EU Smart Cities Information System

SOCIAL MONITORING GUIDE

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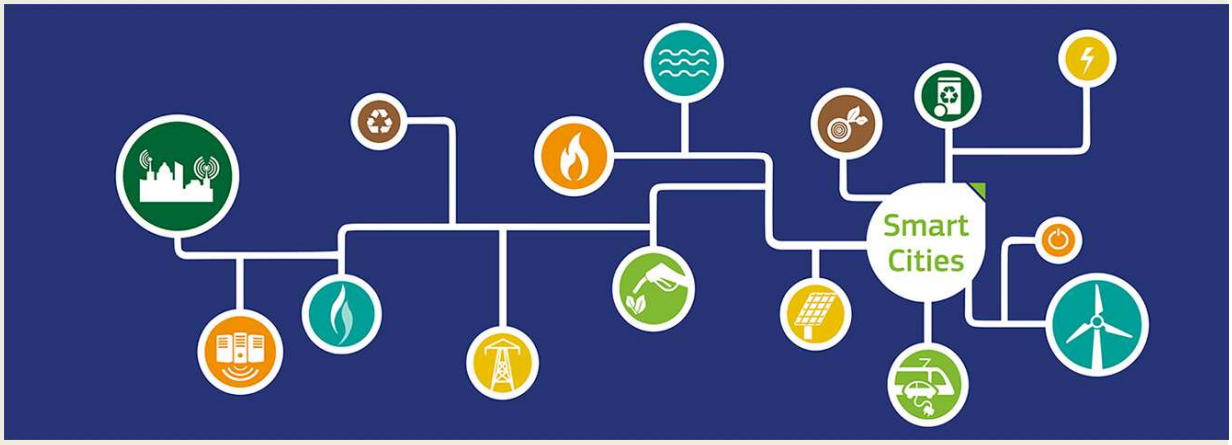

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1. INTRODUCTION

As part of every project, the SCIS includes key socio-economic aspects for the projects monitored, as expected by the European Commission. This guide aims to provide an introduction to such monitoring. It can help project coordinators to obtain a sufficient understanding of the process of social monitoring that allows them to organise and supervise the required activities effectively. Usually, the actual monitoring should be undertaken by a qualified subcontractor or specialist who brings the necessary expertise to the process. This guide is not intended to substitute this. If monitoring was to be done in-house, further literature would need to be consulted – some further reading is suggested in Appendix 4. The 2018 update of this guide includes EU calls and references under H2020 scope until 2017 – calls both include all relevant EeB and SCC projects.

This document has been developed by the SCIS consortia on the basis of the CONCERTO Plus assessment and the CONCERTO Premium Social Monitoring Guide, and has been further elaborated according to the objectives of SCIS. The focus for this guide lies on Energy Efficient Buildings projects.

The aim of the developed and hereafter introduced guideline is to support a conceptual preparation and subsequent implementation of a long-term monitoring for the gathering and assessment of social data. For achieving this objective, an appropriate structure for gathering relevant data is introduced. This is a prerequisite for the social assessment of the respective measures. Furthermore, by providing a common structure, meaningful comparisons of assessment results of different projects are enabled.

This guideline is mainly intended for building owners, planners, occupiers, operators, monitoring experts as well as persons responsible for social project accounting and provides assistance in the systematic acquisition of data for assessing the benefit of measures to society.

2. TYPES OF SOCIAL MONITORING IN SCIS

Social research within the context of a SCIS monitored project can take on the following forms:

1. Monitoring of demographic and contextual data for the project in order to illustrate and contextualise technical outcomes: These will be required for the projects as a whole and will be based on existing research or typical local demographics. Typically, project coordinators have some idea of the demographic profile of the community involved. This data is explained further in section 8. Some contextual data needs to be captured on a per- household or per-person level and therefore is treated as part of individual monitoring (see following point).

2. Monitoring of individual people connected to the SCIS monitored project (occupants and other stakeholders): These address typically a relatively small proportion of occupants, which should ideally be representative for all involved, though the latter is difficult to achieve. This type of monitoring is the main subject of this guide.

3. Technical monitoring related to social aspects: More precisely this relates to comfort and wellbeing. Temperatures, air flows etc. can be recorded and processed using data loggers. As part of post occupancy evaluation, it is relatively common to complement surveys with technical monitoring. However, this has not commonly been done within SCIS projects so far and is not covered here.

This guide concentrates mainly on the second option, i.e. the monitoring of individual people connected to the SCIS monitored project.

3. OBJECTIVES OF THE SOCIAL MONITORING GUIDE

The success and acceptance of energy efficiency measures in buildings and the integration of renewable energy sources at community scale strongly depend on the human factor. This has been pointed out repeatedly by those in charge of SCIS projects. The human factor (e.g. customer engagement) in this process is becoming increasingly more important. Technical measures to reduce energy consumption will only work as intended and reach their full potential if they are operated as intended and if they are fully accepted by those having to live with them. At a technical level, the most important objectives are to ensure that:

- energy costs to occupiers are as expected
- comfort levels have improved as expected
- occupiers understand how to use new equipment to achieve maximum benefits
- occupiers have a general awareness of the importance of saving energy and emissions
- climatic factors are accounted for
- data and personal information of individuals is sufficiently protected

Furthermore, if new technologies and large construction processes are implemented, noise, dust and other disruption to occupants are inevitable. These could cause antagonism amongst neighbours and inhabitants, which in turn would cause additional costs and delays to the project. It is therefore relatively common that larger construction processes are accompanied by some kind of consultation and coordination with the inhabitants affected, offering information and options for participation to the occupants from the planning and construction stage through to the operation phase afterwards.

Targeted social monitoring in particular can help detect the attitudes and concerns of the occupiers. Once these concerns and existing problems have been identified, suitable information and assistance can be offered in order to maximise the advantages of the technical measures for the occupants. (Appropriate social measures vary between the various stages in the construction process.)

This guide concentrates on monitoring these aspects. Typically, this monitoring takes the form of surveys. A number of generic indicators to be covered in such surveys have been developed for SCIS. These would, however, need to be tailored to each project.

4. SOCIAL MONITORING IN DIFFERENT PROJECT STAGES

The intention of this guide is to provide assistance to SCIS monitored projects in the preparation and conducting of social research surveys. The close connection to the inhabitants and their perception and acceptance of the measures should help to ensure good project progress.

Social monitoring is described on the bases of renovation/retrofitting/refurbishment projects, where this kind of research is more relevant compared to newly built houses.

Figure 4-1 shows the three stages of social monitoring with their ideal timeframe within the project plan. Ideally, social monitoring should take place in every stage of the project. There are three stages of social monitoring, which may or may not correlate to a certain year in a SCIS monitored project, though typical timing is indicated.

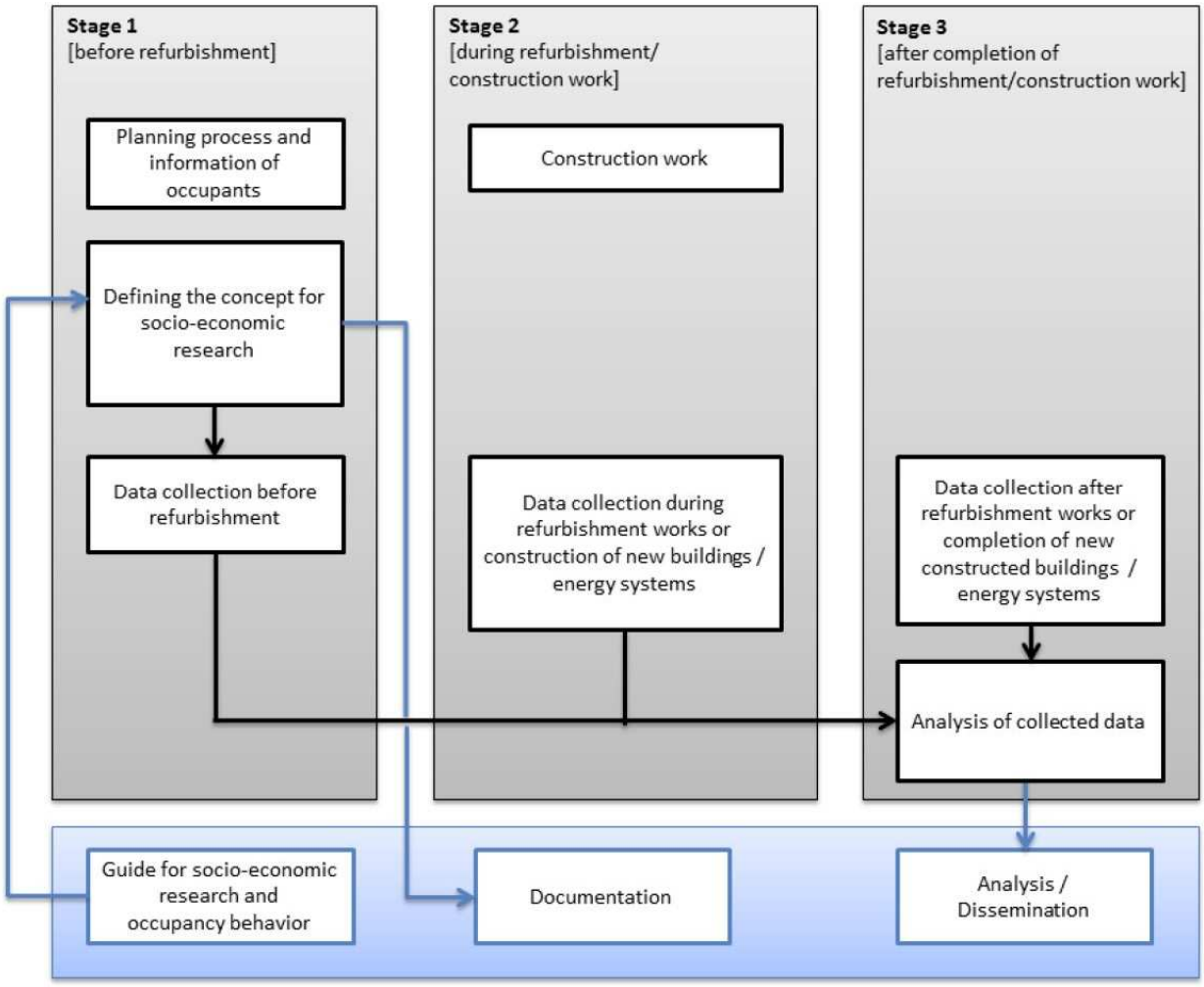

Figure 4-1: Social monitoring phases and activities during the project

4.1 Planning phase and research activities BEFORE the beginning of building works - Project year 1

In this stage, the concept for the social research should be defined. Recommendations can be found in this guide – see section 9.1. Furthermore, it is important to prepare information material regarding the intended measures.

For refurbishment projects, it is particularly important at this stage to give the affected occupants the possibility to participate in the planning process in order to create a strong identification with the measures and the refurbishment process.

For a refurbishment project, the first round of data collection should be completed before construction works start in order to get feedback of the occupants regarding their current living and working conditions, in particular energy costs, and their expectations towards the measures.

For new-build projects and infrastructure projects, it may make sense to have a similar participatory process involving surrounding areas.

4.2 Research activities DURING the construction stage - Project year 2-3

During this stage, the participatory process should continue or at least a point of contact should be provided for people to address concerns to. Monitoring people's attitudes at this stage provides the psychological benefit of keeping them involved in the process and of valuing their opinions and concerns, at a time when their lives are being affected by construction activities (noise, dust…).

4.3 Research activities AFTER the completion of construction works or after the completion of the new buildings or energy systems - Project year 4-5

The most important phase of social monitoring is after the completion of the project to obtain information regarding the influence, perception and the acceptance of the SCIS monitored projects' measures. It is now very important to monitor the occupant behaviour because it has an enormous influence upon the project's success. This may be in the shape of the established concept of post occupancy evaluation (POE). Ultimately, the aim at this stage is to ascertain whether the aims and objectives of the SCIS monitored project have been successfully achieved, or alternatively, to identify the issues why this is not the case.

5. SCIS SOCIAL INDICATORS

5.1 Concerto Plus Indicators and SCIS Indicators

A number of socio-economic core indicators have been developed by Concerto Plus in close cooperation with socio-economic experts working in the individual communities. These indicators were structured in three dimensions – social, environmental and economic.

In principle, SCIS considers the same indicator categories, but in addition looks at technical issues. SCIS concentrates, wherever possible, on indicators that can be calculated from actual consumption or economic data from the projects. This will allow the analysis of a large number of indicators and make comparisons between different projects possible. This calculation based approach is appropriate for those indicators relating to environmental, economic and technical issues as well as the implementation process. The social dimension on the other hand contains indicators that are based on the one-to-one interviews with people affected by SCC measures. Therefore, the socio-economic indicator structure of Concerto Plus had to be adapted to the SCIS approach. While the social indicators have on the whole been retained, the following changes to the existing Concerto Plus indicator structure and definition of the former socio-economic indicators has been made:

- 'Internal comfort levels' have been added to social indicators (previously in environmental indicators (as socio-economic indicators)), as these are mainly addressed using surveys.
- Economic indicators are now being looked at separately in order to cover them in greater depth – they had previously been looked at in conjunction with social indicators.

5.2 Description of the SCIS Social Indicators

It is important to understand that the SCIS indicators are generic indicators. They evolved through a bottom-up process of collaborating with social scientists implementing social monitoring within the various projects. As the SCIS monitored projects vary considerably in size and technical and strategic approach, the social monitoring activities varied accordingly.

The Concerto Plus indicators evolved from a process of classifying and categorising these widely diverging indicators. For this reason, fairly general indicators have been identified. While the following paragraphs provide a definition of each indicator and thus illustrate the overall intention of the social monitoring, the indicators would need to be interpreted in a way appropriate to the specific project. The survey questions given in the boxes are mere examples – projects would need to adapt them to their specific conditions and circumstances.

Table 5-1: SCIS socio economic indicators – stakeholder assessment of the project

CATEGORIES	No.	Indicator	UNIT/SCALE OF MEASUREMENT
Categories	1	Degree of satisfaction/acceptance by inhabitants/tenants/owners	% of addresses/inhabitants/etc. satisfied with the measure
			5 point likert scale degree of acceptance
	2	Level of information & direct participation	% of stakeholders/inhabitants/tenants/etc. Who are satisfied with the level of information on the SCIS activities
			% of stakeholders/inhabitants/tenants/etc. who feel more informed about energy topics after the measures than before
			5 point Likert scale: degree of satisfaction with the level of information on the SCIS measure
			5 point Likert scale: perception on involvement in decision making in the area
			5 point Likert scale: change degree of trust in energy saving methods due to the project
			5 point Likert scale: degree on the increased understanding of energy bills and labels
	3	Active/proactive householders' behaviour	% of householders in the area taking part in a feedback system on their energy consumption or in an energy check
			% of householders who changed their energy consumption behaviour
			% of households who measure and analyse their energy use
			5 point Likert scale: perception on how much the measure changed the behaviour of the householders
			5 point Likert scale willingness to invest in energy savings measures or to pay more for RES/EE/green electricity
			% of people who are willing to invest in energy saving measures or to pay more for RES/EE/green electricity
			% of households who take advantage of ICT devices
			% of household participating in community renewable energy projects
	4	Internal comfort level and quality of life after the implementation of the project	Perception of owner-occupiers, tenants and employees in demonstration buildings feeling that the internal comfort level (humidity, temperature, natural lighting, noise etc..) has improved because of the project measures
			Metered indoor comfort level after SCIS measures
			% of owners, occupiers, tenants and employees in demonstration buildings feeling that the internal comfort level (humidity, temperature, natural lighting, noise etc..) has improved because of the project measures

5.2.1 Degree of satisfaction/acceptance by inhabitants, tenants, owners and improvement of level of comfort

This indicator covers the level of satisfaction of those affected (tenants, owners, citizens of the community, other stakeholders, etc.) with the measures they come in contact with. These may include the refurbishment of their home or office, the installation of a solar heating system, the

implementation of district heating, training programmes, energy audits, dissemination measures, etc. It also includes the degree of satisfaction with the district or area as a place to live and work covered by the project. In case of refurbishment measures taken, this indicator is intended to be monitored twice:

- during the implementation of the measures
- after the implementation of the measures

Examples for survey questions can be found in Annex I

5.2.2 Level of information & direct participation:

This indicator addresses the question whether inhabitants were sufficiently informed before, during and after the measures (information material, campaigns, events, meetings, interviews, etc.). This indicator combines the following items and measures:

- Degree of satisfaction with the level of information on the measures/project from the point of view of the occupants living within the project area as well as employees and landlords of/within demonstration buildings.
- Share of interviewees who feel more informed about energy topics due to the project - interviewees are mainly occupants living within the area as well as employees and landlords of/with demonstration buildings.
- Perception on involvement in decision-making in the project from the point of view of occupants living within the project area as well as landlords of demonstration buildings. This aspect is particularly relevant in the planning and construction phase.

Examples for survey questions can be found in Annex I.

5.2.3 Active/proactive householders' behaviour

This indicator provides information on the behaviour of the householders. It addresses householders taking part in any type of feedback-system on their energy consumption (e.g. diaries, regular questionnaires on energy consumption, internet surveys, collecting energy bills, control instruments, etc). Additionally, it also assesses whether householders have changed their energy consumption behaviour (either as a result of the SCIS measures or for other reasons). The indicator also refers to the willingness of people to invest in energy efficiency measures (e.g. insulation, energy efficient equipment or energy-saving household appliances, light bulbs, further refurbishment measures, etc.) or spend more on renewable energy and green electricity.

- Share of occupants living within the project as well as employees and landlords of/within demonstration buildings taking part in a feedback system on their energy consumption or in an energy check.
- Share of occupants living within the SCIS area as well as employees within SCIS demonstration buildings who changed their energy consumption behaviour because of SCIS information.
- Willingness to invest in energy saving measures or to pay more for renewable energy/ energy efficiency measures/ green electricity, from the point of view of occupants in the SCIS area as well as landlords.

Examples for survey questions can be found in Annex I.

5.2.4 Improvement of internal comfort level:

This indicator covers changes in internal comfort levels (humidity, temperature, natural lighting, acoustic quality, etc.) as a consequence of the SCIS measures.

- Perception of owner-occupiers, tenants and employees of demonstration buildings on indoor comfort level after project measures
- Metered indoor temperatures, air flows etc. after project measures
- Share of occupants and employees within demonstration buildings feeling that the indoor comfort level has improved because of the project measures

Examples for survey questions can be found in Annex I.

6. SCIS STANDARD-QUESTIONS

For projects that have not started their social monitoring yet, we ask to please incorporate the following questions into their surveys. Please use them exactly as stated in Annex I (translated into your language), so that comparison between projects is possible. The questions are very general for the reasons stated in the previous paragraph. You may wish to supplement them with further, more specific questions.

7. CONTEXTUAL DATA TO BE GATHERED TOGETHER WITH INDICATOR–RELATED DATA

Some contextual data needs to be captured on a per-household or per-person level and therefore is treated as part of one-to-one surveys in the following point.

Specifically, this is data related to energy consumption, which is important for the technical evaluation of the project.

- Energy consumption for electricity and heating fuels from utility bills, usually on an annual basis
- Energy cost for electricity and heating fuels from utility bills, also usually on an annual basis

Unless centralised automatic monitoring system or smart metering is in place with ready access to data, the relevant information should be asked as part of the indicator survey as stated in *Table **7-1***.

Table 7-1: Energy-related data to be captured

New	*5*	Energy	Actual energy **CONSUMPTION** in households surveyed BEFORE project start
			Actual energy **CONSUMPTION** in households surveyed AFTER implementation of measures
			Actual energy **COST** in households surveyed BEFOR**E** project start
			Actual energy **COST** in households surveyed AFTER implementation of measures

8. DEMOGRAPHIC DATA AND HOUSING DATA

A list of demographic data and housing characteristics has been compiled that should be collected and provided to SCIS. This information can give insights on implications and impacts on the beneficiaries and can help the EU to ensure that potential benefits or problems for specific projects take into account socio-economic needs in the regions where projects are implemented. The results may offer an indication of the potential of the measures in other regions in the EU. However, the technologies as such are generally not specifically tailored to the different groups dined by socio-economic factors. Each new project using those technologies will require an analysis of impacts, costs and benefits for different groups, if relevant:

- Age of inhabitants (average and percentage of a number of suitable categories)
- Highest level of completed education of inhabitants - please give percentages for each education level (levels according to ISCED 1997)
- Number of socially vulnerable households (at risk of social exclusion (or supported by social benefits as a proxy, such as number of households receiving housing subsidies) percentage of total)
- Net monthly income of the households in the project area (average and percentage of a number of suitable categories)
- Size of the household (average and percentage of a number of categories)
- Ownership structure: rental/ownership (please give percentages)
- Building types in the project area (please give percentages)
- Construction year categories of the residential and non-residential buildings (average age and percentage per Eurostat category)
- Size of the dwelling in m2 (average and percentage of a number of categories)

9. SOCIAL MONITORING METHODOLOGIES

9.1 Defining Monitoring Objectives

In the run-up to the data collection process for social monitoring, the objectives need to be defined clearly, as the choice of data capture methodology depends on these.

Answering the following questions should help clarify the objectives of these and consequently help to formulate the most appropriate questions:

What should be analysed? – This ultimately needs to match the project's technical objectives and provide answers as to how far these have been achieved

Why should it be analysed? There ought to be a clear strategy for using results internally for example for identifying and overcoming barriers and improve the project

Where will the monitoring take place and who should be monitored in this way?

What method should be used for collection? The information in the following sections can only provide a short overview and should ideally be discussed with professionals in this field.

9.2 Choosing a Data Collection Method

9.2.1 Surveys - General

Surveys can be done in writing, online or face to face. Surveys are often referred to as a simple tool. However, regardless of the mode chosen, they require a good understanding of the target group, questionnaire design, interview techniques, sampling techniques, and the analysis of outcomes. They would therefore normally be guided by professionals with in-depth knowledge on such techniques and interpretation of outcomes. If only a short number of simple questions are asked (have the energy -saving lamps been installed? Are you happy with them?), these could be conducted by a lay person.

A survey can be a one-off activity or can be repeated after a period of time to measure changes. For the repetition, the same sample of addressees can be used (panel survey) or different persons can be surveyed.

9.2.2 Questionnaire-Based Surveys

Questionnaires as instrument are designed for self-completion and can be in 'paper-and- pen'-form (delivered by post, handed out in person) or in electronic form (e-mail, dedicated internet platform etc.). They represent a common method in social sciences for collecting information, attitudes, values or demographic data.

Advantages of the questionnaire method are:

- A possibility to gather and analyse a large amount of data;
- A comparatively affordable and quick method;
- Statistical correlations can be identified;
- Elimination of interviewer effects;

Disadvantages of the questionnaire method are:

- The return rate of questionnaires is often low;
- No control over whether the intended persons themselves complete questionnaire or someone else;
- No control if the questionnaire is completed as intended;
- Little flexibility during the course of the survey – the questions are determined beforehand and cannot normally be altered to address concerns participants may have;
- Ambiguity of questions: unclarity about the meaning of questions could lead to wrong answers.

Questionnaires are also sometimes used as part of 1-to-1 interviews, where not all of the above points apply.

9.2.3 Interview-Based Surveys

In the context of social monitoring of a construction project, it can be assumed that personal interviews would target a small number of specifically chosen key persons (in contrast to wide spread telephone interview campaigns addressing a large and statistically relevant number of people that are sometimes conducted by market research companies). Participants can be occupants or other stakeholders of the project. Interviews are most suitable for collecting in-depth information on a specific part of the project. The data collected is mainly of qualitative nature; interviews are useful for collecting opinions e.g. on whether the project meets the needs of the occupants, if the results match the expectations, how interventions have been implemented, if there have been changes in behaviour, etc.

Interviews can be fully standardised, semi-structured (e.g. following a guideline of key topics) or unstructured (e.g. the content evolves during the interview). However, the last two options require skilled staff. Interviews can be distinguished into individual and group interviews.

9.3 Focus groups

Focus groups are a special type of interview. These are small group discussions guided by a skilled group leader. The participants are stakeholders with different backgrounds and representative viewpoints on the topic. With this technique, it is possible to collect a large amount of qualitative data and opinions in a short time. It is most suitable for complex topics where various opinions exist. Focus groups are not only a tool to collect data, they are also useful for bringing together stakeholders and involving them into evaluation work, which increases the acceptance of the project results.

9.4 Observations

The activities of management, occupants and other stakeholders are observed. An observation can be done openly or in secret, and requires specialist staff. The technique is time-consuming and most suitable for situations where little prior knowledge of the subject matter or situation exists. These surveys are often not necessary for SCIS monitored demonstration projects.

9.5 Case Studies

These are small studies that are based on a mix of different data collecting methods and sources. Case studies provide an inside view on a certain case (e.g. a region, company, organisation, group of people, decision-making process, etc.). They can be subdivided into exploratory studies (which give a better understanding of what has happened), descriptive studies (which illustrate good practice) and explanatory studies (which explain why a certain measure has been successful, etc.).

9.6 Desk-Top Studies

Desk-top studies have a different objective to the other methods listed previously, as they are more suited for gathering contextual data, rather than to the monitoring of the actual situation of a project. Desk-top studies rely on secondary data which is collected and evaluated. Possible sources are statistics for the local area, project documents, technical literature, data from monitoring systems, etc. For the SCIS projects, such a desk-top study should be undertaken as well in order to collect contextual data.

10. DESIGNING AND PLANNING THE SURVEY

10.1 Longitudinal or Retrospective Design

Most communities of SCIS generation 1 and 2 used questionnaires for social research in order to analyse the impact and acceptance of the implemented energy efficiency measures and the use of renewable energy sources by the occupants. Depending on the status and specifics of the project, two different ways of designing a social survey are common: the longitudinal research design and the retrospective research design.

The longitudinal research design is recommended for surveys in refurbished/retrofitted buildings and comprises a set of surveys at different dates throughout the refurbishment process - ideally before, during and after the refurbishment measures. Its aim is to identify changes in satisfaction and acceptance of the occupants and other project stakeholders.

This research design is most applicable for projects where the occupants are the same before and after the refurbishment or where the occupants even stay in their homes during the refurbishment. In this case, changing levels of satisfaction and changes in perception throughout different phases of the refurbishment process can be captured.

The objective of interviewing before refurbishment is to define a baseline with which the results of the following rounds of the survey can be compared. During refurbishment, interviews can identify impacts of the construction works on people's everyday lives, their coping strategies or their level of satisfaction. Interviews should ideally take place at the point of maximum stress for the occupants, caused by the construction work. The questionnaire should be short to ensure a high return rate and to not cause additional stress to the survey participant. After the completion of the refurbishment, interviews will show further changes in the satisfaction levels, which can then be compared to the baseline. Therefore, it is important to ask the same questions and to ask for the same indicators as before the beginning of the refurbishment measures.

For surveys among occupants of new buildings or buildings where it is not possible to have several rounds of interviews during the refurbishment process, a retrospective interview after the completion of the construction works is recommended. The content of such an interview contains all relevant questions of a longitudinal research design for refurbished buildings but with the disadvantage of a missing baseline

10.2 Data Collection Procedure Using the Questionnaire

10.2.1 Method

If it has been decided that the questionnaire method is appropriate for a given project, the steps outlined below are to be followed:

- In order to design the survey, the party tasked with conducting the survey would need to develop an understanding of the project. Therefore, project information needs to be collected by them.
- The survey client needs to define a briefing, ideally in collaboration with the party conducting the survey. Key points that would indicate the overall success of the project need to be identified, as these would need to be addressed by the survey. Objectives of the survey need to be defined in order to focus and pitch questions appropriately.

- The questionnaire has to be designed by phrasing the relevant questions and designing the layout.
- The questionnaires should be tested on a small number of people outside the social monitoring team in order to ensure that it can be understood readily, that there are no ambiguities in the text and other weaknesses in layout etc., with improvements being made accordingly.
- The revised questionnaires can be sent out or handed out to the survey participants. They should be given an appropriate time frame for filling in the questionnaires and to respond.
- Follow-ups for not responding participants can increase the return rate.
- The data in the questionnaires can then be assessed and analysed.
- The results of the survey can be presented and a final report on the outcomes can be prepared.

10.3 How to Design the Questionnaire

10.3.1 Appearance and layout of a questionnaire

Good design is crucial to increase the response rate. The questionnaire should look visually appealing and be well laid out. Here are some hints that may serve as a checklist for checking and approving questionnaires provided by a third party:

- Make headings and instructions clear.
- Make sure the method of answering is obvious.
- Where codes for later interpretation need to be included, these should not interfere with legibility of the layout.
- Use space generously to avoid a cramped and untidy appearance. Do not split a question across two pages.
- Number all questions.
- Take care of the order of question, making sure that questions build upon each other, proceeding in a logical manner.
- Generally, start with broad, straightforward questions and include more complicated, specific or sensitive ones later.
- Vary the question format to add interest.
- End questionnaire with a “Thank you” and give a clear deadline for responses.

Last but not least, a questionnaire should not demotivate the participants by its length. Keep it as concise as possible.

10.3.2 Wording of questions

To gather reliable data, do not use…

- biased words/phrases
- vague words or phrases, especially for items addressing frequencies regarding behaviour
- ambiguous phrases
- double barrelled questions: No and/or, use only one thought per question
- double negatives: formulating questions in a negative way makes the question more complex
- abbreviations, jargon or (unexplained) technical terms

10.3.3 Types of questions

Closed questions

A questionnaire consisting exclusively of closed questions can be used to quantify known aspects or theories. Most common are dichotomous questions with yes/no- answers, multiple choice questions, checklists, the Likert Scale, rankings and semantic differential scales.

Open-ended questions

In order to track further aspects or sources of problems, a questionnaire also containing open-ended questions which can be answered freely (e.g. What do you think about…?) or semi-open questions is appropriate; however, these types of questions require more time for analyses. Furthermore, using these types of questions makes it more difficult – and sometimes even impossible – to perform statistical analysis over the data.

Likert Scale

Likert scales are widely used in social research topics. Respondents are asked to specify their level of agreement or disagreement on a scale for a series of statements. These items are designed to measure attitudes or opinions. The measurement can be translated into odd or even-numbered scales without a neutral midpoint. The range of answer options should not be too wide, e.g. above nine-point-scales, otherwise they might overload the decision making of the respondents. It appears that people refrain from using the opposite ends of the questionnaire scale. Therefore, you have to provide enough options. On the other hand, an overload of options is not beneficial for the monitoring either. Most common are the five-point-scale and the seven-point scale, which SCIS recommends using

11. ANALYSES AND DOCUMENTATION

11.1 Return Rates

The return rates vary strongly with the type of questioning method:

- Postal written questioning: often relatively low to medium
- Personal-oral questioning: medium to very high

The number of missing or incomplete questionnaires is very high for written questionnaires. Furthermore, the rate of return also depends on the length of the questionnaire and the individual importance of the questionnaire topic. Reminders can increase the return rate.

11.2 Interpretation of the Social Data

No detailed instructions are provided here, as again, this should be done by specialists. For the interpretation of the collected data, the methodology for analysis is also dependent on the type of questions chosen. Quantitative questions are interpreted by statistical methods; open-ended question formats require a qualitative analysis.

In general terms, results need to be compiled by topic or question. This means that for closed questions, answers of all participants need to be added up question by question, which could then be presented as a series of graphs. Open-ended answers need to be sorted by question and possibly summarised. The gathered data should then be put into context to sample size and sample composition (was there a good spread of participants?). Generalisations of results are only feasible if the sample is representative of the whole population or local inhabitants. If data from different countries is to be compared, it has to be considered that cultural aspects might affect the results, e.g. in terms of answering strategies.

Ultimately, it is down to the survey client to define what answers to survey should provide and how the data hence needs to be interpreted.

11.3 Cooperation and Data Transfer to SCIS

SCIS aims to undertake an overarching analysis of social monitoring results from all SCIS sites. Even though social monitoring has to be different for each site in order to match project characteristics and objectives, it is required that the results from individual sites are summarised in a way that allows for such an analysis.

12. ANNEX I

QUESTIONS TO EU project participants			Additional information
SCIS Standard questions			
How satisfied are you overall with the project?	Likert scale:		
How satisfied are you overall with the information you received on the project?	Likert scale:		
Please rate how internal comfort in your home/workplace has changed, compared to before the project measures	Likert scale:		
Please rate how your energy consumption has changed, compared to before the project measures	Likert scale:		
Please rate how your energy bills have changed, compared to before the project measures	Likert scale:		
Degree of satisfaction/acceptance	**Yes**	**No**	
How satisfied are you with your current heating system?	Likert scale:		Please specify
How satisfied are you with the energy efficiency of your home?	Likert scale:		Please specify
Did the project measures meet your expectations?			Main issues identified:
How satisfied are you with your new energy efficient windows?	Likert scale:		Please specify
How satisfied are you with your new heating system?	Likert scale:		Please specify
Level of information and direct participation	**Yes**	**No**	
Do you feel you received sufficient information regarding the project during its planning phase?			Please specify shortly
Have you received personal instructions on how to use your new heating system/ventilation system (e.g. one-to-one training, group training sessions or			

written information)?			
How well do you feel you understand the control of your heating/ventilation system?	Likert scale:		
Do you know what to do if your new heating/ventilation system fails?			
How highly involved in the decision-making process have you been?	Likert scale:		
Were you satisfied with the level of involvement in the decision-making process offered to you?			
To what extend are you now better informed on energy issues than in the past?	Likert scale:		
To what extend do you have more trust in energy saving methods than in the past?	Likert scale:		
To what extend do you better understand energy labels/bills better than in the past?	Likert scale:		
Active/proactive householders' behaviour	**Yes**	**No**	
Are you monitoring your energy consumption on a monthly level?			Please specify shortly
Have you done an energy check by monitoring energy consumption of appliances, or have you had an energy audit in your home?			
Have you become more aware of your energy consumption?			
Has your energy consumption decreased?			
Are you willing to pay extra for more sustainable (greener) energy?			
Has this project made you more aware of your energy consumption?	Likert scale		
Are you using ICT devices to monitor your energy usage?			
Are you participating in community renewable energy projects?			
Improvement of internal comfort level and quality of life	**Yes**	**No**	
What temperature do you heat to in			

winter?			
What indoor temperatures do you have in hot summer weather?			
Are you satisfied with the temperatures in your home?			
Are temperatures in your home more comfortable than before?			
Is your home more/less draughty than before?			
Do you get more/less condensation than before?			