan of the Sun4All scheme.

This monitoring report is updated at the date of September 2023. It is worth mentioning that, by the time this report is written the 1st piloting phase has not fully finished in all pilot cities. Due to the contextual circumstances of each region, some timeline adaptations had to be done to guarantee the successful implementation of the different schemes being tested.

2. Methodology

2.1. Reminder of the objectives of the project

The testing period in the 4 pilot cities was scheduled to run from August 2022 to June 2024, divided into two piloting phases for each city.

The cities aimed to activate Sun4All by engaging 1.200 vulnerable consumers and reaching more than 7.200 vulnerable consumers.

For each Sun4All Pilot phase (12 months)	During the Sun4All pilots' time (after 24 months and 2 pilots)
50 vulnerable households as beneficiaries 150 vulnerable consumers engaged 750 vulnerable consumers involved	100 vulnerable households as beneficiaries 300 vulnerable consumers engaged 1.500 consumers involved 30.000 citizens reached
25kWp of PV dedicated to the project	

Table 1: Summary of the project's quantitative objectives

The implementation in the pilot cities is regularly monitored during follow-up meetings according to:

Targets	Goals per pilot and per city
# Households recruited	50 households (150 consumers) *
# Individual energy advice sessions	>= 1 session / household*
# Workshops	12 workshops *
# PV plant Visits	2 visits *
# Mentors recruited	25 mentors
€ how much aid the beneficiaries receive	No defined target
kWp Power from PV dedicated to the project	25kWp - 0,5kWp/b
€ Investments in sustainable energy	190.000 € investments in sustainable energy for all pilots

Table 2: Monitoring table for pilot objectives

** During all the 1st pilot: 750 vulnerable consumers must be involved per city, whatever is the mean (visits, workshops, information…)*

2.2. Evaluation of the pilots

Evaluation actions were led by the University of Stavanger and are an ongoing process. The objective is to assess the impacts of the project and especially:

1) its contribution to tackle energy poverty,
2) its capacity to facilitate behavioural change amongst participating households,
3) and its contribution to the empowerment of participating households.

The methodology of the impact assessment process, is based on three main components:

1) **Quantitative analysis:** data collected through questionnaires distributed to participating households as they join the project (Q1) and after several months of having joined the project (Q2).
2) **Qualitative analysis:** interviews conducted with volunteer households and project members.
3) **Context analysis:** public statistics collected at the neighbourhood/district level and at the city/region level.

At the moment, due to the different implementation timeline of the different pilot cities, the distribution of Q1 is ongoing in the different pilots for Phase 1 and Phase 2.

The collection of qualitative data has also started, with four interviews conducted with volunteer households in the Communauté de Communes Coeur de Savoie and six interviews conducted with volunteer households in Almada. Interviews with volunteer households in other pilot cities are planned in coming months.

Almada	6 interviews conducted in June 2023 (during Consortium meeting)
Rome	To be conducted in February 2024 (during Consortium meeting)
Barcelona	To be conducted in October 2023
CCCS	4 interviews conducted in January 2023 (during Consortium meeting)

Table 3: Number of interviews conducted in each pilot as of September 2023

2.3. Internal control plan

To monitor the implementation, a first meeting occurred in July 2022, mostly to recall the objectives of the implementation and agree on a mode of coordination. The purpose of the 1st meeting was to detect and fix the implementation challenges and to share each pilot cities' experience. A second meeting took place in September 2022.

A progress update was presented at the Cœur de Savoie Consortium meeting in January 2023 and also during the Consortium meeting in Almada in June 2023.

Moreover, monthly follow-up meetings were organised between the project pilots and INES (the implementation coordinator), in a way that every pilot could update the status of the achievements of all the quantified goals, explaining also what the achievements or satisfactions are, the main challenges and risks, and also the planned solutions and the next steps. These meetings are essential to share the good practices and questions between consortium partners and to appreciate the main achievements to keep moving forward.

It is worth noting that the status of the impact assessment is also presented and discussed during each meeting if necessary.

It is planned to hold follow-up meetings every month or so until the end of the project.

3. Status and analysis of the implementation

In this section, the results for each pilot city are presented, dated from the beginning of September 2023. Note that a short description of the model is given as an introduction of each pilot cities, but the full description of the model can be found in the project website https://sunforall.eu. The aim here is to present progress and results. The next steps, the risks and lessons learned conclude each pilot city overview.

3.1. Sun4All in Barcelona, Spain

3.1.1. The 1st Pilot implementation

Description of the 1st pilot model:

The first year's model is based on shared self-consumption in two social housing blocks managed by IMHAB (Municipal Institute of Housing and Renovation).

Sun4All beneficiaries consume energy from a solar photovoltaic system on their own roof. Until now, photovoltaic energy has only been used for the lift and staircase lighting. Beneficiaries will see the benefits directly on their bill, as the production of solar energy means a reduction in consumption on the electricity grid. In addition, surplus energy is purchased by the electricity company, which also has an impact on the electricity bill.

First year model overview:

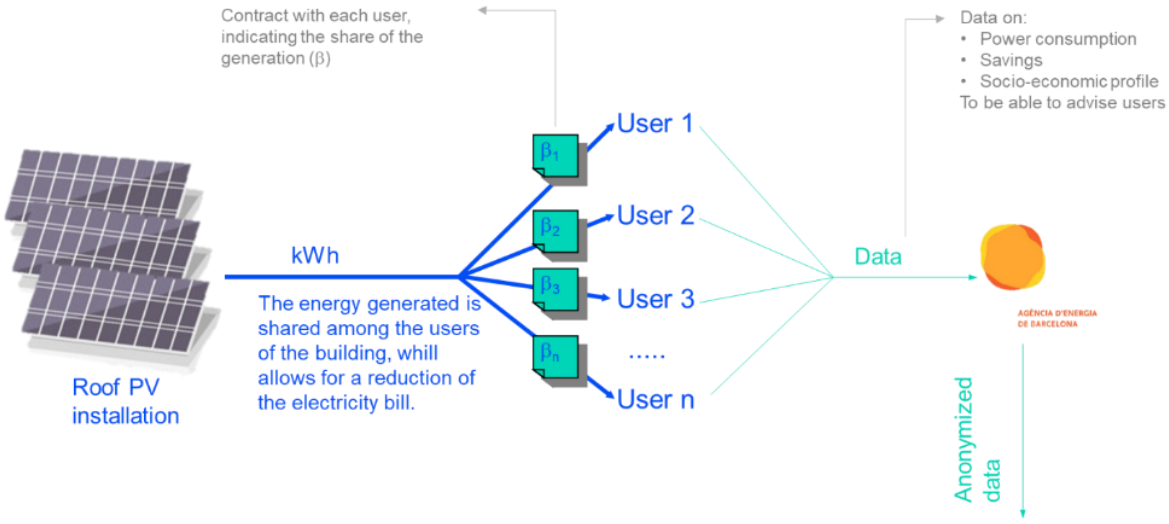

Figure 1: Barcelona 1st pilot scheme

Two buildings are part of the 1st pilot. The "Borrell" building (1st IMHAB building) is located in Eixample district and has been in use since 2021, when different families from Barcelona started living in 35 dwellings. All of them signed the documentation needed to participate in Sun4All. The "Borrassà" building (2nd IMHAB building) is situated in Sant Martí district. Beneficiaries started living in these buildings in March 2023, so the recruitment process has been different, and Sun4All's role started earlier in order to speed up the procedures.

Results of the 1st pilot:

Concentrated in two buildings, 76 households were recruited for the first pilot project in Barcelona, more than the 50 planned for the project. Several workshops and visits of PV installation have already been carried out. Seven mentors are recruited so far. This is significant progress towards all these objectives at this stage of the project. However, it has been a long process, in human resources and time, to validate the self-consumption model with some utility companies, as it is relatively new in Spain. This problem delayed implementation, and it was difficult to maintain the motivation of the beneficiaries who had not seen their first reduction in their energy bill yet. Finally, the last issue to be resolved is that users are not receiving their bills because of a problem with the electricity company. So, while the self-consumption is now properly activated the beneficiaries are not seeing the results in their electricity bill.

The results of the implementation at the beginning of September 2023 are detailed in the following tables:

- **Status of the 1st pilot (Building1) at a glance: Quantified Goals**

  Start of the 1st pilot: 01/09/2022

Targets	Ongoing results In date of 05/09/2023	Goals / pilot / city (Total 1st year)
# Households recruited	35 households	50 households (150 consumers)
# Individual energy advice sessions	First energy advice sessions done at the end of the Bill Optimisation Workshop. Continuous energy advice to manage the activation of Self-consumption.	>= 1 session / household
# Workshops	3 workshops. 1st workshop on Bill optimisation (October 2022); 2nd workshop on Energy Efficiency at Home and Energy Kit (May 2023); 3rd workshop on Self-Consumption (June 2023). Energy Kits: 31 energy kits have been delivered.	12 workshops
# Visits	4 visits. One visit with beneficiaries during the recruitment session (June 2022). Three visits for citizens to the PV installation. (October 2022, November 2022, June 2023).	1 visit
# Mentors recruited	7 mentors recruited.	25 mentors
€ how much aid the beneficiaries receive	Users are not receiving invoices due to a problem of the utility company. Therefore, the savings cannot be quantified yet.	No defined target
kWp Power from PV dedicated to the project	11,76 kW.	25kWp
€ Investments in sustainable energy	24.867 € (excluding VAT).	190.000 € investments in sustainable energy for all pilots

Table 4: Status of the 1st pilot (Building1) in Barcelona - Quantified Goals

- **Status of the 1st pilot (Building 2: Borrassà) at a glance: Quantified Goals**

  Start of the 1st pilot: 31/03/2023

Targets	Ongoing results In date of 05/09/2023	Goals / pilot / city (Total 1st year)
# Households recruited	41 households (out of 47).	50 households (150 consumers)
# Individual energy advice sessions	Continuous energy advice to manage the activation of Self-consumption.	>= 1 session / household
# Workshops	3 workshops for beneficiaries. 1st workshop on Bill optimisation (June 2023); 2nd workshop "TO Sustainable House" (June 2023) 3rd workshop Energy Efficiency at Home + Energy Kit (August 2023). 1 workshop for citizens. 1st workshop Children activity building a solar house kit (August 2023). Energy Kits: 21 energy kits have been delivered.	12 workshops
# Visits	One visit with beneficiaries during the recruitment session (March 2023).	1 visit
# Mentors recruited	5 mentors recruited.	25 mentors
€ how much aid the beneficiaries receive	Users are not receiving invoices due to a problem of the utility company. Therefore, the savings cannot be quantified yet.	No defined target
kWp Power from PV dedicated to the project	24,75kWp.	25kWp
€ Investments in sustainable energy	33.344 € (excluding VAT).	190.000 € investments in sustainable energy for all pilots

Table 5: Status of the 1st pilot (Building 2: Borrassà) in Barcelona - Quantified Goals

- **Qualitative Follow-up in date of 05/09/2023:**

Topics	Achievements / satisfaction	Main challenges and risks	Solution to the challenges & Next steps
Households' recruitment	B1: All households decided to participate in the pilot, it was a great success. 35 out of 35. Informative session done in June 2022. B2: Informative session done in March 2023, and 21 beneficiaries signed (47 households). After this session more 20 participants joined the project after individual calls and visits during following months.	Administrative procedures taking too long. Issues with electricity bills.	Keep up with the workshops and incentives, plus a constant direct contact with beneficiaries.
Individual energy advice sessions	Lots of interest. Many families approached us before the sessions.	It is a new, energy efficient building, with new efficient appliances. Many of the usual energy advice or "low hanging fruits" in terms of energy efficiency do not apply. The users might not find the energy advice sessions as useful. Finish bureaucracy with utility for sharing energy.	We focused on energy use rather than energy efficiency.
Activities (workshops & PV visits)	Information detailed specific in for B1 and B2 in previous tables.	Keep beneficiaries engaged and motivated with the project. Delay with sharing energy. A lot of processing to be able to activate self-consumption, and some families become unmotivated.	Periodic contact between Ecoserveis and beneficiaries to maintain the bond of trust.
Mentors	Selection was carried out during workshops in B1 and B2.		
Technical & Financial model	IMHAB (Barcelona Housing Institute) highly interested, as this is the first public "energy community" with citizens.	Costly process (in human resources and time) to solve all bureaucracy with some utility companies.	The procedure for establishing shared self-consumption is relatively new in Spain, and all stakeholders are still in the process of adapting procedures. It is expected

		In B1 the energy shares for the beneficiaries are rather modest.	to become increasingly straightforward. Make clear to the beneficiaries that there are a number of other benefits for participating in Sun4All (personalized energy advice, energy kit, and the possibility to attend a number of workshops within a community plan that will allow them to improve their energy literacy).

Table 6: Qualitative Follow-up of the 1st pilot in Barcelona

3.1.2. Pilot risks and next steps

Challenges and risks

To wrap up, the main **challenges and risks** identified during this period by the Barcelona pilot are:

- Main problems were the necessity to get signatures with no errors to create sharing agreement accepted by utilities, all of them with different procedures and document demands. Validation procedures with beneficiaries were also complicated and different depending on the utility company.
- Maintain trust bounds with all the beneficiaries and keep them motivated with the project, which is basic to be successful in future workshops and activities planned for Sun4All.
- Beneficiaries suffering a delay of the reception of the upcoming bills, since DSO (Distribution System Operator) companies are not yet capable of reading electricity meters in self-consumption models and providing this information to the utility companies for generating invoices.

Furthermore, it is believed that lessons learned in the first year will help to reduce these risks, as main problem is bureaucratic bottleneck caused by utility procedures and they are already known and overcome once.

Next steps:

- To maintain trust bounds, the main solution is to solve the problems with utility companies as quickly as possible and to be open to talk to all the beneficiaries to solve any doubts they may have. Also, as economic model and community plan flows, benefits must be clear.

- Ecoserveis will monitor carefully upcoming bills to detect these cases and proceed with corresponding communication to utility companies.
- For the mentoring programme, the most motivated 1st year pilot beneficiaries are being recruited to mentor 2nd year pilot beneficiaries. This mentoring will focus on 3rd building beneficiaries in Nou Barris district, as they have experience similar timings in the process, by living some months in their new social dwelling before the Sun4All engagement process started.
- Finish to recruit beneficiaries and to activate their self-consumption scheme.

Good practices / Achievements to share

- **Good practice 1:** A trustful relationship has been built with the users, with a designated person accompanying them throughout the entire process.
- **Good practice 2:** Providing small incentives like the energy kit and flyers with energy efficiency tips has proven to be effective in maintaining commitment throughout the process, especially considering the exceptionally lengthy activation process of the photovoltaic generation.
- **Good practice 3:** Providing relaxed spaces (such as a casual snack break) where neighbours can talk to each other and with project leaders, helps create a relaxed sense of community.
- **Good practice 4:** Basing the engagement strategy on active listening to the beneficiaries, for instance, the energy-saving kit provided to them was designed considering what they indicated they needed.

Lessons learned from implementation

- The process with the utilities was slower than expected. It is important to bear in mind that when a third party is involved, they have their own constraints which can lead to delays. It is therefore important to anticipate these difficulties by thinking about how to keep beneficiaries motivated if they have to wait through the bureaucratic process.
- Some of the lessons learned are related to the self-consumption activation procedure. Being a relatively new process in Spain when the project began, we encountered initial difficulties because the procedures were still being established by all involved parties. Currently, we still face the issue that users with activated self-consumption are not receiving bills, which is a global problem, not just specific to the project.
- A lot of time has been saved in the second IMHAB building, which has welcomed new tenants. On their arrival at the dwellings, IMHAB took the opportunity to immediately inform the families about the information session of the project. Some of the documents needed to legalise self-consumption were also signed at the same time.

3.2. Sun4All in Communes du Cœur de Savoie, France

3.2.1. The 1st Pilot implementation

Description of the 1st pilot model:

The first pilot is not about sharing energy but more on redistribution of the benefits of energy selling from Coeur de Savoir existing solar power plants.

Two use cases and financial scheme are implemented in the frame of the Sun4All project in the Communauté de Commune de Coeur de Savoie. From the 5 PV installations, the energy produced and sold to EDF-OA generates incomes. Once maintenance and credit are paid, profits are used to finance subventions to vulnerable households (in any case, there are no PV shares distributed).

- The first use case, called «J'écorénove», concerns vulnerable owners renovating their home. They get 400€ to 600€ (as a one-time subsidy) to help them change their isolation or heating system allowing them to save on energy bills on a long-term perspective.
- The second use case, called «Eco'énergie», is dedicated to even more vulnerable households, tenants or vulnerable owners, who get an "energy free advice session" at home to help them make long-term energy savings and therefore on energy bills. They also get a 200€ subsidy/grant (as a one-time subsidy) to help them paying energy bills.

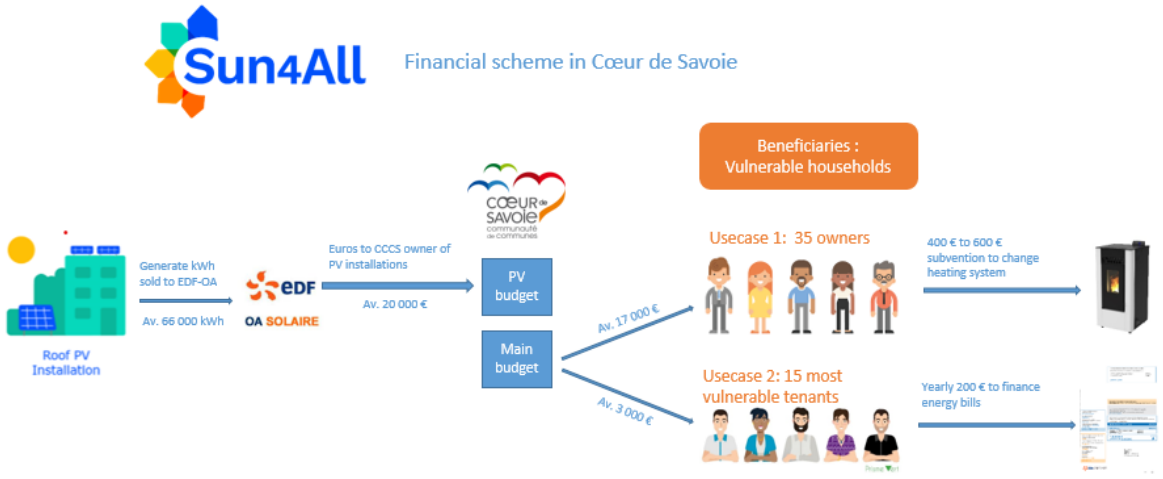

Figure 2: Cœur de Savoie 1st pilot scheme

The individual sessions vary, depending on the use cases. Sessions are organized:

- By SOLIHA staff at beneficiaries' home, as "energy management at home specialist" for the use case called "Eco'énergie".
- By SOLIHA staff at beneficiaries' home, as "renovation specialist" for the use case called "J'écorénove". This use case is applied when the household renovates at least 2 aspects (insulation and heating system, for example) to achieve +35% energy savings.
- By Coeur de Savoie / Sun4All staff for beneficiaries that are renovating only 1 aspect. It is done by phone or making a visit to their home, if necessary.

The comprehensive OPAH (Local Programmed Operation for Housing Improvement) programme, which deals with all housing problems, was not planned in the beginning of the project, it was later decided by the political leaders of the CCCS, during summer of 2022 and launched in mid-October of the same year. This was a valuable opportunity to create a synergy for the implementation of Sun4All in the field. The third party recruited was SOLIHA, which deals mainly with renovation projects for vulnerable households in the regions and with crucial social issues.

In addition, to make contact with beneficiaries, SOLIHA staff take part in the Sun4All process by carrying out the following tasks:

Use case 1: J'écorénove	Use case 2: Eco'énergie
For complicated renovation cases: (15/year) • Individual advice session n°1 (at home) focused on renovation issues and renovation choices. **For easier renovations cases: (20/year)** • Nothing	**For all beneficiaries: (estimated 15/year)** • Presentation of Sun4All • Engagement document • Questionnaire n°1 • Individual advice session n°1 (at home). Focused on eco-advice, how to save energy/invoice.

Table 7: Use Cases in the CCCS pilot

No fundings from the EU funding will be used to pay SOLIHA tasks. The CCCS uses the funds planned and budgeted for the OPAH.

Results of the 1st pilot:

The recruitment process is now working well in Coeur de Savoie. The risk of not having 50 households is nearly over with 44 recruited at the beginning of September (note that Coeur de Savoie has requested a deviation to allow continuous recruitment until the end of 2023, for its specific scheme in the first pilot). Nevertheless, the beneficiaries seem often only interested in the financial part of the program and it is a major concern to be able to empower them on energy transition. Activities are great successes with 9 workshops and 1 visit already done and more than 180 attendees in total, even though most of them are

not direct beneficiaries. Recruitment of mentors is underway, and one interview has already taken place, but 25 mentors is a difficult target to reach.

The results of the implementation at the beginning of September 2023 are detailed in the following table:

- **Status of the 1st pilot at a glance: Quantified Goals**

  Start of the 1st pilot: 01/11/2022

Targets	Ongoing results in date of 18/09/2023	Goals / pilot / city
# Households recruited	44 households (30 owners and 14 tenants)	50 households (150 consumers)
# Individual energy advice sessions	32 households done – 10 waiting	>= 1 session / household
# Workshops	9 workshops / ~180 participants	12 workshops
# PV plant Visits	1 visit done the 22 June 2023 – 1 planned in October 2023	2 visits
# Mentors recruited	Emailing started Interview started	25 mentors
€ how much aid the beneficiaries receive	~17 200€	No defined target
kWp Power from PV dedicated to the project	57 kWp	25kW(peak!?) - 0,5kWp/b
€ Investments in sustainable energy	Use of existing PV plants	190.000 € investments in sustainable energy for all pilots

Table 8: Status of the 1st pilot in CCCS - Quantified Goals

- **Qualitative Follow-up in date of 18/09/2023:**

Topics	Achievements /satisfaction	Main challenges and risks	Solution to the challenges & Next steps
Households recruitment	Recruitments started in November 2022. Several recruitment session.	Recruit enough beneficiaries to get to 50 in one year!	Run the daily actual use cases and get more beneficiaries asap with the help of more communication. And extend pilot 1 until end of 2023.
Individual energy advice sessions	Individual advice sessions face to face and by phone.	Difficulties to involve beneficiaries during advice session. Manage the efficiency of phone advice sessions.	Advice sessions at home – lack of interest for the indications: no empowerment of the tenants.
Activities (workshops & PV visits)	Good participation rate to the current workshops.	Get enough beneficiaries at the PV visits organised.	Propose different dates and times (weekend or afternoon). Offer transportation to the site of the PV visit.
Mentors	Start e-mailing 4 mentors approached.	Lack of mentor from Pilot 1 to Pilot 1. No mentoring from Pilot 1 to Pilot 2.	Engage mentors from pilot 1 to pilot 1 and further from pilot 2 to pilot 2. Make interview of mentor instead of testimony during workshops. Other mentors than beneficiaries? Not yet
Technical & financial model	Politically validated financial scheme and use cases. Testing 2 totally different models.	No more risk since the political validation. Budget OK.	–

Table 9: Qualitative Follow-up of the 1st pilot in CCCS

3.2.2. Pilot risks and next steps

Challenges and risks

- Regarding the mentoring program, since the tested schemes of the 1st and 2nd pilots are different, it is not possible to enrol mentor from the first pilot to the 2nd pilot.
- CCCS is aiming for a social audience that is finding it challenging to get involved and respond to our requests to take part in the project.
- The multitude of proposals from private companies on the subject of energy, confuses the message of Coeur de Savoie and OPAC on this collective self-consumption program.
- The motivation of the beneficiaries is a major concern. It is difficult to go beyond the financial benefits and to empower them in energy transition, this is a matter of concern.
- Recruitment of beneficiaries for the second pilot project is off to a slow start. Tenants are still a little reticent, as relations with social housing are sometimes difficult, it has consequences on the project also.

Next steps:

- Continue to recruit beneficiaries for the 2nd pilot and complete recruitment for the 1st pilot.
- Continue to carry out workshops and solar plant visits.
- Find solutions for mentoring, by re-contacting the first beneficiaries and finding solutions for another type of mentoring (interviews, videos, etc.).
- Implement with beneficiaries the collective self-consumption for the 2nd pilot.

Good practices / Achievements to share

- **Good practice 1:** Develop communication for beneficiaries' recruitment - working. (e.g., working on several communication tools to explain the project, the impact on their bills and their role in the project, or also planning a door-to-door session to find other beneficiaries).
- **Good practice 2:** Develop exchange with the local social worker from OPAC (gatekeeper).
- **Good practice 3:** Create a comic book to raise awareness of the challenges of the energy transition and explain the main issues and possible solutions. Available here: https://www.ines-solaire.org/news/le-destin-demma/

Lessons learned from implementation

It should be noted that the low density and dispersion of beneficiaries in Coeur de Savoie area pose specifics challenges. However, this experience, including its

difficulties, is all the more interesting for local authorities wishing to replicate the Sun4All model in rural areas.

- It is important to draw on existing programs, tools and skills in the region and in the organizations concerned to build this type of project.
    - Use the local existing social network to develop beneficiaries.
    - Combining similar or complementary programs brings efficiency. For example, in the case of recruitment at Coeur de Savoie for the 1st pilot, which was partly linked to another program called OPAH (Opération Programmée d'Amélioration de l'Habitat), that can be translated as «Housing improvement program».
- Political will, as at Cœur de Savoie, is an unavoidable prerequisite for the success of a project of this scale.
- Use adapted communication tools for beneficiaries. Repeatedly soliciting potential beneficiaries for answers or going door to door.
- Get all the partner involved all along the project (ex: electricity network supplier, social landlord, gatekeeper...).
- Beneficiaries may be reluctant to respond to enquiries about energy, as they are already often approached by private companies on this subject. Initial experience shows that going door-to-door to recruit and provide information about Sun4All generates more trust among beneficiaries than providing information by email or telephone.

3.3. Sun4All in Almada, Portugal

3.3.1. The 1st Pilot implementation

Description of the 1st pilot model:

The municipality of Almada has used the same approach for both the first and second pilots, with the municipality as the owner of the PV installation and the residents of a set of municipal buildings as the target area/group. Ageneal (AGN) is involved in supporting the Almada City Council in its responsibilities of managing the data and keeping the beneficiaries' list up to date at the collective self-consumption regulatory body. This simple approach provides a discount on the electricity bill of the beneficiaries, according to their energy consumption up to a certain monthly limit, depending on the house size and family number.

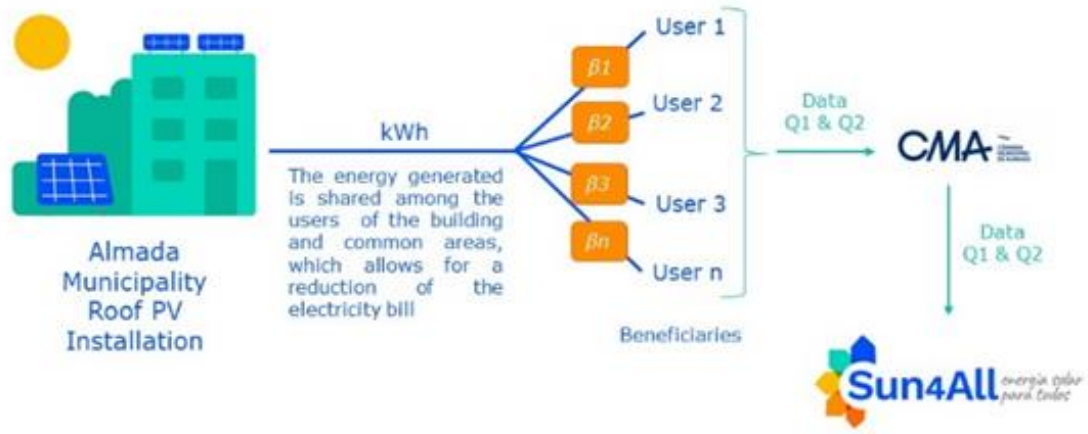

Figure 3: Almada 1st pilot scheme

Sun4All partners act as "intermediaries" between the PV installation production and the end users/beneficiaries. Sun4All partners will be responsible for collecting and managing the data and the financial flows to provide the adequate benefits (municipal discounts, tax benefits, etc.) to the end users of the project, the vulnerable consumers.

Due to delays in the activation of collective self-consumption by the National Energy and Geology Directorate (DGEG -Direção Geral de Energia e Geologia), the model began implementation only in August 2023.

Results of the 1st pilot:

60 households have been recruited but only 10 have started for the 1st pilot, the pilot suffered of delays in activating the collective self-consumption system, which was solved only in August 2023. The purchase of new PV modules and the installation of the PV plant are still on hold due to budget limitations of the municipality. Consequently, 90 households will be part of the 2nd pilot in order to reach the target of 100 at the end of the project. In parallel, 3 informative and

recruitment sessions have been organized for beneficiaries and there were 9 local events at which Sun4All was presented.

The results of the implementation at the end of August 2023 are detailed in the following table:

- **Status of the 1st pilot at a glance: Quantified Goals**

  Start of the 1st pilot: 31/03/2023

Targets	Ongoing results In date of 30/08/2023	Goals / pilot / city
# Households recruited	10 beneficiaries (households).	10 households
# Individual energy advice sessions	1 session for 3 households. Remaining 7 householders will have sessions in October.	>= 1 session / household
# Workshops	9 workshops including: a) 2 Energy Efficiency Session for, Sun4All beneficiaries with the provision of an efficient bulb, at 3 Vales – 2023. b) 1 Energy Efficiency Session for the general public, at the sustainable market-2022. c) 1 Energy bill reading session for Sun4All beneficiaries, at 3 Vales -2023. d) 3 public sessions about Sun4All project for the general public, at European Mobility Week 2022, Almada municipal building (2022) and at Lisbon (2023). e) 2 dissemination activities on solar energy, including Sun4All project, at European Mobility Week 2022 and Circular Economy Fair 2023. 3 Informative/Recruitment Sessions, at 3 Vales – 2022.	12 workshops
# Visits	1st visit will take place in October. 2nd visit will take place in November.	2 visits
# Mentors recruited	Not started yet but this thematic was already approached on last session with beneficiaries from the 1st pilot and well received.	10 mentors
€ how much aid the beneficiaries receive	It will be defined in November, but aid will not be the same for all beneficiaries, it will depend on their consumption habits	No defined target
kWp Power from PV dedicated to the project	4kWp	4kWp
€ Investments in sustainable energy	None, the pilot is using solar panels previously installed	120k € investments in sustainable energy for all pilots

Table 10: Status of the 1st pilot in Almada - Quantified Goals

- **Qualitative Follow-up in date of 22/09/2023:**

Topics	Achievements / satisfaction	Main challenges and risks	Solution to the challenges & Next steps
Households' recruitment	60 beneficiaries have been recruited.	As the new PV plant is not installed yet, we will consider 10 beneficiaries for the 1st pilot.	10 beneficiaries were selected for the 1st pilot.
Individual energy advice sessions	1 session.	Deviations from planned energy advice sessions schedule due to delays on the collective self-consumption activation.	More individual sessions will take place as soon as possible.
Activities (workshops & PV visits)	9 Activities with the beneficiaries, but no PV visits.	Deviations from the planned workshop schedule due to delays in collective self-consumption activation and delays in acquiring new solar panels.	Adapted workshop scheduled. To address this issue, we are planning more community meetings.
Mentors	Due to delays in the activation of the collective self-consumption, we have no mentors yet.	Low number of potential mentors from phase 1 (only 10) .	Identify other potential mentors in Almada.
Technical model & Financial model	• We have submitted the regulatory framework to elected politicians to be approved. • Production is activated and we are testing the support.	• 2nd Phase panels acquisition procedures are pending to be launched at the Municipal Procurement Division. • Regulatory framework needs to be approved by elected politicians in municipal assembly.	• We have legal support from another H2020 project for the regulatory framework. • We are working with network operator to be able to access energy consumption data by beneficiaries.

Table 11: Qualitative Follow-up of the 1st pilot in Almada

3.3.2. Pilot risks and next steps

Challenges and risks

The main challenges and risks identified during this period by the Almada pilot are primarily bureaucratic in nature, resulting from delays in regulatory processes of the energy regulators and operators, namely DGEG and E-Redes (energy distributing company). Under these circumstances maintaining trust bonds with all the beneficiaries is highly challenging, because of the extended periods without any actual developments and improvements.

Other challenges and risks are:

- Low number of potential mentors from phase 1 (10 beneficiaries).
- Delays in activation by DGEG of the existent self-consumption.
- Difficulties in acquisition and installation of solar panels by CMA.
- Complexity in approving the collective self-consumption internal regulation.

As for the 2nd pilot, no challenges or risks have been identified so far. However, it is expected for risks and challenges to be common between implementation phases, therefore, solutions from phase 1 should improve phase 2.

Next steps:

The municipality is relaunching the procedures for acquisition of solar panels according to the current budget, estimating that a total capacity around 108 kWp will be installed, from which the energy of the 1st and 2nd phase beneficiaries will be produced.

While the 2nd phase is not initiated, the current approach is to resolve all bureaucratic and technical issues with utility companies as soon as possible and to be open to speaking with all beneficiaries to clear up any concerns. Aside from these measures, the following will also be considered:

- Because Collective Self-Consumption is now enabled, more individual sessions will be held;
- Adaptation of the scheduled workshop plan;
- Identify other potential mentors in Almada in case it is compatible with the project.

Good practices / Achievements to share

- **Good practice 1:** Almada's partners have started community participation activities to mitigate the delays in establishing collective self-consumption.
- **Good practice 2:** Gifts/rewards in general are very well accepted by the community and enhance participation rates.
- **Good practice 3:** In recent workshop sessions, regarding energy advice, Almada's partners already approached the mentoring task and prepared beneficiaries for this next step, which was well received and accepted.

Lessons learned from implementation

Even if the implementation is delayed, it is critical to keep the work with the community on track, by delivering the regular thematic workshops and energy advice sessions.

3.4. Sun4All in Rome, Italy

3.4.1. The 1st Pilot implementation

Description of the 1st pilot model:

The model is implemented on the basis of local community work plans called RECS (Solidarity Renewable Energy Community).

Municipal photovoltaic plants generate income, part of which is allocated to the beneficiaries of the Sun4All pilot project. Forum Terzo Settore (FTS) is the municipality's associate partner, which will manage the distribution of economic benefits provided as a direct offset to the cost of the energy bill for each RECS beneficiary.

This model is promoting the transformation of the local initiative into the launch of an association registered as a REC, while the solidarity approach represents the reference framework. Existing municipally owned photovoltaic plants are adopted by communities and RECS energy sharing is simulated.

The entire pilot project in Rome is divided into two phases (100 + 100 households), but the entire process is designed in the first pilot project and the selection process is carried out entirely in the first pilot phase.

The Rome Pilot REC(S) model:

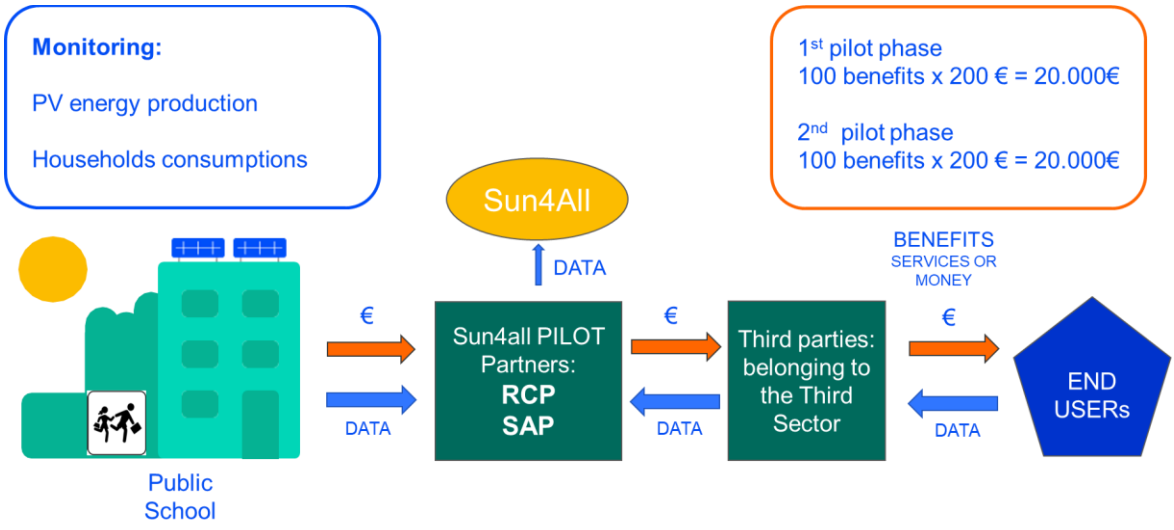

Figure 4: Roma 1st pilot scheme

Results of the 1st pilot:

Roma Capitale selected 700 households in energy poverty as potential beneficiaries of the Sun4All project, between September to November 2022. Sapienza University

identified the pilot urban areas associated to municipal PV plants to be adopted for each community-group, so limiting to 267 the families to be contacted in order to reach the target of 200 households, twice the project objective (100 for each 2 pilots). The beneficiaries have been organized by proximity clusters to form 12 RECS (Solidarity Renewable Energy Communities), adopting 17 photovoltaic plants already in operation on the school roofs to simulate the energy sharing.

The first pilot is achieving the engagement plan for 5 Communities involving 100 vulnerable families. It started on 1st December 2022 and will finish by 30th of November 2023. Regarding the workshops, 15 have already been delivered on energy transition issues and good practices for home energy. Also, 7 mentors have been engaged in the web-chat to support the participation process.

The results of the implementation at the beginning of September 2023 are detailed in the following table:

- **Status of the 1st pilot at a glance: Quantified Goals**

  Start of the 1st pilot: 01/12/2022

Targets	Ongoing results in date of 30/06/2023	Goals / pilot / city
# **Households recruited**	98	100 households (300 consumers) for 1st phase
# **Individual energy advice sessions**	Not started yet	>= 1 session / household
# **Workshops**	15	12 workshops
# **Visits**	Not started yet. Difficulty in managing timetables and logistics for beneficiaries to access facilities in public schools.	2 visits
# **Mentors recruited**	7 selected, waiting to be able to communicate the correct amount of the benefit (200 or 100€?).	12 mentors
€ how much aid the beneficiaries receive	180€-220€ (TBD)	20.000 € (25% in low-carbon devices)
kWp Power from PV dedicated to the project	0,5 kWp/hh (Total of 100kwp in the first phase and 100 kwp in the second phase)	200 kWp for 200 households (1 kWp/hh) for 2 phases
€ Investments in sustainable energy	100.000 € / 700.000 € *	190.000 € investments in sustainable energy for all pilots

Table 12: Status of the 1st pilot in Roma - Quantified Goals

**Rome Municipality decided to invest in 15 new PV plants dedicated to REC for Solidarity. This correspond to an investment in sustainable energy of around 700.000 €, but the process of investment and building the plants is quite long. At present only 2 on 15 plants have been designed and financed, via the Districts administrations., for a current investment of 100.000 €*

- **Qualitative Follow-up in date of 22/09/2023:**

Topics	Achievements /satisfaction	Main challenges and risks	Solution to the challenges & Next steps
Households recruitment	98	Low participation in workshops.	Increase the number and methods of contact between families with the support of the FTS and FCL territorial animators. Increase in messages on individual WhatsApp chats set up for each community.
Individual energy advice sessions	Not started yet	Insufficient number of beneficiaries' electricity bills for the IEA.	Provision of benefits to families linked to the delivery of one or more bills for the IEA evaluation. Increase in messages on individual WhatsApp chats set up for each community.
Activities (workshops & PV visits)	17	Low attendance at workshops.	Increase in messages on individual WhatsApp chats set up for each community
Mentors	Not started yet	Not started yet	Some mentors may follow more than one community.
Technical & financial model	The municipality wants to promote RECS, launched a city-board and offered to the districts and to the schools some resources. Associated partners (as Federconsumatori) are supporting the RECS start up with legal assistance.	Setting up the model of REC(S) is complex. Vulnerable families have no investment capacity, so the REC(S) risks not to evolve if they are left alone in the community. The role of municipality in the initiative: enabler as first investor, promoter, associated of the REC(S) legal entity? Dimensioning the amount of benefits generated by the REC(S): in proportion with energy consumptions of the beneficiaries? Lump sums? Each REC(S) decides independently.	To integrate Sun4All Groups with existing REC(S) projects involving other families or consumers and prosumers. The municipality wants to promote and can invest on REC(S) only if there is a clear social mission, i.e., the incentives do not go to privates if not for solidarity (50% to contrast energy poverty + 50% to reinvest in social local initiatives). Support and make a guideline to establish Statutes & internal regulations of the RECS. REC and REC(S) should be tested

		Formal REC(S) Risks: Starting and operational phases (legal issues).Accessing incentives (GSE) has been delayed again. Business plans are not yet robust and stable. Could a RECS with initial public investment evolve in PPP model (i.e., with ESCOs)?	on ground, also with the involvement of a private investor, i.e., with ESCO.

Table 13: Qualitative Follow-up of the 1st pilot in Roma

3.4.2. Pilot risks and next steps

Challenges and risks

Regarding the beneficiaries' recruitment and activities:

- Some beneficiaries will not participate to the last part of the interaction in presence (4 meetings), due to complication in logistic and timing. That's why the pilot city of Roma activated one specific chat for each of the 10 groups. These chats are animated by the mentors and are also useful to obtain the bills for the IEA.
- There is a risk of passive participation in the activities and a lack of motivation on the part of beneficiaries. For example, online workshops are not sufficiently attractive to beneficiaries.
- PV visits for beneficiaries are difficult to organise for safety and accessibility reasons.
- Regarding the mentoring, it is likely to involve only a limited number of mentors, probably 15 out of the 25 planned.

Regarding the business and technical model:

- As far as the implementation of the model is concerned, there is still a minor risk of difficulty in collecting electricity bills.
- Setting up the model of REC(S) brings a few risks such as legal issues or the robustness of the business plan. In addition, vulnerable families can be lost in the REC community if they are left alone.
- Also, the role of municipality in the initiative has to be clarified: are they enabler as first investor, promoter, associated of the REC(S) legal entity?
- Questions are raising on dimensioning the number of benefits generated by the REC(S) (in proportion with energy consumptions of the beneficiaries? Lump sums? Each REC(S) decides independently).

Next steps:

- Informative Cards on Energy Efficiency to be printed and delivered to the beneficiaries.
- Discussion with the Rome Municipality about the statute, scheme and models of a formal REC for Solidarity.
- Discussion on the REC for Solidarity definition, business models, common aspects for the different pilots.
- Discussion about indicators (KPI) based on energy minimum requirements for the PV plants associated to the REC(S).

Good practices / Achievements to share

- Domestic energy efficiency aims to optimize the use of individual appliances to make the best use of energy by reducing waste and lowering the cost of bills. The Rome pilot with the contribution of the CITERA Sapienza center, developed information sheets analysing the following four behaviours in relation to the use of household appliances:
  - What do I use best?
  - Where do I save?
  - How do I save?
  - The more you know, the more you save.

  The WHAT and WHERE sheets concern household appliances and systems and aim to optimize the use of energy for their operation.

  The HOW and WHO sheets deal with their management in relation to the use made of them by individual users.

  The behaviours that each individual user has within their home have been reported in individual actions in the use of appliances for maximum comfort.
- For those in vulnerable socio-economic conditions, improving behaviours in the use and management of energy at their home can be a great help in reducing the cost of bills.
- The cards have been drawn up for a segment of the population in conditions of socio-economic vulnerability, with actions that can be implemented in homes without particular technical knowledge, and at low cost, but which still guarantee a reduction in bill consumption.
- A calculation procedure has also been developed for Individual Energy Advice (IEA) which, based on the electricity consumption deduced from the bills they provide, makes it possible to identify the type of advice to be provided. The tool, by cross-referencing the data from the questionnaires collected and a

selection of benchmark criteria based on the user's consumption and those collected by ARERA for Energy Bonus recipients.

Lessons learned from implementation

- Participation in the workshops can be open to more than just "energy poor" beneficiaries.
- Use appropriate communication strategies for a vulnerable population segment. With the support of the third sector (Forum Terzo Settore e Federconsumatori Lazio), it was possible to implement a targeted assessment of the type of user, avoiding creating further communication barriers. Absolutely avoid a paternalistic approach.

3.5. Impact assessment / evaluation of the pilots

The Evaluation of the pilots is an ongoing process. Its objective is to assess the impacts of the project and especially, its contribution to tackle energy poverty, its capacity to facilitate behavioural change, and its contribution to the empowerment of participating households.

The table below presents the current status of the Impact assessment as well as some initial results from the Q1 questionnaire and from the interviews, and current and potential challenges for the next year.

	Initial objective	Current status (as of 30/09/2023)	Revised objective
Number of Q1 questionnaires received	400	149	300
Number of Q2 questionnaires received	300	0	200
Number of interviews with participating households	10	4 interviews conducted in CCCS. 6 interviews conducted in Almada. 4 interviews planned in Barcelona in early October 2023.	18

Table 14: Objectives, current status and revised objectives of the Impact Assessment

Current status

As of 30 September 2023, we have received 149 Q1 questionnaires. Our initial objective was to receive a Q1 questionnaire for each beneficiary, in other words 400 questionnaires. We have now revised our initial objective, hoping to receive in total 300 Q1 questionnaires for both phases.

Questionnaire Q2 is still to be finalized, translated, and distributed. Due to the difficulties that pilots have encountered in implementation (activating self-consumption, etc.) and resulting delays in the distribution of financial benefits to the participating households, we have revised our initial objective of 300 Q2 questionnaires to 200.

As regards interviews with participating households, our initial objective was to conduct 10 interviews. We have already conducted 4 interviews in CCCS and 6 interviews in Almada. 4 more interviews are scheduled in Barcelona in early October 2023. We have therefore revised our initial objective to 18 interviews.

Interviews with pilot partners and collection of statistics on the different pilot cities is ongoing. We have kept our initial objectives.

Initial results

The questionnaire Q1 has given us insights into the socio-economic characteristics of households, their energy access and expenditure, their experience of energy poverty and their expectations regarding Sun4All.

Despite quite different socio-economic profiles of beneficiaries across pilots (in terms of size of household, age, income, type of housing, etc.), it appears that the selection process has been overall successful in identifying households in situation of energy poverty. 76% of respondents declared that energy bills were a 'big' part of their monthly budget, and 51% declared having or having had difficulties paying their electricity/energy bills. Only 19.5% of respondents declared that their main room was comfortable both in the summer and in the winter.

Most respondents had limited knowledge of energy benefits and energy efficiency, demonstrating the potential positive impact of the Sun4All project in terms of facilitating behavioural change and empowering participating households. A majority of beneficiaries declared expecting more than financial help from the project and being interested in community activities.

The interviews conducted in CCCS and Almada with participating households were conducted before households received any benefit. They therefore mostly focused on their experiences of energy poverty, their experiences in joining the Sun4All project and their expectations. The interviews gave us a more precise understanding of the energy practices of participating households. They also demonstrated the importance of the environmental motivation amongst Almada households, as well as their willingness to contribute to an energy community. In CCCS, interviews helped identify challenges, such as elderly beneficiaries in severe energy poverty who might not be able to attend project events due to low mobility.

Challenges

The risk of a low response rate to questionnaires had been identified in deliverable *"D4.3 Impact Assessment Indicators and guidelines to conduct the evaluations".* Mitigation strategies had been defined, including conducting more interviews to collect more qualitative data, which we have been able to do. Another challenge concerns the delay in the distribution of financial benefits to participant households, as this delays the distribution of Q2. To mitigate this challenge, we have revised our objective for the Q2 questionnaire.

4. Summary of the implementation

4.1. Main challenges and potential risks

The main challenges of the implementation identified so far in the pilot cities are:

- **The implementation of the mentoring** which consists of selecting already active beneficiaries and make them help and motivate new or potential beneficiaries. In particular, there seems to be a difficulty in terms of quantity, to reach the planned number of 25 mentors.
- **The motivation of beneficiaries** to take part in the activities or to be interested by the information related to a fair energy transition.
- **The administrative processes** needed to implement the project, and specifically the activation of self-consumption. Public authorities are often not used to collective self-consumption in the region concerned by the project.
- **The means for the implementation** mainly for the advice sessions and the lack of human resource to carry it out as it is time consuming.
- **The technical aspect of implementing the model**, such as communicating energy production or determining the amount of energy allocated to beneficiaries.

Specific workshops began in June with the partners of the project and will continue in September to identify mitigation measures for the pilot projects. They will also be used to develop advice for future reproductions to avoid or mitigate the obstacles encountered (in the frame of the Community of Practice with 10 other cities or for the global replication activities).

To summarize, the challenges specific to each pilots' cities are:

- In **Barcelona** the activation of the self-consumption scheme was the main difficulty. As a consequence, the 1st benefits occurred only in June 2023 due to difficulties with the self-consumption activation. The second model has not yet been implemented, as it is based on an installation that is not located directly on the roof of the building concerned, as was the case with the previous pilot.
- In **Coeur de Savoie**, the main concerns are to find mentors and more generally, to cope with the low density and the dispersal of beneficiaries on its territory. To ease the recruitment of beneficiaries that was a major concern at the beginning of the project, a specific financial scheme was applied for the 1st pilot which is linked with existing energy transition programmes widespread in the territory. They also proceed with an ongoing recruitment for the 1st pilot till end 2023.
- In **Almada**, the delay due to the activation of collective self-consumption was finally solved at the end of July 2023, but prevent beneficiaries from starting to

get relief on their bills. In addition, there are still a number of obstacles to the installation of the new photovoltaic plant for the second pilot.

- In **Rome**, the definition of the mission of RECS (Solidarity Renewable Energy Community), in the framework of which the project is being implemented and the role of municipality in the project are questions to be solved. There is also a risk of passive participation in activities and a lack of motivation among beneficiaries.

4.2. Lessons learnt

The main lessons learned from the first pilot projects, which will be applied for the rest of the project but will also be useful for replication, are as follows:

Regarding the building of the community with beneficiaries:

- To build a relationship of trust, it is worth designating **a person dedicated to supporting beneficiaries** throughout the process.
- It is also helpful to **use incentives, even simple ones, to keep beneficiaries motivated**, particularly during periods of waiting due to external delays. It could be achieved through activities such as workshops or thanks to gifts/rewards that in general are highly appreciated by the beneficiaries.
- Providing a **convivial atmosphere** is useful for creating a sense of belonging to the community, for example during snack breaks in the buildings or during workshops.
- Use **communication strategies appropriate** to vulnerable populations, with the help of local organisations used to social dialogue. It is essential to avoid a paternalistic approach.

Regarding the financial and technical models:

- It is essential to **involve all the stakeholders throughout the project**, keeping them informed and exchanging with them, so that problems and delays can be avoided or anticipated, and everyone's motivation can be reinforced (local authorities, electricity network suppliers, social partners…).
- As the collective **self-consumption scheme is quite new for the public services** and organisations of most of the countries, its activation is a major cause of delays. The experiments carried out as part of this project should help to resolve this type of challenge.
- To get such a project off to the best possible start, it is necessary to draw up **an inventory of existing facilities or projects and of the strengths and skills** of the organisations involved in social affairs or in the energy transition in the area concerned. It is also essential to seek the support of the local elected representatives.

5. Conclusions

By the beginning of September 2023, the implementation of the 1st pilots is fairly progressing even though not all targets have been reached, especially regarding the number of beneficiaries. This is mainly due to the administrative and technical obstacles encountered by the partners. Many activities, which are workshops, visits and energy advise sessions, have been carried out in all pilot cities to give citizens the means to fight energy poverty and better understand the issues surrounding the energy transition. The University of Stavanger is assessing the impact of the project. The initial results of the questionnaires conducted among beneficiaries demonstrated the relevance of the recruitment process, confirming that the vast majority of beneficiaries were indeed facing energy poverty.

The second pilots are underway, and the lessons learned should enable the pilot cities to succeed and catch up with some of the early pilots.

All the partners are well involved to meet the expectation of the project. They are still facing some challenges. The mentoring or the motivation of the beneficiaries are some of the difficulties that still need to be solved. Much delay has been caused by the complexity and length of the administrative procedures, particularly for the validation of collective self-consumption, which is relatively new for the public authorities. The construction of the photovoltaic installation has also created technical and financial difficulties for several partners.

The impact assessment carried out by the University of Stavanger and the coordination meetings held by INES and Ecoserveis provide a frame of reference for understanding the progress of the implementation. They monitor challenges and achievements to find solutions with all the partners and share lessons learned.

The 1st observations shows that personalised follow-up and incentives, through exchanges, convivial events or gifts can be helpful to keep the motivation of the beneficiaries. It also seems essential to successfully involve all stakeholders throughout the project, including social, technical, and political partners. Political will and the availability of funding are also essential to ensure that this type of approach is undertaken in the best possible conditions.

Analysis of these experiences will also be useful for the implementation of the 2nd pilot and more generally for replication activities and for the Community of Practice and other potential Replicator cities.