Sun4All solar power to the people

Impact Assessment Indicators and Guidelines

Sun4All D4.3 | July 2022

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Author(s)	Bérénice Girard, UiS
Co-Author(s)	Siddharth Sareen, UiS
Contributor(s)	
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Reviewer(s) (if applicable)	Camille Defard (JDI), Xavier Bouvier (INES)

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Contact

info@sunforall.eu

www.sunforall.eu

Table of Contents

List of Tables

1. Executive Summary

This document presents the guidelines, indicators, methodology and timeframe for the Impact Assessment of the Sun4All project. We aim to assess three main impacts of the Sun4All project: its contribution to tackle energy poverty, its capacity to facilitate behavioural change amongst participating households, and its contribution to the empowerment of participating households. These impacts will be assessed at different scales: impacts on the cohort, differentiated impacts within the cohort, and impacts at the neighbourhood/district/city/regional levels.

The methodology will be based on three main components:

1) questionnaires filled by the participating households;
2) public statistics at the neighbourhood/district level and at the city/region level;
3) and interviews conducted with volunteer households and members of the project.

The Impact Assessment will take place in three phases (before testing, during the first phase of testing and during the second phase of testing). Expected results include a nuanced picture of the impacts of the project to facilitate improvements throughout the project's life and replicability, and a better understanding of energy poverty in the four pilot areas and more generally in Europe.

2. Impact Assessment Guidelines

2.1. Objectives

The Sun4All Impact Assessment guidelines have three main objectives.

First, they aim at ensuring a **comprehensive assessment of the Sun4All project**. This will facilitate the continuous improvement of the scheme and the identification of best practices and challenges for future similar projects.

Second, the guidelines aim at **facilitating the production of relevant data and information on energy poverty and how to detect and alleviate it in different European contexts**. It especially aims to ensure a certain level of commensurability between the data collected by the different pilots. This will help produce both context-specific and cross-cutting insights.

Finally, the guidelines seek to ensure that the impact assessment **raises awareness about energy poverty, renewable energies, and energy efficient practices** amongst participating households and more widely.

The assessment will focus on the following expected impacts of the Sun4All project:

- **Actively contribute to tackling energy poverty at the local level:** This impact will be measured through diverse social, financial and health indicators, such as the evolution of households' energy spending over time, the evolution of households' arrears on bills, whether households feel an increase in the general comfort of their dwelling, etc.
- **Facilitate behavioural change amongst participating households**: This impact will be measured through diverse indicators, such as the evolution of households' energy practices, whether households' general knowledge of energy efficient practices has increased, etc.
- **Contribute to the empowerment of participating households through the participation in a local energy community**: This impact will be measured through different indicators, such as households' general perception, involvement and feeling of belonging to the energy community, perception, and experience of the mentorship program, etc.

The impact assessment will contribute to demonstrate the societal value of the Sun4All project. It also aims at giving the most precise, detailed, and nuanced picture of the impacts of the project to facilitate improvements and replicability. To this effect, these guidelines propose a three-tier analysis:

- **impacts on the cohort** (i.e. General impacts of the project on all participating households in all the pilot cities),
- **differentiated impacts within the cohort** (i.e. Is the project having the same impacts on all households or do we observe differences depending on the pilots, on the use cases or on the socio-economic characteristics of households?)
- **impacts at the neighbourhood/district/city/region level** in each pilot city (comparison between the socio-economic characteristics of the cohort and of the neighbourhood/district/city/region, potential impact of replicability and of scaling up). On this aspect, due to time and methodological constraints, the impact assessment will only provide exploratory insights.

To study the impacts of the project at different scales, a methodology was designed, which includes **three components**: questionnaires, public statistics and interviews. For purposes of feasibility, the questionnaires will only be distributed to direct beneficiaries of the project. Due to diverse constraints (time, budget, manpower), it seems indeed unrealistic to distribute the questionnaire to indirect beneficiaries. The questionnaires will be central to the analysis of the impacts of the project on the cohort and of the differentiated impacts within the cohort. Public statistics and interviews will help us situate the cohort within the larger context of their living environment, to formulate hypotheses as to the impacts of the project at the neighbourhood/district/city/regional levels as well as the potential benefits of replicability and of scaling up.

These guidelines also aim at ensuring that the impact assessment contributes to further our understanding and detection of energy poverty. The Impact Assessment will be here **complementary to the activities of other working packages**, especially Working Package 3 on End users' identification and engagement

2.2. Considering pilots' specificities

These guidelines have been designed to guarantee commensurability and comparability across pilots, while also ensuring consideration of each pilot's specificities. These specificities include both **elements of context** (average income, available subsidies, available sources of energy, etc.) and **diverse timeframes** in terms of implementation (start of 1st phase of testing, required time for households to see benefits of the project, etc.)

As regards elements of context, bilateral meetings and review of questionnaires were organized in the spring of 2022. Generic templates for the questionnaires were defined. The first questionnaire (Q1) was then customized to fit each pilot's context. Certain questions were modified, deleted, or added in each case. A similar overall structure was however maintained to ensure comparability across pilots (see 6.).

As regards timeframes, a flexible schedule has been planned for the distribution and collection of questionnaires during the first phase of implementation to ensure that it suits every pilot's timeframe.

2.3. Role of the different project partners

The **UiS team** acts as a coordinator, defining the overall methodology, the guidelines and the indicators and ensuring comparability across pilots. The UiS team will process and analyse the data, will provide feedback on the data analysis to the Pilot Partners and will write the final Impact Assessment report (D4.4).

Pilot partners have played an essential role in co-producing the Q1 questionnaire and will be similarly involved in the finalization of the Q2 questionnaire. Pilot partners will oversee the translation of the questionnaires and their distribution. They will also be in charge of collecting, compiling and anonymizing the data collected through the questionnaire. Pilot partners will collect and share existing public statistics with UiS, based on a list of indicators prepared by UiS. They will facilitate and on occasion translate/conduct the interviews with volunteer households.

As regards the questionnaires, it is important that UiS does not get access to the identity of respondents and that **pilot partners ensure their anonymity** (unless households have signed a consent form allowing pilot partners to share their personal data with other project members). For this reason, pilot partners should put in place a coding mechanism for participating households, in which the questionnaire asks respondents their name, but this is then changed into an **identification code** before the collected data is sent to UiS. This will ensure the anonymity of respondents, while allowing to match answers to Q1 and Q2.

3. Methodology

The Impact Assessment methodology will be based on three main components:

- **Questionnaires** filled by the participating households.
- **Public statistics at the neighbourhood/district level** and **at the city/region level.**
- **Interviews** conducted with volunteer households and members of the project.

The questionnaires will be the main input for the impact assessment. Statistics and interviews will supplement and help contextualize the data gathered through the questionnaires.

3.1. Questionnaires

There will be two questionnaires, each circulated twice:

- **Q1**, which will be circulated at the beginning of each phase of testing, aims at assessing the status quo, i.e. the **situation of households before joining Sun4All**. The analysis of the data from this questionnaire will also provide pilot partners with further information about the difficulties participating households are encountering and can therefore help them refine their engagement strategies.
- **Q2**, which will be circulated 10 to 12 months after the start of each testing phase, aims at **assessing the impacts of Sun4All on alleviating energy poverty, facilitating behavioural change and empowering participating households**. Analysis from the Q2 data of phase I will also enable partners to refine their selection and engagement strategies for Phase II.

The final template of Q1, as well as its version of each pilot city, has been defined (see 6. in this report). A draft template of Q2 has been prepared (see 6. in this report). The final template of Q2, as well as its version for each pilot city, will be finalized with the insights of the data collected with Q1.

The templates have been designed to ensure that questions are easily understandable and answerable, with particular attention paid to energy-related questions. Answering the questionnaires should not require more than 15-20 minutes.

It is important to ensure a **response rate as high as possible for each questionnaire**. A high response rate is indeed essential to the quality and the precision of the assessment. This will also prove beneficial to improve the project over time and to ensure the best possible conditions for replicability. To ensure a high response rate, some pilot partners have decided to make answering the questionnaires a precondition for being a project beneficiary.

Risks, such as low response rates or households dropping out of the project between Q1 and Q2, have been identified. Mitigation strategies have been defined, such as adopting a flexible and reactive methodology throughout phase 1, adapting the questionnaires and methodology between phase 1 and phase 2, conducting more interviews to collect more qualitative data, etc.

Translation and dissemination of the questionnaires will be left to the appreciation of the pilot partners. Online questionnaires might facilitate the compilation of data. It however might be a constraint for participating households. It also raises the question of the selection of the online platform to host the questionnaires. Door-to-door dissemination or mixed methods are also possible. They however require more time engagement from the pilot partners/stakeholders. In general, it is important to stay flexible in terms of questionnaires' distribution. Respondents should also be able to skip some of the questions if they wish.

3.2. Statistics

Socio-economic and energy data/statistics at the neighbourhood/district level and at the city/region level will be gathered by pilot partners and shared with UiS. These statistics will help situating participating households within the larger context of their living environment, formulating hypotheses as to the impacts of the project at the neighbourhood/district/city/regional levels and identifying potential benefits of replicability and of scaling up. The availability of data in each pilot context was discussed during bilateral meetings, and a first list of required data was defined (see below). This list will be adapted over time depending on the statistics available in the different pilots and the requirements of the Impact Assessment.

General statistics on pilot areas/cities: Population**,** Density**,** Demographic growth.

Socio-economic characteristics: Median income (Euros)**,** % of taxable households**,** % of unemployment (and official definition)**,** Poverty rate (and official definition)**,** % of households below poverty line (and official definition)**,** % of households in energy poverty (and official definition)**,** Access to subsidies**,** Level of education, Size of households**,** % of people living alone**,** % of single-parent households**,** Type of housing (individual houses, apartments, etc.)**,** % of homeowners/renters**,** % of social housing**,** Average size of housing**,** Age of housing stock.

Energy access and practices of households: sources of energy available and use, main source of energy for heating, average annual energy bill per households (Euros), monthly electricity consumption (kWh/year), arrears on bills, average price of kWh.

3.3. Interviews

The UiS team will supplement the data collected with the questionnaires by conducting **qualitative interviews** with volunteer households and project members. These interviews will be conducted either online, on the phone or in person. These interviews will provide further insights into the experiences of participating households and their overall perception of the project, as well as into the challenges and good practices put in place by project members throughout implementation. Interviews will mostly be semi-directed, with general topics of conversation defined and shared with respondents ahead of the interview. The objective is to conduct around 10 interviews with participating households and two interviews with each pilot team at different phases of implementation. The UiS team will require the help of the pilot partners to identify households willing to participate in these interviews. Pilot partners' help might also be required to translate/conduct the interviews with households.

With participating households, interviews will mostly aim at collecting overall impressions and experience with the Sun4All project. This will help supplement and contextualize the data gathered through the questionnaires. Expected questions include: How did you join the project and why? What was your first perception and understanding of the project? Did this change over time and if so, how, and why? What impact has the project had on your day-to-day life? How would you improve the project?

With project members, interviews will mostly aim at understanding the challenges faced during planning and implementation, and the solutions designed to meet these challenges to identify best practices.

Overview of the Impact Assessment Methodology

	Main objective	Time frame	Requirements	Role of pilot partners	Role of UiS
Questionnaire 1 Phase 1	Assess Status quo	Beginning of Phase 1		Translate and distribute the questionnaires Oversee response by households. Do the first data treatment (anonymising, spreadsheeting)	Co-produce the questionnaires with the pilots to ensure comparability across pilots. Analyse the data collected.
Questionnaire 2 Phase 1	Assess the impact of Sun4All	10/12 months after beginning of Phase 1			
Questionnaire 1 Phase 2	Assess status quo	Beginning of phase 2	Ensure a certain level of comparability with Phase 1 (number of HH, etc.)		
Questionnaire 2 Phase 2	Assess the impact of Sun4All and the learning curve.	10/12 months after beginning of Phase 2			
Statistics	Contextualise the impact of Sun4All	Throughout the project		Collect and share statistical data available at the neighbourhood/district/city/region levels.	Compare with the data collected via the questionnaires.
Interviews	Further our understanding of the impact of Sun4All	Around Sun4All general meetings		Identify volunteer households	Conduct the interviews and analyse the qualitative data

Table 1: Overview of the Impact Assessment Methodology

4. Impact Assessment Indicators

As previously mentioned, the assessment will focus on the three expected impacts of the Sun4All project: tackling energy poverty, facilitating behavioural change of participating households and contributing to empower participating households. For each, a three-tier analysis will be conducted: impacts on all participating households, differentiated impacts within the cohort and impacts at the neighbourhood/district/city/regional levels. For each impact at each tier, we have defined indicators, which are listed below.

4.1. Indicators on energy poverty

To assess the impact of the Sun4All project on tackling energy poverty, we have identified the following indicators: **reduction in energy spending** (lower energy bills, reduction of the share of energy bills in the monthly budget, less arrears on bills), **increased comfort in the home** (temperature, humidity, lighting), and **reduction in practices related to energy poverty** (such as delaying the use of appliances, heating only part of the home, reducing the time spent at home, etc.)

To assess if and how the project has impacted participants in the cohort differently, the above dynamics will be analysed for the four pilots together, for each pilot independently and in relevant cases, for each use case. It will also be analysed in conjunction with the socio-economic characteristics of households, the sources of energy used and the housing characteristics.

Finally, to assess the potential impact of the project at the neighbourhood/district/city/regional levels and of its scaling up, socio-economic and housing characteristics of participating households will be compared to existing statistics. Similarly, data collected on energy usage and spending will be compared to existing public statistics on the same.

4.2. Indicators on behavioural change of participating households

To assess the impact of the Sun4All project on behavioural change of participating households, we have identified the following indicators: **evolution of energy-related practices** (reduction in practices related to energy poverty, continuation and/or increase in energy efficient practices), **investment in new appliances** (rebound effect and/or investment in more energy efficient appliances), and **increased knowledge of energy efficiency** (increased interest in energy efficiency related information, better understanding of energy efficiency ratings, better knowledge of energy efficiency ratings of home and appliances).

To assess if and how the project has impacted participants in the cohort differently, the above dynamics will be analysed for the four pilots together, for each pilot independently and in relevant cases, for each use case. It will also be analysed in conjunction with the socio-economic characteristics of households and with existing practices and knowledge of energy efficiency before the start of the project.

Finally, to assess the potential impact of the project at the neighbourhood/district/city/regional levels, indicators such as sharing of information on energy efficiency by respondents with other participating and non-participating households will be analysed. This information will be gathered through the questionnaires, as well as through the interviews. To assess the potential impact of the scaling up of the project, socio-economic and housing characteristics of participating households will be compared to existing statistics at different scales. This will be complemented with interviews with project members to analyse potential challenges for scaling-up.

4.3. Indicators on empowerment of participating households

To assess the impact of the Sun4All project on the empowerment of participating households, we have identified the following indicators: **knowledge and use of existing support mechanisms** (access to subsidies and public support mechanisms to tackle energy poverty, sharing of information on such support mechanisms, on energy efficiency and/or on renewable energies with friends/neighbours/relatives), and **involvement in the Sun4All project** (participation in the events, benefits from the energy community, participation in the mentorship programme).

To assess if and how the project has impacted participants in the cohort differently, the above dynamics will be analysed for the four pilots together, for each pilot independently and in relevant cases, for each use case. It will also be analysed in conjunction with the socio-economic characteristics of households.

Finally, to assess the potential impact of the project at the neighbourhood/district/city/regional levels, indicators such as sharing and use of knowledge on support mechanisms by respondents, involvement in the long-term functioning of the energy community, etc. will be analysed. This information will be gathered through the questionnaires, as well as through the interviews. To assess the potential impact of the scaling up of the project, socio-economic and housing characteristics of participating households will be compared to existing statistics at different scales. This will be complemented with interviews with project members to analyse potential challenges for scaling-up.

Impact Assessment Indicators

	Cohort	Differentiated impacts within the cohort	Neighbourhood/district and city/regional levels
Tackle Energy Poverty	Bills Comfort Practices	Pilot cities/cases Sources of energy Socio-economic characteristics Housing characteristics	Socio-economic characteristics as compared to living environment Housing characteristics as compared to living environment Energy uses and spending as compared to living environment
Facilitate Behavioural Change	Practices Appliances Knowledge of Energy efficiency	Pilot cities/cases Socio-economic characteristics Existing practices Existing knowledge of energy efficiency	Sharing information on energy efficiency with other participating and non-participating households Potential for scaling-up
Empowerment of participating households	Knowledge of existing support mechanisms Involvement in the project	Pilot cities/cases Socio-economic characteristics	Long-term involvement in the energy community Sharing and using knowledge on existing support mechanisms Potential for scaling-up

Table 2: Impact Assessment Indicators

5. Timeframe

The Impact Assessment timeframe is divided into three phases: (1) before testing (2) first phase of testing and (3) second phase of testing. Timeframe for the collection of public statistics and interviews is indicative, as they will be conducted throughout the project.

(1) The first phase is currently being finalized. It includes the definition of the Impact Assessment Guidelines and Indicators, the co-production of the Q1 questionnaires and the translation of the questionnaires by the pilot partners.

(2) The second phase of the Impact Assessment timeframe corresponds to the first phase of testing. It includes the distribution of Q1, the finalization and distribution of Q2 and the collection and analysis of the data to assess the impact of the first phase. The timeframe for this second phase has been made quite flexible to mitigate two risks: first, pilots have different timeframes for the start of the first testing phase; second, the minimum time needed for participating households to see the impact of the project might differ depending on pilots and use cases.

(3) The third phase of the Impact Assessment timeframe corresponds to the second phase of testing. Its objective is to collect and analyse data to assess the impact of the second phase and the overall impact of the project. Due to time constraints (end of the project in 10/2024, Deliverable 4.4 to be submitted in 08/2024), the timeframe for this third phase will not be as flexible as for the second phase.

5.1. The three phases of the Impact Assessment

PHASE 1: BEFORE TESTING

January-May 2022 - Presentation and feedback from project members on draft guidelines, bilateral meetings, and co-production of Q1

July 2022- Finalization and submission of deliverable D4.3

Summer 2022 - Translation by the Pilot Partners of the Q1 questionnaire

PHASE 2: TESTING 1

Start of Phase 1 of Testing/Implementation (Autumn 2022) - Q1 Questionnaires are circulated to participating households by the Pilot Partners

M1 after start of Phase 1 - Pilot Partners do the first data treatment (spreadsheeting, anonymizing). Treated Q1 data is sent to UiS, along with available public statistics.

M2/M3 after start of Phase 1 - UiS shares with pilots first analysis of the Q1 data and proposes the final template of the Q2 questionnaire

M10 or M12 after Start of Phase 1 - Q2 Questionnaires are circulated to participating households by the Pilot Partners

M11 or 13 after Start of Phase 1 - Pilot Partners do the first data treatment. They then send the Q2 data to UiS. Interviews are conducted.

M12 or M14 after Start of Phase 1 - UiS shares with the pilots the results of the questionnaires / Impact assessment of the first phase

PHASE 3: TESTING 2

Start of Phase 2 of Testing (Summer 2023) - Q1 Questionnaires are circulated to participating households by the Pilot Partners

M1 after start of Phase 2 - Pilot Partners do the first data treatment (spreadsheeting, anonymizing). They send the Q1 data to UiS.

M2/M3 after start of Phase 2 - UiS shares with pilots first analysis of the data

M10 after Start of Phase 2 - Questionnaires Q2 are circulated to households by the Pilot Partners

M11 after Start of Phase 2 - Pilot Partners do the first data treatment. They then send the Q2 data to UiS. Interviews are conducted.

M12 after Start of Phase 2 - UiS analyses the data, makes the Impact assessment of the second phase and overall Impact Assessment (Deliverable 4.4)

Table 3: The three phases of the Impact Assessment

6. Templates of the questionnaires

6.1. Final template of the Q1 questionnaire

The template of the Q1 questionnaire gives an overview of the information to collect. It is the basis for the finalization of the Q1 questionnaires for each pilot. It aims to ensure the comparability of the data collected.

The questionnaire comprises **5 sections**.

A first section aims at gathering basic socio-economic data on participating households. It includes questions on age, employment status, income, and level of education.

A second section aims at gathering data on the home of respondents. It includes questions on moving in date, ownership, type of housing, size of dwelling, whether it was renovated recently, etc. Some of this data might be available to pilot partners outside of the questionnaire.

A third section aims at gathering data on energy access and spending, to understand better the difficulties participating households are encountering. This section includes questions on the sources of energy used, amounts of bills, difficulties on paying bills, and access to energy benefits.

A fourth section aims at understanding better the energy practices of participating households. It includes questions on ownership of different appliances, energy efficiency, comfort in the home, different practices to reduce energy bills, etc.

A final section focuses on Sun4All. It asks respondents questions on how they heard about the project, why they joined, which activities they would be interested in taking part in, etc.

These five sections are present in all the customized Q1 questionnaires. Changes made to the template mostly concern the following aspects:

- Ranges (Ranges and answer options were defined together by the UiS Team and the pilot partners to ensure that they fit as closely as possible to each local context)
- Removal of certain questions (questions which did not make sense in certain cases (e.g., do you live in a house or an apartment? Do you own or rent your current home? Etc.), questions for which answers are available to pilot partners through other means).

Part 1: Socio-economic characteristics of the household

Household identification code:

Age

	<18	18-25	26-35	36-45	46-55	56-65	66-75	76+
Number of persons of the household in each age category								

Employment Status

These ranges will be adapted to each pilot case.

	Self-employed	Employed	Unemployed	Not in the labour force (Retired, Studying, etc.)
Number of persons of the household in each situation				

Household income

Depending on pilot, household's yearly or monthly average income before or after taxes will be asked. Poverty line can be defined as 50 or 60% of median income - the objective of this question is to analyse if respondents fall below that line and/or are close to it.

Highest degree received - Please list here only adults (18 years old and plus)

These ranges are based on the International Standard Classification of Education. They will be adapted to each pilot case.

	Basic schooling (primary education) / no degree	Lower secondary education (Middle school diploma or equivalent professional / technical degree)	Upper secondary education (high school diploma or equivalent professional / technical degree)	Short-cycle tertiary education (1 or 2 years post high school)	Bachelor's degree or more
Number of adults (18+) of the household in each situation					

Part 2: Information on the dwelling

Date of moving in in your current home (Month and Year)

Open answer

In which commune/district do you reside? OR in which building do you reside?
These questions aim at mapping respondents in the areas of intervention. They are not pertinent to all pilot cases.

Do you live in:
This question is not pertinent to all pilot cases.
an apartment
an individual house
Other (retirement home, etc)

Owns/Rents the dwelling
This question is not pertinent to all pilot cases.

Size of the dwelling:
< 20 sq. meters
20-40
41-70
71-110
Over 110

When was it last renovated?
Less than 5 years ago
Less than 10 years ago
More than 10 years ago
I do not know

Part 3: Energy Data

Do you have access to / use the following sources of energy in your home? (Multiple answers possible)
Electricity
Natural Gas
Bottled Gas
Other (Please specify)
These are basic ranges. In some pilots, more options will be offered.

Main source of energy for space heating
Electricity
Natural Gas
Other (Please specify)
These are basic ranges. In some pilots, more options will be offered.

Which of the following solutions do you use for space heating? (Multiple answers possible)
Collective heating *(this option is not pertinent to all pilot cases)*
Central heating (Boiler, heat pump, etc.)
Electric portable / auxiliary heaters
Fireplace
Other (Please specify)
These are basic ranges. In some pilots, more/different options will be offered.

Main source of energy for cooking
This question is not pertinent to all pilot cases.
Electricity
Natural Gas
Bottled Gas
Other (please specify)

Main source of energy for water heating
This question is not pertinent to all pilot cases.
Electricity
Natural Gas
Solar
Other (please specify)

Overall, how much do you estimate you spend on energy bills per month (Electricity, Gas, Other)?
0-30
31-60
61-90
91-120
121-150
More than 150 euros
This is difficult to say as it varies a lot *(this option is not pertinent to all pilot cases)*

How much is your monthly electricity bill (average)?
0-30
31-60
61-90
91-120
121-150
More than 150 euros
This is difficult to say as it varies a lot *(this option is not pertinent to all pilot cases)*

Do you have or have you had in the past difficulties to pay your electricity bills?
Yes, I am currently in arrears. (Estimate amount)
Yes, I have been in the past in arrears, but I'm not currently
Yes, though I haven't been in arrears (for instance, if electricity bill payment has been prioritized over other needs/bills)
No, I haven't had difficulties paying my electricity bills.

Is your electricity bill a big part of your monthly budget?
Yes, it has always been so
Yes, especially for the last few months
No

Do you know the name of your electricity provider?
This question is not pertinent to all pilot cases.
Yes. Please specify
No

Do you know the type of contract that you have? AND/OR do you benefit from an energy bonus/subsidies/other?

These questions aim at assessing which energy benefits respondents have access to as well as their knowledge of these programs. Questions and possible answers will be specific depending on the benefits available locally.
Yes, I benefit from it.
Yes, I think I can benefit from it, but do not know how to proceed to do so.
No, I do not benefit from it
I do not know whether I benefit from it or not.

Part 4: Energy Practices

Which of the following electrical appliances do you own? (Multiple answers possible)
Television
Refrigerator
Freezer
Stove
Oven
Microwave
Dishwasher
Washing Machine
Dryer
Water Heater
Electric heater
Air conditioner
Dehumidifier

Do you know their efficiency rating?
Yes, for all of them
Yes, for many of them
Yes, for some of them
No, for none of them

If no, why? (This question should be asked only if the respondent has answered 'no' to the previous one)
I have never heard of efficiency rating before
I bought these appliances a long time ago and do not remember
I did not buy these appliances and/or got them second-hand

Do you know the efficiency rating of your building/house?
Yes. Please specify (EU Energy labels: A to G)
No

How would you describe your living room (or main living area) in the winters?
Very cold
Cold
Cold and humid
Humid
Comfortable

How would you describe your living room (or main living area) in the summers?
Very hot
Hot

Hot and humid
Humid
Comfortable

Do you have any of the following practices on a regular basis (Multiple answers possible)
Delaying as much as possible the use of electrical appliances (eg. waiting for the washing machine or the dishwasher to be full before using it)
Using appliances at specific times of the day/week depending on electricity tariffs
Prioritizing the use of certain appliances over others (eg. heater over TV or lamp, etc.)
Checking the fluctuations of electricity tariffs throughout the day/week/month
Checking how much electricity you have consumed
Heating only part of your home
Reducing the time spent at home
Reducing the indoor temperature to cut down on expenditure
Waiting for it to be quite dark inside to turn on the lights
Investing in energy efficient appliances
Investing in smart home devices for energy efficiency
Others (Please specify)

Part 5: Sun4All

How did you hear about the Sun4All project?
This question is not pertinent to all pilot cases.
Leaflet
Social Media
Workshops
Neighbours
Other. Please specify
These are basic ranges. In some pilots, more/different options will be offered.

Why did you decide to join?
I joined S4A mostly for the financial benefits (savings on energy bills)
I joined S4A mostly for the other benefits it offers (energy community, workshops, etc.)
I joined S4A both for the financial and other benefits it offers
I joined S4A because I trust the people/institution in charge of it
I joined S4A because friends and/or neighbours advised me to
Other reason (Please specify)

Would you be interested in the following? (Multiple answers possible)
Field visits
Workshops
Receiving documentation on energy efficiency
Mentorship program
These are basic ranges. In some pilots, more/different options will be offered.

Do you know if your local government offer any other help/solutions to households (subsidies, municipal programmes, initiatives, projects, etc.) as regards energy besides Sun4All?
No, I don't know.
Yes, I know a few. Please specify:

6.2. Draft template of the Q2 questionnaire

Below is a draft template of the Q2 questionnaire. This is a first basis that will be improved upon and modified with the inputs from the answers to the Q1 questionnaires as well as with the comments from the pilot partners. It is currently divided in **three sections**.

A first section aims at assessing the impact of Sun4All on the energy spending of participating households and overall knowledge of existing support mechanisms. (Impacts 1 & 3)

A second section aims at assessing the impact of Sun4All on energy practices, investment in new appliances, knowledge of energy efficiency ratings and general comfort of dwelling (Impacts 1 & 2)

A third section aims at assessing the involvement of households in the energy community, whether they feel the program has been beneficial to them and whether they have shared information and knowledge learned through the project with other participating and non-participating households (Impacts 2 & 3)

Part 1: Energy data

Overall, how much do you estimate you spend on energy bills per month (Electricity, Gas, Other)?
Ranges to be defined with Pilot partners

Have you seen any reduction in your energy bills since joining Sun4All (Electricity, Gas, Other)?
Yes - different ranges
No

How much is your monthly electricity bill (average)?
Ranges to be defined with Pilot partners

Is your electricity bill a big part of your monthly budget?
Yes, it has always been so
Yes, but its share has reduced since joining Sun4All
No

As regards your electricity bills, are you:
currently in arrears (as I was before joining Sun4All)
currently in arrears (even more so than I was before joining Sun4All)
currently in arrears (but less so than I was before joining Sun4All)
not currently in arrears (but I used to be before joining Sun4All)
not currently in arrears (and I wasn't before joining Sun4All)

Do you think your electricity consumption has?
Increased since joining Sun4All
Reduced since joining Sun4All
Stayed the same

Do you know the name of your electricity provider?
This question is not pertinent to all pilot cases.
Yes. Please specify
No

Do you know the type of contract that you have? AND/OR do you benefit from an energy bonus/subsidies/other?
These questions aim at assessing which energy benefits respondents have access to as well as their knowledge of these programs. Questions and possible answers will be specific depending on the benefits available locally.
Yes, I benefit from it.
Yes, I think I can benefit from it, but do not know how to proceed to do so.
No, I do not benefit from it
I do not know whether I benefit from it or not.

Part 2: Energy practices

Which of the following electrical appliances do you own? (Multiple answers possible)
Television
Refrigerator
Freezer

Stove
Oven
Microwave
Dishwasher
Washing Machine
Dryer
Water Heater
Electric heater
Air conditioner
Dehumidifier

Have you acquired any new electrical appliances since joining Sun4All?
Yes. Please specify:
No

Do you know the efficiency rating of your building/house?
Yes, I knew it before Sun4All
Yes, I learned it with Sun4All
No

Do you feel you pay more attention of energy efficiency ratings since joining Sun4All than before?
Yes
No

How would you describe your living room (or main living area) in the winters?
Very cold
Cold
Cold and humid
Humid
Comfortable

How would you describe your living room (or main living area) in the summers?
Very hot
Hot
Hot and humid
Humid
Comfortable

Has the general comfort (temperature, humidity, lighting) of your living room improved since joining Sun4All?
Ranges from yes, very much so to no, not at all.

Do you have any of the following practices on a regular basis (Multiple answers possible)
Delaying as much as possible the use of electrical appliances (eg. waiting for the washing machine or the dishwasher to be full before using it)
Using appliances at specific times of the day/week depending on electricity tariffs
Prioritizing the use of certain appliances over others (eg. heater over TV or lamp, etc.)
Checking the fluctuations of electricity tariffs throughout the day/week/month
Checking how much electricity you have consumed
Heating only part of your home

Reducing the time spent at home
Reducing the indoor temperature to cut down on expenditure
Waiting for it to be quite dark inside to turn on the lights
Investing in energy efficient appliances
Investing in smart home devices for energy efficiency
Others (Please specify)

Part 3: Sun4All

How would you rate your overall experience with Sun4All?
Range from dissatisfied to very satisfied

What did you enjoy the most about Sun4All?
Open question

What were for you the main shortcomings of Sun4All, if any?
Open question

Do you feel you know more about energy efficient practices now than before the project?
Yes/No

If yes, have you shared or discussed this new knowledge with other people?
Yes, with other people involved in the energy community
Yes, with people not involved in the energy community
Yes, both with people involved and not involved in the energy community
No

Have your practices as regards electricity/energy changed since the start of the project?
No (why?)
Yes (how?)

During your involvement in Sun4All, did you participate in events (workshops, etc.)?
Yes (which events?)
No (why?)

During your involvement in Sun4All, did you interact with other members of the energy community?
Yes
No

Do you plan on staying involved in the energy community?
Yes
No

(To be adapted depending on phases) **During your involvement in Sun4All, were you involved in the mentorship programme?**
Yes, as a mentor
Yes, as a mentee
No, but I knew about it
No, I didn't know about it

If you participated in the mentorship programme, would you say it was beneficial to you?
Yes/no. Box to develop answer.

Do you know if your local government offer any other help/solutions to households (subsidies, municipal programmes, initiatives, projects, etc.) as regards energy besides Sun4All?
No, I don't know.
Yes, I know a few such as: Open answer to give examples

Since joining Sun4All, have you been able to apply or benefit from any new energy subsidy?
Yes
No

Do you feel your knowledge of existing support mechanisms has increased since joining Sun4All?
Yes
No

If yes, have you shared or discussed this new knowledge with other people?
Yes, with other people involved in the energy community
Yes, with people not involved in the energy community
Yes, both with people involved and not involved in the energy community
No