SMART CITIES INFORMATION SYSTEM

PART II.

Social Monitoring Guide for SCIS projects

Editor: Jorge Núñez Ferrer, CEPS

Reviewer: Valentina Bonaccorso, GOPAcom

EU Smart Cities
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This document has been elaborated by the SCIS consortia on the basis of the CONCERTO Plus assessment and CONCERTO Premium Social Monitoring Guide, but more focused and improved in line with 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 supporting 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 types of costs is introduced. This is a prerequisite for the social assessment of the respective measures. Furthermore, by providing a common cost 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. However, it can also be used by the respective stakeholders for supporting the development of a permanent structure for collecting and assessing costs in the context of social monitoring.

1. ABOUT THIS GUIDE

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 is supposed to help project coordinators and person in charge of the monitoring to obtain a sufficient understanding that allows them to organise and supervise the required activities effectively. Usually, the actual monitoring would be undertaken by a qualified subcontractor or specialist who would bring 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.

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 would have some idea of the demographic profile of the community involved. This data is explained further in section 8. A purpose made spreadsheet is available to SCIS monitored projects to capture this data, called "[date]_ Social_Data_Master.xls" (sheet "checklist base data"). 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 in prior projects (e.g. CONCERTO initiative) so far and is not covered here.

This guide concentrates mainly on the second option, i.e. surveys.

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 monitored projects. 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

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 in the project implementation. It is therefore more and more 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 detecting 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 the monitoring these activities. 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.

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 respectively technologies should help to ensure a good project progress.

4. Social Monitoring in different Project Phases

Figure 4.1 shows the three phases of social monitoring with their ideal timeframe within the project. 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 with a certain year in a SCIS monitored project, though typical timing is indicated.
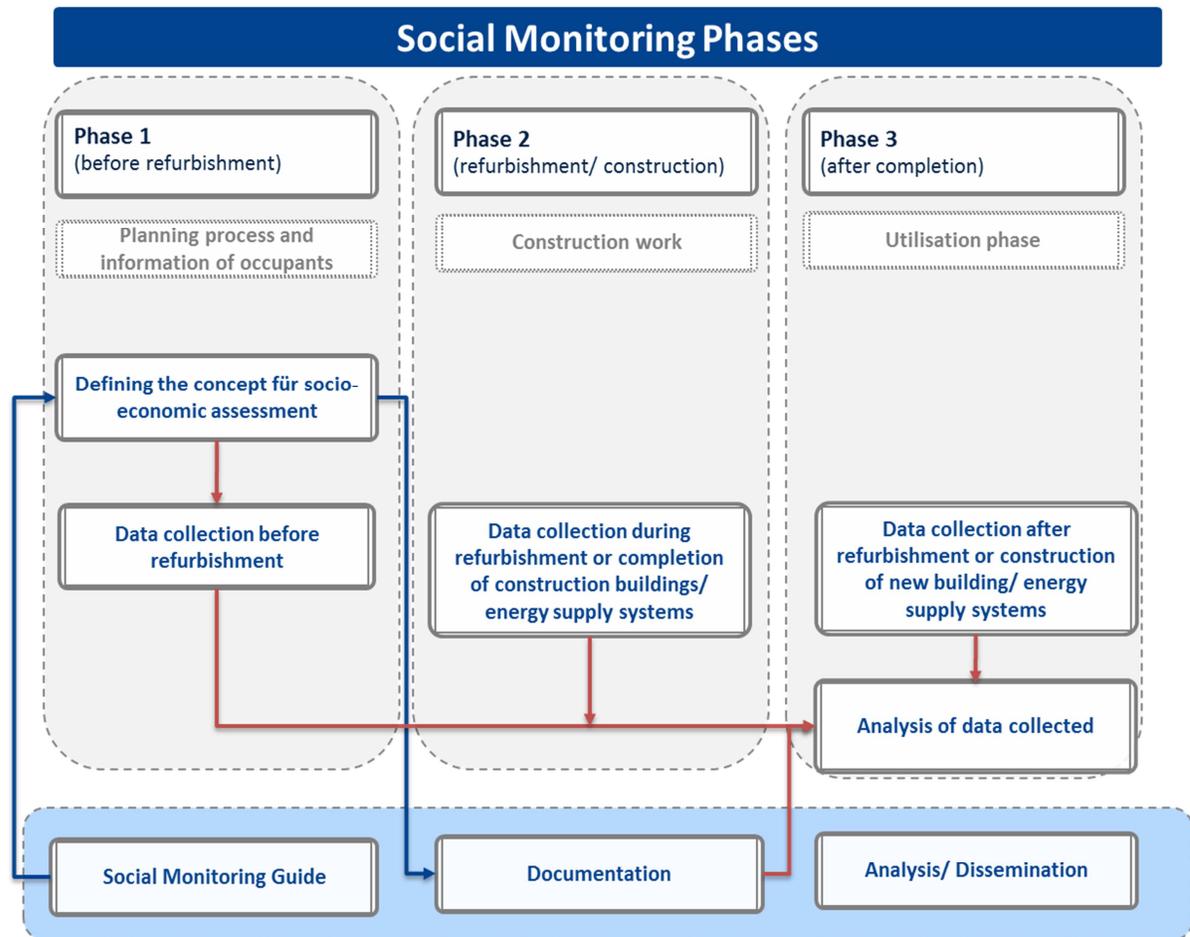

Figure 4.1: Social Monitoring Phases and Activities during the project

4.1 Phase 1: Planning phase and Research activities BEFORE the beginning of building works - Project year 1

In this phase the concept for the social research should be defined. Recommendations can be found in 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 a 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 neighbours in surrounding areas.

4.2 Phase 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 attitude at this stage provides the psychological benefit of keeping them involved in the process and valuing their opinions and concerns, at a time when their lives are being affected by construction activities (noise, dust…).

4.3 Phase 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. 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 so.

5. SCIS SOCIAL 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 and have now been reviewed for SCIS to match the objectives of information system.   These   indicators   were structured in three dimensions – social, environmental and economic.

In principle, SCIS considers the same indicator categories, but in addition looks more closely 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.

5.1 Description of SCIS Social Indicators

It is important to understand that the SCIS indictors are generic indicators. They evolved through a bottom-up process of collaborating with social science experts 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 vary accordingly.

The SCIS indicators evolved from a process of classifying and categorising these widely diverging indicators in CONCERTO. 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 1 - SCIS socio economic indicators- stakeholder assessment of 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 project 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 project measures
			5 point Likert scale perception on involvement in decision making in the area
	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
			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
	4	Internal comfort level after the implementation of the project	Perception of owner-occupiers, tenants and employees of/within SCIS monitored demonstration buildings feeling that the internal comfort level (humidity, temperature, natural lighting, noise etc..) has improved because of the measures
			Metered indoor comfort level after SCIS measures
			% of owners occupiers, tenants and employees within SCIS monitored demonstration buildings feeling that the internal comfort level (humidity, temperature, natural lighting, noise etc..) has improved because of the project measures

5.2 Degree of satisfaction/acceptance by inhabitants, tenants, owners and improvement of the level of comfort:

This indicator covers how satisfied are those affected by the projects (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 the measures
- after the implementation of the measures

Examples for Survey questions:

Before:

- How satisfied are you with your current heating system? (Likert scale)
- How satisfied are you with the energy-efficiency of your home? (Likert scale)

After:

- Did the project measures meet your expectations? y/n
- How satisfied are you with your new energy efficient windows? Your new heating system? (Likert scale)

5.3 INFORMATION and Knowledge - 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 the demonstration buildings.
- Share of interviewees who feel more informed about energy topics due to the project - interviewees are mainly occupants living within the project area as well as employees and landlords of/within 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:

- Do you feel you received enough information regarding the project in its planning phase? y/n
- Have you been offered / have you received personal instruction on how to use your new heating system / ventilation system? (one-to-one or in a group training session) y/n
- Have you received written information regarding your new heating system / ventilation system? y/n
- How well do you feel you understand the control of your heating system / ventilation system? Likert scale
- Do you know what to do, if your new … system fails? y/n
- 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? y/n
- Do you feel in general, that you are better informed now on Energy issues than in the past? y/n

5.4 Positive Change: Active/proactive householders' behaviour within the SCIS area

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). Additionally, it also assesses whether householders have changed their energy consumption behaviour (either as a result of the project 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) or spend more on energy from renewable energy sources and green electricity.

- Share of occupants living within the area 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 project area as well as employees within the demonstration buildings who changed their energy consumption behaviour because of provided information.
- Willingness to invest in energy saving measures or to pay more for energy from renewable energy sources / energy efficiency measures / green electricity, from the point of view of occupants in the project area as well as landlords.

Examples for Survey questions:

- Are you monitoring your energy consumption on a monthly level? y/n
- Have you done your own energy check by checking which appliances use energy at which time / did someone do an energy check or audit of your home with you? y/n
- Have you become more aware of your energy consumption? y/n
- Are you using less energy than before? y/n
- Are you happy to pay higher price for green energy? y/n
- Has this project made you more aware of your energy consumption / of energy issues? Likert scale

5.5 Qualitative assessment of Comfort: Improvement of internal comfort level:

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

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

Examples for Survey questions:

- What temperature do you heat to in winter? (in deg. C)
- What indoor temperatures do you have during hot summer weather? (in deg. C)
- Are you satisfied with the temperatures in your home? Likert scale
- Are temperatures in your home more comfortable than before? y/n
- Is your home more/less draughty than before? y/n
- Do you notice more/less condensation than before? y/n

6. SCIS STANDARD-QUESTIONS

For projects that have not started their social monitoring yet, we kindly ask to incorporate the following questions into their surveys. Please use them exactly as stated here (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.

1. How satisfied are you overall with the project?

2. How satisfied are you with the information you received on the project overall?

3. Please rate how the internal comfort in your home/workplace has changed, compared to the situation before the implementation of the measures?

4. Please rate how your energy consumption has changed, compared to the situation before the implementation of the measures

5. Please rate how your energy bills have changed, compared to the situation before the implementation of the measures

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 is therefore treated as part of one-to-one surveys in the following point. This is in particular data related to energy consumption, which is important for the technical evaluation of the project.

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

Unless centralised automatic monitoring system or smart metering is in place with available access to data, the relevant information should be asked as part of the indicator survey as stated in Table 2.

Table 2 - Energy-related data to be captured

New	5	Energy	Actual energy **CONSUMPTION** in households surveyed <u>BEFORE</u> project start
			Actual energy **CONSUMPTION** in households surveyed <u>AFTER</u> implementation of measures
			Actual energy **COST** in households surveyed <u>BEFORE</u> project start
			Actual energy **COST** in households surveyed <u>AFTER</u> implementation of measures

8. DEMOGRAPHIC DATA AND HOUSING DATA

A list of demographic data and housing characteristics should be collected and provided to SCIS to assess the coverage of and impact on different socio-economic groups. This information can give some 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 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 defined by socio-economic factors. Each new project using those technologies will require an analysis of impacts, costs and benefits for different groups, if relevant.

The data should refer to the project AREA, not just the households surveyed. Please see the sheet "Checklist base data" in the current version of the document "[date]_Social_Data_Master.xls" for the relevant data capture form.

- Age of inhabitants (average and percentage of a number of suitable categories)
- highest level of completed education of inhabitants - please indicate percentage 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 households in the project area (average and percentage of a number of suitable categories)
- Size of a household (average and percentage of a number of categories)
- Ownership structure: rental / ownership (Please indicate percentages)
- Building types in area (Please indicate percentages)
- Construction year categories of residential and non-residential buildings (average age and percentage per Eurostat category[1])
- Size of a dwelling in m^2 (average and percentage of a number of categories)

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[1] For the definition of categories of buildings divided by the year of construction EUROSTAT refers in the 2001 census for dwellings to the classification indicated in the document "Recommendations for the 2000 census of population and housing in the ECE region" published together with The United Nations Economic Commission for Europe UNECE, see pages 67-68 online at http://www.unece.org/fileadmin/DAM/stats/documents/statistical_standards_&_studies/49.e.pdf

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 to 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? – Please refer to the information in the following sections. Note that the information 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 be 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. In case only a short number of simple questions is asked (Have the energy-saving lamps been installed? Are you happy with them?), these could also 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 number 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 indeed someone else does so
- 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.

Questionnaires are also sometimes used as a 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 involved in 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.

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 in 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 a lot of different 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 open or 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). 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 in comparison to the other methods listed previously, as they are more suited for gathering contextual data, rather than for the monitoring of the actual situation of a project. Desk 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 projects such desk study should be undertaken as well in order to collect contextual data. This is introduced in outline in Section 7 and a data collection sheet is provided to all projects ("[date]_Social_Data_Master.xls").

10. DESIGNING AND PLANNING THE SURVEY

10.1 Longitudinal Or Retrospective Design

Most communities of CONCERTO 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 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 delivering information for the same indicators as were used 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 interview contains all relevant questions of a longitudinal research design for refurbished buildings but with the disadvantage of the 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 would have to be gone through:

- 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 provided.
- The survey client needs to define a brief, 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. Ambiguities in the text and other weaknesses in layout etc. should be avoided. and improvements performed 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 increasing the response rate. The questionnaire should look visually attractive 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.
- Use colours in your text or coloured paper in order to make it look more appealing
- 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, avoid cramped, untidy appearance. Do not split a question over two pages.
- Number all questions.
- Take care over the order of question, making sure that questions build on each other and proceed in a logical manner.
- Generally start with broad, straight forward 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 as concise as possible.

10.3.2 Wording of questions

To gather reliable data do not use…

- biased words/phrases
- vague words or phrases e.g. especially for items addressing frequencies regarding behaviour
- ambiguous phrases
- double barrelled questions: No and/or, use only one thought per question
- double negatives
- 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 containing also 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!

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. Most common are the five-point-scale and the seven-point scale. SCIS recommends using a 5-point scale

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 often 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 can be 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 in 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 for the whole population or local inhabitant. 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 the 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 demonstration sites. Even though social monitoring has to be different for each site in order to match project characteristics and objectives, it requires that the results from individual sites are summarised in a way that allows for such analysis.