TURNKEY RETROFIT

Process and impact evaluation strategy

CSTB le futur en construction

tecnalia Inspiring Business

ANERR Asociación Nacional de Empresas de Rehabilitación y Reforma

perene

IGBC IRISH GREEN BUILDING COUNCIL

NUI Galway OÉ Gaillimh

BPIE

RPM RESEARCH TO MARKET SOLUTION

EIP

Project Acronym	Turnkey Retrofit
Project Name	TURNKEY solution for home RETROFITting
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EXECUTIVE SUMMARY

This document provides the strategy and data collection instruments (i.e. surveys for homeowners, semi-structured interviews for Local Implementation Group members) for evaluating and validating the TURNKEY RETROFIT service. The approach adopted integrates an evaluation of the quality of the service in terms of the quality of the technical refurbishment as well as the quality of the customer relationship all along the renovation process. It also includes a calculation and evaluation of Key Performance Indicators (KPIs) including uptake of home renovation at local level, corresponding investments in energy improvements, and primary energy savings triggered.

This document allows project partners in France, Spain and Ireland to have a common strategy and methodology for process and impact evaluation and provides a template to present the evaluation results arising from the analysis of the TURNKEY RETROFIT service in each country, which will subsequently be published in D4.2. A cross-country analysis of results will be undertaken and presented in D4.3, which will include lessons and guidelines for future large-scale uptake of the TURNKEY RETROFIT service beyond the project lifetime.

This document combines several interrelated components that together comprise the process and impact strategy and the tools necessary for its successful implementation. Central data collection tools include a participant project information sheet and informed consent form, an interview guide, and a householder survey. Documentation designed for reporting results includes an interview feedback form and a national reporting template. Supporting documentation includes a local data collection plan template (to be completed prior to commencing data collection phase), which includes steps and questions designed to streamline the local evaluation process and make it as similar, feasible and comparable as possible, a checklist to assist with gender proofing, and a general data collection protocol to ensure risks are minimized.

INTRODUCTION

Leveraging on the business operations of consortium partners (4000 integrated building renovations conducted to date), TURNKEY RETROFIT will develop and replicate an integrated home renovation service which will be initially operated in 3 EU countries - France, Ireland, and Spain - with an expected 335M€ investment pipeline for home renovation within the first 5 years (approximately 14 700 dwellings renovated, leading to 96,6 GWh/year Primary energy savings triggered) beyond the end of the project.

The TURNKEY RETROFIT service is developed as a home-owner-centric renovation journey, which transforms the complex and fragmented renovation process into a simple, straightforward, and attractive process for the homeowner. It includes the initial technical and behavioural diagnosis, technical offer, contract development and agreement, structuring and provision of financial support, as well as the on-site coordination of works and quality assurance. It is a service-oriented model where the homeowner is offered tailor-made solutions through the whole customer journey.

The service is accessible through a user-friendly digital platform and it addresses drivers of building renovation that go beyond a desire to reduce energy bills and increase asset value, such as home improvement, increased comfort, enhanced health & quality of life.

The central objective of the process and evaluation impact strategy is to demonstrate and promote that the developed TURNKEY RETROFIT service offers a burden-free experience for householders and a quality refurbishment process that goes beyond replacing building components and which offers additional home improvement services. The tools included in this document provide step-by-step guidelines for preparing for, implementing, and reporting on data collection, results, and analysis.

1. EVALUATION APPROACH

This document provides the tools and templates required to undertake a common evaluation strategy. The process and impact evaluation strategy can be summarized in the following stages:

1. Partners complete the **local data collection plan** and return to NUIG before commencing data collection. The verified plan ensures that data collection in France, Spain, and Ireland is as similar, feasible, and comparable as possible.

2. Partners refer to the **gender checklist** to ensure gender issues are given appropriate consideration and take remedial action if necessary.

3. Researchers familiarize themselves with the **data collection protocol** in advance of undertaking data collection and follow the guidelines included.

4. Researchers familiarize themselves with the **participant information sheet** and **informed consent form**, adopt them to local context by including the relevant contact details, etc., and ensure that all information on the document is accurate.

5. Researchers conduct interviews and surveys.

- For semi-structured interviews with LIG members, researchers should follow the steps outlined in the **interview guide**, which contains details for arranging and undertaking semi-structured expert interviews.
- Following each interview, the interview data should be summarized in the **interview feedback form**. A separate feedback form should be used to report on each interview undertaken.
- Researchers undertake **household surveys** to gather data for evaluation of householders' experience of the TURNKEY RETROFIT service and, where applicable, surveys with property managers.

6. Relevant partners complete the **national report template**, which presents the evaluation results arising from the analysis of the interview feedback forms, householder/property manager surveys, and national and local context (see Annex 9). The completed national reports are presented in D4.2 and a cross-country analysis is undertaken in D4.3.

2. EVALUATION TOOLS AND TEMPLATES

2.1 Local data collection plan template

In order to make a comparative evaluation of the TURNKEY RETROFIT service, it is important that relevant partner organizations use a similar methodology to collect data in their country. Key requirements are that homeowners in France, Spain, and Ireland complete a common survey (translated to the local language where appropriate), and researchers use a common framework for conducting and reporting expert interviews. The steps and questions outlined in the local data collection plan are designed to streamline the local evaluation process and make it as similar, feasible, and comparable as possible. The template should be completed prior to the commencement of expert interviews and householder surveys to ensure that local

data collection teams are suitably prepared well in advance. The template is adapted from Laakso et al. (2019) and Backhaus et al. (2018). Refer to Annex 1 for local data collection plan template.

2.2 Gender checklist

A checklist is provided for partners in order for them to reflect on their local data collection plan in terms of gender issues. It is not necessary for partners to fill in the template or answer all questions on the list. The list is primarily to inspire partners to remain cognisant of gender issues, identify potential issues, and take action if necessary. Refer to Annex 2 for Gender checklist template.

2.3 Data collection protocol

This document (refer to Annex 3) outlines the data collection protocols for the TURNKEY RETROFIT project, which are designed to minimize risk to researchers and participants. Researchers should ensure that these requirements are met, as well as meeting any specific protocols for their organization. Participants are customers of the developed TURNKEY RETROFIT service and members of the Local Implementation Group (LIG) who assisted in delivering the TURNKEY RETROFIT service.

2.4 Participant information sheet

The participant information sheet provides potential participants with information about the project, their potential role in the project, any conditions associated with participating, any benefits or risks involved in participating, and sources for further information to answer any queries to allow participants to give informed consent. There are separate participant information sheets for LIG members and householders which reflect different roles and expectations of different participant groups. Refer to Annex 4 for the participant information sheets.

2.5 Informed consent form

The informed consent form is an agreement between the research and the research participant which outlines the roles and responsibilities they are taking on in the research process. The researcher should retain a signed copy of the consent form for their records. The participant should also be given a copy as a record of what they have signed up to. Informed consent forms included in Annex 4 together wuth participant information sheets.

2.6 Interview guide

The TURNKEY RETROFIT process and impact evaluation strategy includes semi-structured interviews with LIG members involved in delivering the service. The interviews are designed to capture the views of LIG members on various aspects of the TURNKEY RETROFIT services including their role in the process, technical quality of work, quality of customer relationships, ease-of-use, and efficacy of the service in relation to its aims and objectives. Specifically, as per the Grant Agreement, the interviews provide a basis to determine if the TURNKEY RETROFIT service offers a high-quality refurbishment experience that is burden-free for homeowners and which offers additional home improvement services to those which are readily available. Refer to Annex 5 for interview guide.

The purpose of the interview guide is to maintain consistency in data collection and facilitate comparability across countries. The interview is designed as a discussion to capture opinions, perceptions, and facts

about the TURNKEY RETROFIT service. The guide outlines the questions and topics around which the interview is centered and includes guidelines and tips for preparing and undertaking interviews. Interviews must cover each of the four topics identified, however, the questions related to each topic may be amended before, or during, the interview as appropriate (see interview guide for further details on asking questions).

2.7 Interview feedback form

The purpose of the interview feedback form is to capture primary data to evaluate the TURNKEY RETROFIT service, relevant to evaluating the French service (Task 4.2) and local implementation in Spain (Task 4.3) and Ireland (Task 4.4) as well as the cross-national comparison of results and lessons for large-scale uptake (Task 4.5). The structure of the form is based on key topics and questions from the interview guide, which are in turn based on the aims and objectives of the project and the particulars set forth in the GA. The form allows for a summary of responses to interview topics and questions to be provided, as well as direct quotes from interviewees that are most illustrative of the main points made. The data captured in the feedback forms provide empirical evidence for inclusion in the national report. Refer to Annex 6 for the interview feedback form template.

2.8 Household/property manager survey

The primary aim of the survey is to assess householders/property managers experience of the TURNKEY RETROFIT service. The survey is designed to capture data which is used to evaluate the customer's perception regarding the technical quality of the TURNKEY RETROFIT service, as well as the quality of customer relationship and the customer's overall satisfaction with the service. The survey also includes questions related to monitoring and evaluating Key Performance Indicators including primary energy savings, investments in sustainable energy, and reductions in GHG emissions. Background information about the property and household members is collected in order to contextualise the data. The survey is part of the strategy for evaluating the French service (Task 4.2) and local implementation in Spain (Task 4.3) and Ireland (Task 4.4) as well as the cross-national comparison of results and lessons for large-scale uptake (Task 4.5).

The survey is designed to be user friendly and should be clear enough for householders/property managers to fill in by themselves or with the assistance of a researcher. The survey also needs to work in three different countries, all with different energy systems, energy and retrofitting policies, user needs, and standards. At the same time, the survey needs to capture enough information to meet the aims and objectives of the TURNKEY RETROFIT project. Several of the survey questions are based on established surveys used in other projects that focus on household energy including ENERGISE[1], CONSENSUS[2], iBRoad[3], and nZEB-RETROFIT [4], and were tailored for the purposes of this project. Refer to Annex 7 for the household/property surveys.

[1] www.energise-project.eu/
[2] www.consensus.ie/wp/
[3] www.ibroad-project.eu/
[4] www.nzeb-retrofit.com

2.9 National report template

The national report template, once completed, presents the evaluation results arising from the analysis of the TURNKEY RETROFIT service in France, Spain and Ireland. Refer to Annex 9 for the national report template with instructions and Annex 10 for the blank national report template.

The three completed reports will be delivered to D4.2 where they each form a chapter. A cross-country analysis of results will be subsequently undertaken and presented in D4.3. The national reports are designed to be readable as stand-alone documents or chapters. As well as results from the interviews and surveys, they include an overview of the national and local context in which the empirical work took place. The reports include both qualitative and quantitative results.

REFERENCES

Backhaus, J., Scholl, C., Rijkens-Klomp, N. (2018) ENERGISE Living Labs Implementation and Monitoring Plans. ENERGISE – European Network for Research, Good Practice and Innovation for Sustainable Energy, Grant Agreement No. 727642, Deliverable No. 4.1

Laakso et al. (2019). Online tools and user community for scaling up ENERGISE Living Labs. ENERGISE – European Network for Research, Good Practice and Innovation for Sustainable Energy, Deliverable No. 3.6

ANNEXES

Annex I – Local data collection plan template

LOCAL DATA COLLECTION PLAN

Instructions for filling in the template

Please complete all questions. For some questions, tables are included that can be used to report your answers. Developing implementation plans prior to data collection will bring to the fore issues that require further specification and discussion and allows ideas to circulate and perhaps better align planning and implementation.

1. The local Data collection team

- *Who of your organization is involved in data collection? How are the roles and tasks divided? Who is the coordinator of the local data collection team and will be the main contact for any queries?*

Name	Role and tasks

Main contact for queries is **XXX**

- *Are you familiar with what is expected on the basis of the Grant Agreement (i.e. strategy and data collection instruments for evaluating and validating the implementation of the TURNKEY RETROFIT service?*

- *Have you already done this type of data collection to evaluate a service? If yes for what type of service?*

- *Do all members of the data collection team that will work with participants have enough expertise in the methods used for data collection or is training needed? How will the training be provided?*

- *Is the team complete or is anyone missing? Are you planning to involve (additional) local partners who can support data collection?*

2. Testing of surveys and interview Tools

- *Have you tested the survey and familiarized yourself with the survey/interview guide and other tools? When do you plan to do so?*

- *Are there site or target group-specific issues that need to be added to your interviews/surveys or are there questions your local implementation group or other stakeholders are interested in that will be added? How could this affect the data collection and analysis process?*

3. Identifying Participants

- *Who are key participants that you should survey/interview and what is their role in the TURNKEY RETROFIT process?*

Participants (e.g. organization, group, person)	**Role in the TURNKEY RETROFIT process** (e.g. homeowner, retrofit advisor, retrofit assessor, retrofit coordinator, retrofit designer, installer, retrofit evaluator, local authority representative, finance service provider)

4. Recruitment of participants

- *When do you plan to start contacting potential participants?*

- *What kinds of methods are you planning to use to contact potential participants? How will you approach them? Who should you contact? Is there some support you would need for recruitment?*

5. Communication with participants

- *What does your planned timeline of data collection look like? What is the frequency of contact with participants? Please fill in the template below.*

Year	2021							
Month	January	February	March	April	May	June	July	August
Activities								

Examples of activities that could be filled in:

- Team meetings
- Webinars
- Survey translation/testing
- Identification and recruitment of participants
- Communication/contact with participants (e.g. prior to survey/interview, during 'active phase')
- Surveys
- Interviews
- Completion of feedback forms
- …

- *What expectation management do you foresee to be necessary in your communication with participants? (For example, what information should be provided and when? What questions might respondents ask about the project that we will need to be prepared to answer?)*

- *Which ethical issues have you encountered, or do you expect to encounter?*

- *What kind of feedback are you planning to provide to participants and when?*

6. Dissemination

- *What local stakeholders are likely to be interested in or benefit from the TURNKEY RETROFIT experiences and findings? Do you plan to inform or contact them?*

Organisation *and/or* type of stakeholder (e.g. local government, local public)	**When and how to be contacted**

7. Risk assessment

- *Have you encountered any obstacles so far? Have those been solved, and how?*

- *Do you anticipate further obstacles or risks? Do you have plans for how to deal with them?*

- Do you anticipate any risks or obstacles associated with carrying out one-to-one meetings with research participants due to Covid-19? How do you plan to deal with them?

Annex 2 – Gender checklist

GENDER CHECKLIST FOR THE TURNKEY RETROFIT PROJECT

Note: Adapted from the report *Gendered Innovations: How Gender Analysis Contributes to Research* (EU, 2013).

Sex refers to biological characteristics

Gender refers to cultural attitudes and behaviours

Key Question

Householders and retrofit professionals (including auxiliary roles) have different characteristics (gender identities, sex, age, ethnicity, profession, occupation, education, income, household and living arrangements, familiarity with and attitudes towards technology, etc.). What role, if any, do sex and gender play with regard to the TURNKEY RETROFIT project?

Relevance of sex

Are there basic anatomical and physiological differences between women and men that should be considered in the project (e.g. in height, strength, range of motion, etc.)?

Are there further anatomical and physiological differences between women and men that should be considered (e.g. in vision, hearing, voice pitch, sense of touch, smell, and taste, proprioceptors, muscular tension, temperature perception, etc.)?

Relevance of gender

What are the potential application areas of the research (e.g. professional life, leisure activities, home, etc.)? Do these contexts suggest different experiences by different groups (e.g. women and men)?

Might different groups (e.g. women and men) have different expectations regarding the research? Do certain features of previous initiatives reinforce existing gender inequalities, gender norms, or stereotypes?

Might different groups (e.g. women and men) have different expectations regarding the exterior design of research outputs?

Might different groups (e.g. women and men) have different expectations regarding the features and functions of research outputs?

Is there a risk of stereotyping or offending people through the design of research outputs (e.g. imposing role models, avatars, different forms of sexism, etc.)?

Is there a risk of excluding certain groups (e.g. men or women) through the design of research outputs?

Would certain configurations reinforce existing social roles (e.g. gender segregation in the work force; men associated with engineering and women with domestic technologies, for example)?

On the basis of the above, what are the relevant sex and/or gender variables for the project, and what do you need to know that you do not currently know or understand concerning sex and/or gender?

Determining the tools required

Is it possible and/or necessary to establish a usability lab or to run ergonomic tests? What additional tools might you use for monitoring (questionnaires, workshops, etc.)?

Have you ensured diversity within test groups (in terms of age, sex, gender identity, etc.)?

Do you inform participants about gender-tailoring in your research?

Sex and gender expertise

Have you identified the particular gender expertise you require?

Does your internal and external team include the needed gender expertise? If not, what efforts are your team making to bring in gender specialists?

What efforts is your team making to ensure that the diverse expertise, interests, and needs of the target groups are incorporated into the design and development of the empirical research?

Do certain groups hold knowledge (e.g. because of gendered divisions of labour) with the potential to prevent unwanted outcomes, such as increased gender bias or environmental damage?

What efforts is your team making to ensure that it learns from the inputs of external expertise concerning sex and gender, and builds relevant capabilities in-house?

Annex 3 – Data collection protocol

DATA COLLECTION PROTOCOLS

Researchers will collect data to evaluate the TURKNEY RETROFIT service in the period between March-August 2021. In order to ensure that all risks are minimal, the researchers will adhere to and comply with all **health and safety regulations outlined by their Department/Organization/Workplace including those related to COVID-19**. Each researcher will discuss with their line-manager the following before undertaking interviews/surveys through a telephone call, at a participant's home, at a place of work or other agreed location:

- What to do before interviews/surveys through a telephone call/internet call(e.g. Skype)/other venue.
- What to do before interviews/surveys in a participant's home/workplace/other venue.
- What to do during interviews/surveys in a participant's home/workplace/other venue.
- How to check-in with line-manager/work-package leader/another team member before and after interviews/surveys in a participant's home/workplace/other venue.

Researchers will be required to confirm details with the participants the day before undertaking the interview/survey. Researchers are required to contact the participant the day before or on the day of the appointment to confirm the arrangements and check that the participants are still receptive to the interview/survey being undertaken. If the researcher is being accompanied by another researcher, they are required to inform the participant of who will be accompanying them and confirm that they are happy to have them both attend. If the interview/survey is carried out over a telephone call/internet telecommunication service (e.g. Skype), details on the connection are required to be provided to the research participant at least the day before the appointment.

Before interviewing participants, researchers must first obtain permission from their line-manager/ work-package leader. Once approval has been obtained, researchers must inform their line-manager/ work-package leader of the time/location when they intend to meet the participant and confirm the time when their interview is expected to end. In addition, researchers are requested to take the following precautions when conducting interviews at participants' homes, place of work, or other agreed location:

- Park where to avoid being obstructed from leaving or being parked in;
- Be aware of potential slip/trip hazards;
- Ensure that the researchers have a fully charged phone on them during the fieldwork;
- Wear appropriate clothing and footwear;
- The researchers will not enter any area which poses a risk to either themselves or the participants;
- If appropriate check pets are restrained or kept separate during the visit;
- Carry ID (without address or phone number);
- Check consent remains valid;
- Introduce the second researcher (if one is present);
- Clarify who else is at the premises;
- Identify exit routes, keep doorways clearly in sight and the exit doors easily reachable;
- Before sitting, check it is safe to do so e.g. no needles or sharps left on/near the seat;
- Keep personal documents, mobile, personal possessions secure at all times.

Annex 4 – Participant information sheets and informed consent form

PROJECT INFORMATION SHEET - HOUSEHOLDER

INTRODUCTION

The TURNKEY RETROFIT project, funded by the European Commission under grant agreement no. 839134, started in June 2019 and continues until February 2022. The TURNKEY RETROFIT project aims to deliver a service that will be developed as a home-owner-centric renovation journey, which will transform the complex and fragmented renovation process into a simple, straightforward and attractive process for the home-owner.

In the period between December 2020 and August 2021, the TURNKEY RETROFIT consortium partners will evaluate the TURNKEY RETROFIT service in three different countries (France, Spain, and Ireland). The nine partner organisations who will be involved in collecting, sharing, and processing data for the evaluation are:

- Centre Scientifique et Technique du Batiment – France
- EP SAS – France
- Operene – France
- Fundacion Tecnalia Research & innovation – Spain
- Asociacion Nacional de Empresasde Rehabilitacion y Reforma – Spain
- National University of Ireland Galway – Ireland
- Irish Green Building Council – Ireland
- R2M Solution – France
- Buildings Performance Institute Europe – Belgium

PURPOSE OF THE RESEARCH

The purpose of this research is to evaluate and validate the developed TURNKEY RETROFIT service, which is designed as a householder-centric renovation journey that transforms the complex renovation process into a simple, straightforward, and attractive process for the householder. Furthermore, the research aims to draw lessons and guidelines for improving and future large-scale uptake of the TURNKEY RETROFIT service beyond the lifetime of the project.

PROCEDURES AND DURATION OF PARTICIPATION

Data collection for evaluating and validating the implementation of the TURNKEY RETROFIT service includes householder surveys. The survey combines an evaluation of the quality of the proposed service not only in terms of the quality of the technical refurbishment, but also on the quality of the homeowner's relationship all along the renovation process. Householders are kindly asked to respond to the TURNKEY RETROFIT survey provided by the research team. The survey will take approximately 30 minutes to

complete. Research participants may be contacted at a later date following the survey to answer some follow-up questions.

Following reading this information sheet, if you agree to participate in the research, you are kindly asked to sign a consent form agreeing to participate before completing the survey. Research participants are asked to sign a consent form in order for it to be legal and appropriate for the partner organisations to process personal data.

If you are interested in participating in the research or if you have additional questions, please contact the lead contact point. The contact information of the lead contact point can be found in the 'Contact Information' section of this information sheet.

PARTICIPANT SELECTION

Participants have been selected following their involvement in the TURNKEY RETROFIT service. Participants include homeowners, who have experienced the home renovation journey.

DATA COLLECTION & PROCESSING

All data collected will be processed in accordance with the European General Data Protection Regulation (GDPR) and may include:

- **Personal data**: name, age, address, gender, email address, and (mobile) phone number.
- **Building data**: building type, building age, building floor area, building heating system, total energy consumption, and total energy costs.
- **Socio-demographic data**: Age, gender, homeownership status as well as educational and socio-economic background of the homeowner and other members of the household.
- **Social aspects of energy use data**: Homeowner engagement with energy and environment issues, energy management within the homeowner's home, and the homeowner's attitudes and perceptions regarding energy use. Information on perceptions and experience of retrofit service.
- **Satisfaction levels with TURNKEY RETROIT service data:** Quality of the TURNKEY RETROFIT service, the quality of the works carried out on the homeowner's home, and the homeowner's overall satisfaction with the TURNKEY RETROFIT service.

Participants' personally identifiable information and consent forms will be retained for five years following the completion of the study. All data on building characteristics, energy use and service experiences collected during the TURNKEY RETROFIT project will be securely stored in anonymised form for a minimum period of five years. After the successful conclusion of the TURNKEY RETROFIT project, anonymous research data may be made available to researchers who wish to replicate the research or elaborate on its results.

The nine partner organisations involved in the project are joint-controllers of the collected data.

VOLUNTARY PARTICIPATION

Participation is entirely voluntary and based on consent.

BENEFITS AND RISKS

Benefits of participating in the TURNKEY RETROFIT project include learning about (ways to improve) household retrofits and contributing to an expansion of the knowledge base of studies in the energy domain. As a broader, societal benefit, participation contributes to informing future potential users of the TURNKEY RETROFIT service on its quality and informing the service operators how to improve their service.

Possible risks associated with participating in the TURNKEY RETROFIT project are minimal. There is a risk that participants may share some personal or confidential information by chance during surveys, or that they may feel uncomfortable answering some of the questions. However, participants do not have to answer a question or take part in the survey if they feel the question(s) are too personal or make them feel uncomfortable (see section “Rights of the Research Participant”).

REIMBURSEMENT

Participants are not reimbursed for their time and efforts.

CONFIDENTIALITY

Personal details will be kept securely and confidentially by Xx and NUIG. Xx will anonymise personal data before sharing with the other partner organisations of the TURNKEY RETROFIT project.

Before sharing data with other partner organisations, XX will assign an identification number to the building data, socio-demographic data, social aspects of energy use data, and satisfaction levels with TURNKEY RETROIT service data. This approach allows information to be shared amongst the partners without knowing the identity of the homeowner.

Research results based on personal data will be shared in aggregated or pseudonymised form and will not be traceable to individual participants.

SHARING THE RESULTS

If interested, participants will be informed about the findings of the TURNKEY RETROFIT research project. Furthermore, results will be shared with interested researchers, policy makers, or others in the form of research reports, academic publications, handbooks, and policy briefs. Findings will also be disseminated via press releases, social media, and at public events.

RIGHTS OF THE RESEARCH PARTICIPANT

Participants do not have to take part in the TURNKEY RETROFIT survey or answer all questions in the survey. There is no need to provide any reason for refusing to answer a question or for refusing to take part in some or all research activities of the TURNKEY RETROFIT project.

Participants can always change or withdraw their consent by contacting the TURNKEY RETROFIT partner organisation of their country, without having to provide reasons. However, the consent cannot be revoked retroactively and will therefore only affect future processing of the data. Refer to the 'Contact Information' section for contact details of the partner organisation.

Participants can get insight into all the data they provided and demand the deletion of data or restriction of processing at any stage, also after completion of the project, without having to provide reasons. Additionally, if participants detect any inaccuracies in the data collected, they have the right to rectify those inaccuracies.

Contact the data controller if you wish to access, rectify, or erase personal data or to restrict the processing concerning the data subject or to object to the processing as well as the right to data portability. Furthermore, if you wish to redraw your consent, please contact the TURNKEY RETROFIT partner organisation. Refer to the 'Contact Information' section for contact details of the partner organisation.

Research participants also have the right to lodge a complaint with the Data Protection Commissioner in XX. Refer to the 'Contact Information' section for contact details of the Data Protection Commissioner.

CONTACT INFORMATION

Your local TURNKEY RETROFIT partner is xxx and xxx (refer to roles defined in Annex 1) will be your lead contact point. Xx will respond to any queries you have regarding the TURNKEY RETROFIT project. Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx). XX is one of the data controllers in the project.

If you wish to contact the Data Protection Officer of xxx, Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx).

If you wish to lodge a complaint with the Data Protection Commissioner in XX, contact details can be found xxx

PROJECT INFORMATION SHEET – PROPERTY MANAGER

INTRODUCTION

The TURNKEY RETROFIT project, funded by the European Commission under grant agreement no. 839134, started in June 2019 and continues until February 2022. The TURNKEY RETROFIT project aims to deliver a service that will transform the complex and fragmented renovation process into a simple, straightforward, and attractive process for the building owner.

In the period between December 2020 and August 2021, the TURNKEY RETROFIT consortium partners will evaluate the TURNKEY RETROFIT service in three different countries (France, Spain, and Ireland). The nine partner organisations who will be involved in collecting, sharing, and processing data for the evaluation are:

- Centre Scientifique et Technique du Batiment – France
- EP SAS – France
- Operene – France
- Fundacion Tecnalia Research & innovation – Spain
- Asociacion Nacional de Empresasde Rehabilitacion y Reforma – Spain
- National University of Ireland Galway – Ireland
- Irish Green Building Council – Ireland
- R2M Solution – France
- Buildings Performance Institute Europe – Belgium

PURPOSE OF THE RESEARCH

The purpose of this research is to evaluate and validate the developed TURNKEY RETROFIT service, that is designed to transform the complex renovation process into a simple, straightforward and attractive process for the building owner. Furthermore, the research aims to draw lessons and guidelines for improving and future large-scale uptake of the TURNKEY RETROFIT service beyond the lifetime of the project.

PROCEDURES AND DURATION OF PARTICIPATION

Data collection for evaluating and validating the implementation of the TURNKEY RETROFIT service includes customer surveys. The survey combines an evaluation of the quality of the proposed service not only in terms of the quality of the technical refurbishment, but also on the quality of the customer relationship all along the renovation process. Property managers are kindly asked to respond to the TURNKEY RETROFIT survey provided by the research team. The survey will take approximately 20 minutes to complete. Research participants may be contacted at a later date following the survey to answer some follow-up questions.

Following reading this information sheet, if you agree to participate in the research, you are kindly asked to sign a consent form agreeing to participate before completing the survey. Research participants are asked to sign a consent form in order for it to be legal and appropriate for the partner organisations to process personal data.

If you are interested in participating in the research or if you have additional questions, please contact the lead contact point. The contact information of the lead contact point can be found in the 'Contact Information' section of this information sheet.

PARTICIPANT SELECTION

Participants have been selected following their involvement in the TURNKEY RETROFIT service. Participants include property managers and homeowners, who have experienced the home renovation journey.

DATA COLLECTION & PROCESSING

All data collected will be processed in accordance with the European General Data Protection Regulation (GDPR) and may include:

- **Personal data**: name, age, address, gender, email address, and (mobile) phone number.
- **Building data**: building type, building age, building floor area, building heating system, total energy consumption, and total energy costs.
- **Satisfaction levels with TURNKEY RETROIT service data:** Quality of the TURNKEY RETROFIT service, the quality of the works carried out on the building, and the property managers overall satisfaction with the TURNKEY RETROFIT service.

Participants' personally identifiable information and consent forms will be retained for five years following the completion of the study. All data on building characteristics, energy use and service experiences collected during the TURNKEY RETROFIT project will be securely stored in anonymised form for a minimum period of five years. After the successful conclusion of the TURNKEY RETROFIT project, anonymous research data may be made available to researchers who wish to replicate the research or elaborate on its results.

The nine partner organisations involved in the project are joint-controllers of the collected data.

VOLUNTARY PARTICIPATION

Participation is entirely voluntary and based on consent. If appropriate, permission from employer/line manager is required.

BENEFITS AND RISKS

Benefits of participating in the TURNKEY RETROFIT project include learning about (ways to improve) building retrofits and contributing to an expansion of the knowledge base of studies in the energy domain. As a broader, societal benefit, participation contributes to informing future potential users of the TURNKEY RETROFIT service on its quality and informing the service operators on how to improve their service.

Possible risks associated with participating in the TURNKEY RETROFIT project are minimal. There is a risk that participants may share some personal or confidential information by chance during surveys, or that they may feel uncomfortable answering some of the questions. However, participants do not have to answer a question or take part in the survey if they feel the question(s) are too personal or make them feel uncomfortable (see section “Rights of the Research Participant”).

REIMBURSEMENT

Participants are not reimbursed for their time and efforts.

CONFIDENTIALITY

Personal details will be kept securely and confidentially by Xx and NUIG. Xx will anonymise personal data before sharing with the other partner organisations of the TURNKEY RETROFIT project.

Before sharing data with other partner organisations, XX will assign an identification number to the building data and satisfaction levels with TURNKEY RETROIT service data. This approach allows information to be shared amongst the partners without knowing the identity of the homeowner.

Research results based on personal data will be shared in aggregated or pseudonymised form and will not be traceable to individual participants.

SHARING THE RESULTS

If interested, participants will be informed about the findings of the TURNKEY RETROFIT research project. Furthermore, results will be shared with interested researchers, policy makers, or others in the form of research reports, academic publications, handbooks, and policy briefs. Findings will also be disseminated via press releases, social media, and at public events.

RIGHTS OF THE RESEARCH PARTICIPANT

Participants do not have to take part in the TURNKEY RETROFIT survey or answer all questions in the survey. There is no need to provide any reason for refusing to answer a question or for refusing to take part in some or all research activities of the TURNKEY RETROFIT project.

Participants can always change or withdraw their consent by contacting the TURNKEY RETROFIT partner organisation of their country, without having to provide reasons. However, the consent cannot be revoked

retroactively and will therefore only affect future processing of the data. Refer to the 'Contact Information' section for contact details of the partner organisation.

Participants can get insight into all the data they provided and demand the deletion of data or restriction of processing at any stage, also after completion of the project, without having to provide reasons. Additionally, if participants detect any inaccuracies in the data collected, they have the right to rectify those inaccuracies.

Contact the data controller if you wish to access, rectify, or erase personal data or to restrict the processing concerning the data subject or to object to the processing as well as the right to data portability. Furthermore, if you wish to redraw your consent, please contact the TURNKEY RETROFIT partner organisation. Refer to the 'Contact Information' section for contact details of the partner organisation.

Research participants also have the right to lodge a complaint with the Data Protection Commissioner in XX. Refer to the 'Contact Information' section for contact details of the Data Protection Commissioner.

CONTACT INFORMATION

Your local TURNKEY RETROFIT partner is xxx and xxx (refer to roles defined in Annex 1) will be your lead contact point. Xx will respond to any queries you have regarding the TURNKEY RETROFIT project. Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx). XX is one of the data controllers in the project.

If you wish to contact the Data Protection Officer of xxx, Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx).

If you wish to lodge a complaint with the Data Protection Commissioner in XX, contact details can be found xxx

PROJECT INFORMATION SHEET – LIG MEMBER

INTRODUCTION

The TURNKEY RETROFIT project, funded by the European Commission under grant agreement no. 839134, started in June 2019 and continues until February 2022. The TURNKEY RETROFIT project aims to deliver a service that will be developed as a home-owner-centric renovation journey, which will transform the complex and fragmented renovation process into a simple, straightforward and attractive process for the home-owner.

In the period between December 2020 and August 2021, the TURNKEY RETROFIT consortium partners will evaluate the TURNKEY RETROFIT service in three different countries (France, Spain, and Ireland). The nine partner organisations who will be involved in collecting, sharing, and processing data for the evaluation are:

- Centre Scientifique et Technique du Batiment – France
- EP SAS – France
- Operene – France
- Fundacion Tecnalia Research & innovation – Spain
- Asociacion Nacional de Empresasde Rehabilitacion y Reforma – Spain
- National University of Ireland Galway – Ireland
- Irish Green Building Council – Ireland
- R2M Solution – France
- Buildings Performance Institute Europe – Belgium

PURPOSE OF THE RESEARCH

The purpose of this research is to evaluate and validate the developed TURNKEY RETROFIT service, which is designed as a householder-centric renovation journey that transforms the complex renovation process into a simple, straightforward, and attractive process for the householder. Furthermore, the research aims to draw lessons and guidelines for improving and future large-scale uptake of the TURNKEY RETROFIT service beyond the lifetime of the project.

PROCEDURES AND DURATION OF PARTICIPATION

Data collection instruments for evaluating and validating the implementation of the TURNKEY RETROFIT service include expert interviews with LIG members. The approach adopted integrates an evaluation of the quality of the service not only in terms of the quality of the technical refurbishment, but also on the quality of the customer relationship all along the renovation process.

Local implementation group and market actors are asked to take part in a semi-structured interview lasting approximately 30 minutes.

Following reading this information sheet, if you agree to participate in the research, you are kindly asked to sign a consent form agreeing to participate. Research participants are asked to sign a consent form in order for it to be legal and appropriate for the partner organisations to process personal data.

If you are interested in participating in the research or if you have additional questions, please contact the lead contact point. The contact information of the lead contact point can be found in the 'Contact Information' section of this information sheet.

PARTICIPANT SELECTION

Participants have been selected following their involvement in the Local Implementation Group to assist in the development of TURNKEY RETROFIT service.

DATA COLLECTION & PROCESSING

All data collected will be processed in accordance with the European General Data Protection Regulation (GDPR) and may include:

- **Personal data**: name, email address, (mobile) phone number
- **Employment data:** name of employer, occupation
- **Perception of the TURNKEY RETROFIT service:** Perception of how the LIG member views the developed TURNKEY RETROFIT service in terms of its difference to other available services, how TURNKEY RETROFIT fits within the broader goals of its company, the quality of the TURNKEY RETROFIT service, the quality of the works carried out and overall satisfaction with the TURNKEY RETROFIT service

Respondents' personally identifiable information and participants' consent forms will be retained for five years following the completion of the study. All data on employment details and perception of the TURNKEY RETROFIT service will be securely stored in anonymised form for a minimum period of five years. After the successful conclusion of the TURNKEY RETROFIT project, anonymous research data may be made available to researchers who wish to replicate the research or elaborate on its results.

VOLUNTARY PARTICIPATION

Participation is entirely voluntary and based on consent. If appropriate, permission from employer/line manager is required.

BENEFITS AND RISKS

Benefits of participating in the TURNKEY RETROFIT project include learning about (ways to improve) household retrofits and contributing to an expansion of the knowledge base of studies in the energy domain. As a broader, societal benefit, participation contributes to informing future potential users of the service on its quality and informing the service operators on how to improve their service.

Possible risks associated with participating in the TURNKEY RETROFIT project are minimal. There is a risk that participants may share some personal or confidential information by chance during interviews, or that they may feel uncomfortable talking about some of the topics discussed. However, participants do not have to answer a question or take part in the interview if they feel the question(s) are too personal or make them feel uncomfortable (see section “Rights of the Research Participant”).

REIMBURSEMENT

A dedicated LIG budget is available to facilitate the cooperation and involvement of participants for their time and efforts.

CONFIDENTIALITY

Personal details will be kept securely and confidentially by Xx and NUIG. Xx will anonymise personal data before sharing with the other partner organisations of the TURNKEY RETROFIT project.

Before sharing data with other partner organisations, XX will assign an identification number to the employment data and perception of the TURNKEY RETROIT service data. This approach allows information to be shared amongst the partners without knowing the identity of the LIG member.

Research results based on personal data will be shared in aggregated or pseudonymised form and will not be traceable to individual participants.

SHARING THE RESULTS

If interested, participants will be informed about the findings of the TURNKEY RETROFIT research project. Furthermore, results will be shared with interested researchers, policy makers, or others in the form of research reports, academic publications, handbooks, and policy briefs. Findings will also be disseminated via press releases, social media, and public events.

RIGHTS OF THE RESEARCH PARTICIPANT

Participants do not have to take part in the TURNKEY RETROFIT interview or answer all questions in the interview. There is no need to provide any reason for refusing to answer a question or for refusing to take part in some or all research activities of the TURNKEY RETROFIT project.

Participants can always change or withdraw their consent by contacting the TURNKEY RETROFIT partner organisation of their country, without having to provide reasons. However, the consent cannot be revoked retroactively and will therefore only affect future processing of the data. Refer to the ‘Contact Information’ section for contact details of the partner organisation.

Participants can get insight into all the data they provided and demand the deletion of data or restriction of processing at any stage, also after completion of the project, without having to provide reasons. Additionally, if participants detect any inaccuracies in the data collected, they have the right to rectify those

inaccuracies.

Contact the data controller if you wish to access, rectify, or erase personal data or to restrict the processing concerning the data subject or to object to the processing as well as the right to data portability. Furthermore, if you wish to redraw your consent, please contact the TURNKEY RETROFIT partner organisation. Refer to the 'Contact Information' section for contact details of the partner organisation.

Research participants also have the right to lodge a complaint with the Data Protection Commissioner in XX. Refer to the 'Contact Information' section for contact details of the Data Protection Commissioner.

CONTACT INFORMATION

Your local TURNKEY RETROFIT partner is xxx and xxx (refer to roles defined in Annex 1) will be your lead contact point. Xx will respond to any queries you have regarding the TURNKEY RETROFIT project. Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx). XX is one of the data controllers in the project.

If you wish to contact the Data Protection Officer of xxx, Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx).

If you wish to lodge a complaint with the Data Protection Commissioner in XX, contact details can be found xxx

HOMEOWNER INFORMED CONSENT FORM

Title of project: TURNKEY RETROFIT

Name of researcher:

Please tick box:

- I have been provided with the Participant Information Leaflet, which I have read, or it has been read to me, and I confirm that I understand the same. ☐
- I have had the opportunity to ask questions about it and any questions I asked have been answered to my satisfaction. I understand that I may contact [X] in relation to any future queries I may have. ☐
- I understand that my decision whether or not to participate in the survey will have no impact on the services offered/provided by [X] to me. ☐
- I consent to be a participant in this study. ☐
- I understand that I have the right to withdraw my consent at any time. I understand that such a withdrawal of consent shall not affect the lawfulness of processing based on my prior consent. I understand that my decision to withdraw my consent will have no negative consequences on the service offered to me by [X]. ☐

I understand that I can request insight into data collected on me and my household at any time and that I can revoke consent at any time without providing a reason.

Print Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

Note: Consent form template to be adapted to online survey for homeowners carrying out surveys via online/telephone calls.

PROPERTY MANAGER INFORMED CONSENT FORM

Title of project: TURNKEY RETROFIT

Name of researcher:

Please tick box:

- I have been provided with the Participant Information Leaflet, which I have read, or it has been read to me, and I confirm that I understand the same. ☐
- I have had the opportunity to ask questions about it and any questions I asked have been answered to my satisfaction. I understand that I may contact [X] in relation to any future queries I may have. ☐
- I understand that my decision whether or not to participate in the survey will have no impact on the services offered/provided by [X] to me. ☐
- I consent to be a participant in this study. ☐
- I am permitted by my employer/line manager to participate in this study. ☐
- I understand that I have the right to withdraw my consent at any time. I understand that such a withdrawal of consent shall not affect the lawfulness of processing based on my prior consent. I understand that my decision to withdraw my consent will have no negative consequences on the service offered to me by [X]. ☐

I understand that I can request insight into data collected on me and my household at any time and that I can revoke consent at any time without providing a reason.

Print Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

Note: Consent form template to be adapted to online survey for property managers carrying out surveys via online/telephone calls.

LIG MEMBER INFORMED CONSENT FORM

Title of project: TURNKEY RETROFIT

Name of researcher:

Please tick box:

- I have been provided with the Participant Information Leaflet, which I have read, or it has been read to me, and I confirm that I understand the same. ☐
- I have had the opportunity to ask questions about it and any questions I asked have been answered to my satisfaction. I understand that I may contact [X] in relation to any future queries I may have. ☐
- I understand that my decision whether or not to participate in the survey will have no impact on the services offered/provided by [X] to me. ☐
- I consent to be a participant in this study. ☐
- I consent to the audio recording of my interview for record purposes. ☐
- I am permitted by my employer/line manager to participate in this study. ☐
- I understand that I have the right to withdraw my consent at any time. I understand that such a withdrawal of consent shall not affect the lawfulness of processing based on my prior consent. I understand that my decision to withdraw my consent will have no negative consequences on the service offered to me by [X]. ☐

I understand that I can request insight into data collected on me and my household at any time and that I can revoke consent at any time without providing a reason.

Print Name of Participant _____

Signature of Participant _____

Date _____

Day/month/year

Note: Consent form template to be adapted to online survey for professionals carrying out surveys via online/telephone calls.

Annex 5 – Expert interview guide

EXPERT INTERVIEWS

INTRODUCTION

The TURNKEY RETROFIT evaluation includes semi-structured interviews with Local Implementation Group (LIG) members involved in delivering the service. The interviews are designed to capture the views of LIG members on various aspects of the TURNKEY RETROFIT services including their role in the process, technical quality of work, quality of customer relationships, ease-of-use and streamlining, and efficacy of the service in relation to its aims and objectives. Specifically, as per the Grant Agreement, the interviews provide a basis to determine if the TURNKEY RETROFIT service offers a high-quality refurbishment experience that is burden-free for homeowners and which offers additional home improvement services to those which are readily available.

The purpose of this guide is to maintain consistency in data collection and facilitate comparability across countries. The interview is designed as a discussion to capture opinions, perceptions, and facts about the TURNKEY RETROFIT service. The interview should last in the region of 30 minutes and is centered around 9 core questions covering 4 topics presented below. A reporting template is provided to document key findings from interviews and deliver results for analysis in the cross-country evaluation reports (D4.2/D4.3).

PREPARING THE INTERVIEW

Review your local data collection plan. Ensure that you have satisfactorily answered all of the questions in your data collection plan and that your responses remain valid. Update your local data collection plan if necessary. The local data collection plan should identify interviewees and set out a strategy for recruitment and communication. The plan also provides details on your data collection team, including roles, skills, and resources required.

Arranging the interview:

- Try to inconvenience the participants as little as possible. Where possible, let them choose where and when the interview should take place or provide them with a list of possible options.
- Ensure that the location of the interview is safe, secure, and accessible (see Annex 3 Data Collection Protocol).
- Explain the aims and objectives of the interview and the approximate duration. Allow additional time for introductions, informal conversations before and after the interview, etc.

Know your material:

- Ensure that you are familiar with the interview guide and questions.
- Be aware of the topics you want to cover in the interview. This will help you to focus the conversation during the interview.
- Check that you have an appropriate audio recording device as well as a pen, paper, and other equipment you may need.

Know your subject:

- Try to gain some general knowledge of the broad area of expertise of the interviewee and their role in the TURNKEY RETROFIT process (e.g. advisor, installer, finance, etc.).

- Consider the challenges and expectations that might be associated with their role.
- Think about any concepts or technical language that they might refer to.

Consent:

- Ensure that the project information sheet and informed consent forms are given to participants. If these were sent electronically in advance, bring a hardcopy with you to the interview. Ensure the participant has signed the consent form and take this form with you after the interview. Leave the information sheet with the participant.
- Ask for permission to audio record the interview. Explain to the participant that they can choose not to respond to any question if they don't want to.

Establish trust and empathy:

- Show respect for the interviewee, for their time, space, etc.
- Adopt a friendly manner; balance formality and informality.
- Do not be judgemental, you are capturing opinions and perceptions, which can differ from your own.
- Your role is not to teach or inform, instead, reassure the interviewee that they are the expert and their knowledge is valuable.

Asking questions:

- It is a good idea to start the interview with a broad open-ended question on a topic that is familiar to the interviewee and easy to answer (see Q1 below). Asking a personal question can stimulate conversation, set a relaxed tone, and put the interviewee at ease.
- Be flexible in the sequence of topics or questions, this is a broad guideline and the questions do not need to be asked in the exact sequence provided below.
- Not all questions might be relevant for all interviews (e.g. the interviewee may not have experience with the TURNKEY RETROFIT online platform – See Q3c below). Skip questions that are not relevant to the interviewee or adjust the wording of questions to make them more relevant.
- Ask additional or supplementary questions (that are not in the guide) where further clarification or elaboration is advantageous for greater understanding.
- Respondents may bring up issues at various stages (out of sequence), return to topics previously discussed, or talk about issues outside of the guide. Be flexible in allowing various topics to be discussed but try to retain a focus on the aims and objectives of the interview. Returning to a topic or question previously discussed can disrupt the flow of the interview but it can also provide an opportunity to probe deeper into important issues.
- Consider the phrasing of questions. Avoid asking "Why?" as this can provoke a defensive answer (e.g. "Why did you do that?" makes the interviewee feel they need to justify their actions and can lead to simplified answers, whereas "How did you come to that decision?" or "Can you explain the thinking that informed your decision?" can encourage elaboration of the process). Avoid suggestive questions, which imply a certain (correct) answer should be given.
- Avoid talking too much, being too directive, anticipating answers, or interrupting the narrative flow.
- Take notes if you wish but try not to be too distracting in doing so.

After the interview:

- Don't forget to thank the participant for sharing their time and knowledge.
- Let them know what will happen to the data.
- Check that you have all of your belongings with you before leaving.
- Soon after the interview, take personal note of any important statements, opinions, facts, emotions, etc. that emerged during the interview while this information is fresh in your mind.

INTERVIEW QUESTION GUIDE

Briefly introduce the project and the aims and objectives of the interview (*e.g. Thank you for participating in an interview for the TURNKEY RETROFIT project. As a LIG member, you are already aware of the goals of the project. The focus today is to try to better understand your role in the service and your experience of different aspects of service, and to discuss any recommendations or ideas you might have for improving the service*).

Before you start, ask the interviewee if they have any questions and confirm that they are happy to have the interview recorded. Check that you have initiated the recording device.

The interview questions are divided into 4 topics designed to capture the relevant information and which represent a logical sequence for discussion. Make sure to discuss each topic. Try to broadly stick to the guide but be flexible in your approach.

Topic 1*. Role in the service (Note: We are interested in the role of the individual, but also the role of their organization/employer. The interviewee may already speak about both in Q1 or you may need to ask a supplementary question Q1b to probe further).*

Q1. Can you describe your role in the TURNKEY RETROFIT service?

Q1b. What about the role of your organization in the process, how does TURNKEY RETROFIT fit with its broader goals?

Topic 2. *Beyond state-of-the-art (Note: Here, we are interested in finding out if TURNKEY RETROFIT offers additional home improvement services than what is readily available)*

Q2. How does the TURNKEY RETROFIT service differ from other retrofitting schemes that you are or have been involved in or that you are aware of?

Topic 3*. Quality of service (Note: Here we want to explore perceptions of the quality of service including a) technical quality, b) customer relationship/householder experience, c) web platform and d) overall service).*

Q3a. How would you describe the quality of service provided by TURNKEY RETROFIT, in relation to technical aspects (e.g. standard of materials used, functionality, quality of workmanship, etc.)?

Q3b. What is your experience of the customer relationship throughout the process?

Q3c. What is your experience of using the TURNKEY RETROFIT online platform?

Q3d. How would you describe the overall service provided by TURNKEY RETROFIT?

Topic 4*. Future development of the service (Note: Here we want to capture recommendations from different stakeholders for improving uptake of energy renovations and delivery of the TURNKEY RETROFIT service, for example how the interviewee sees the role of its organisation in TR; which other stakeholders could be involved and how; where most potential is for TR in terms of attracting audience/customers, etc.)*

Q4a. Do you have any suggestions for improving the uptake of energy renovations?

Q4b. How do you see the TURNKEY RETROFIT service evolving in the future?

Additional comments.

Q5. Do you have any additional comments, suggestions, or observations that we have not covered in the interview so far?

Annex 6 – Interview feedback form

INTERVIEW FEEDBACK FORM

INTRODUCTION

The purpose of this feedback form is to capture primary data to evaluate the TURNKEY RETROFIT service, relevant to evaluating the French service (Task 4.2) and local implementation in Spain (Task 4.3) and Ireland (Task 4.4) as well as the cross-national comparison of results and lessons for large-scale uptake (Task 4.5). The form allows for a summary of responses to interview topics and questions based on the interview guide, as well as direct quotes from interviewees that are most illustrative of the main points made.

BACKGROUND INFORMATION

Country:

Participant name/ID:

Participant occupation/role:

Date of interview:

Interview duration:

Interviewer name:

INTERVIEW SUMMARY

Please complete all sections of the form. Use direct quotations to illustrate the main points where relevant. Translate any direct quotations into English and take note of the time on the recording for efficient retrieval if necessary.

1. Summary of participant's role and the role of their organization.

Please summarize the role of the interviewee in the TURNKEY RETROFIT service. Summarize the role of their organization/employer. Include direct quotations where appropriate (maximum 250 words).

Role in the service (maximum 250 words).	Direct quotations

2. Summary of interviewee's perception of how the TURNKEY RETROFIT service differs from other retrofitting schemes.

Please summarize how the interviewee experiences the TURNKEY RETROFIT service in comparison to other retrofitting schemes. Take note of any additional services offered by TURNKEY RETROFIT that are not generally available in other schemes. Include direct quotations where appropriate (maximum 250 words).

Beyond state-of-the-art (maximum 250 words).	Direct quotations

3. Summary of perceptions of quality of service.

Please provide a summary of the interviewee's perceptions of the technical quality of the TURNKEY RETROFIT service. This may include the standard of materials used, functionality, quality of workmanship, etc. Include direct quotations where appropriate (maximum 250 words).

Technical quality of the service (maximum 250 words).	Direct quotations

Please provide a summary of the interviewee's experience of the customer relationship throughout the TURNKEY RETROFIT service. This may include details about customer engagement; feedback mechanisms; customer satisfaction; communication levels; etc. Include direct quotations where appropriate (maximum 250 words).

Customer relationship throughout the service (maximum 250 words).	Direct quotations

Please provide a summary of the interviewee's experience of the TURNKEY RETROFIT online platform. This may include aspects such as functionality and ease of use of the platform; quantity, clarity and comprehensiveness of information; etc. Include direct quotations where appropriate (maximum 250 words).

Experience of online platform (maximum 250 words).	Direct quotations

Please provide a summary of the interviewee's perceptions of the overall TURNKEY RETROFIT service. Include direct quotations where appropriate (maximum 250 words).

Experience of overall service (maximum 250 words).	Direct quotations

4. Comments on improving uptake of energy renovations and further developing the TURNKEY RETROFIT service.

Please summarize any recommendations, observations, or comments by the interviewee in relation to improving uptake of energy renovations more generally.

Improving uptake of energy renovations (maximum 250 words).	Direct quotations

Please summarize any recommendations, observations, or comments by the interviewee in relation to improving the TURNKEY RETROFIT service. *For example how the interviewee sees the role of its organisation in TR; which other stakeholders could be involved and how; where most potential is for TR in terms of attracting audience/customers, etc.*

Improving the TURNKEY RETROFIT service (maximum 250 words).	Direct quotations

5. Any other comments or observations from the interview.

Please include any relevant additional comments, suggestions, recommendations, or observations from the interview that have not been captured in the previous summaries.

Additional comments (maximum 250 words).	Direct quotations

Annex 7 – Household survey

HOUSEHOLD SURVEY

INTRODUCTION

The primary aim of this survey is to assess a householder's experience of the TURNKEY RETROFIT service. The survey is designed to capture data that will be used to evaluate the technical quality of the TURNKEY RETROFIT service, as well as the quality of customer relationship and overall satisfaction with the service. The survey also includes questions related to monitoring and evaluating Key Performance Indicators including primary energy savings, investments in sustainable energy, and reductions in GHG emissions. Background information about the property and household members is collected in order to contextualize the data. The survey is part of the strategy for evaluating the French service (Task 4.2) and local implementation in Spain (Task 4.3) and Ireland (Task 4.4) as well as the cross-national comparison of results and lessons for large-scale uptake (Task 4.5).

Rationale behind the questions included in the survey

The survey is designed to be user friendly and should be clear enough for householders to fill in by themselves or with the assistance of a researcher. The survey also needs to work in three different countries, all with different energy systems, energy and retrofitting policies, user needs, and standards. At the same time, the survey needs to capture enough information to meet the aims and objectives of the TURNKEY RETROFIT project. Several of the questions are based on established surveys used in other projects that focus on household energy including ENERGISE, CONSENSUS, iBRoad, and nZEB-RETROFIT, and were tailored for the purposes of this project.

Q1-Q3 are basic questions about household members so we can build a profile of the household.

Q4-Q9 are basic questions about the dwelling so we can build a profile and compare building types.

Q10 is related to norms and standards but is also relevant to the type of building. A similar question is asked later (Q65/66), which can be compared to the answer provided here.

Q11-Q13 are about duration of residency and use of the building. This information can be useful to compare with decisions to retrofit (why now?) and levels of energy use (e.g. spending longer in the home might equal higher energy use).

Q14 and Q15 capture data on the level of energy use and cost of energy.

Q16 is used to assess the perceived financial situation of the household. This data can be compared with, for example, work undertaken (Q20), levels of grants received for retrofitting (Q36), or barriers to further works (Q22).

Q17 and Q18 relate to assessing levels of energy poverty.

Q19 relates to decision-making and determining the reasons why people choose to undertake a retrofit.

Q20 and Q21 gather data on actual retrofit options undertaken and time of the most recent work.

Q22 relates to barriers to (deep) retrofitting.

Q23-Q28 are used to evaluate the technical quality of the retrofit.

Q29-Q31 are used to evaluate the TURNKEY RETROFIT online platform. Some of these data can be also used to evaluate customer relationship.

Q32 is used to evaluate the quality of the customer relationship and quality of work.

Q33 is used to evaluate the efficiency of the service versus other options for retrofitting.

Q34 is used to evaluate the overall TURNKEY RETROFIT service.

Q35 and Q36 are used to calculate the total investment cost (investments in sustainable energy).

Q37 and Q38 are used to monitor and evaluate reported primary energy savings.

Q39 is used to monitor and evaluate the reduction of GHG emissions by comparing the reported spending on fossil fuel and renewable energy pre- and post-retrofit.

Q40 and Q41 gather data on dissemination and diffusion.

Q42 gathers data on spillover effects.

Q43 allows for additional feedback or comments from participants.

Q44-Q49 relate to the type and specification of heating/cooling system in the building.

Q51 and Q51 investigate if the household has accurate data on energy use and if they are willing to share (if deemed necessary).

Q52-Q59 gather data on energy management for heating.

Q60 and 61 gather data on energy management, other than for heating.

Q62-Q66 gather data on norms and standards around thermal comfort. Research shows that norms and standards differ significantly among different people. It is possible to compare responses to these Qs with the occupant and building profile (Q1-10).

Q67 relates to norms and standards around comfort more generally.

Q68 relates to the perceived intentions of others.

Q69 relates to environmental attitude (which can vary greatly from actual behaviour).

HOUSEHOLDER INFORMATION

The purpose of this survey is to evaluate and validate the TURNKEY RETROFIT service, which is designed as a householder-centric renovation journey that transforms the complex renovation process into a simple, straightforward, and attractive process for the householder. The survey combines an evaluation of the quality of the service not only in terms of the quality of the technical refurbishment, but also on the quality of the homeowner's relationship all along the renovation process.

Householders are kindly asked to respond to the TURNKEY RETROFIT survey provided by the research team. The survey will take approximately 30 minutes to complete. Research participants may be contacted at a later date following the survey to answer some follow-up questions. If you have any further questions, please refer to the participant information sheet you have been provided.

Additionally, you can contact xxx (refer to roles defined in Annex 1) who your lead contact point. Xx will respond to any queries you have regarding the TURNKEY RETROFIT project. Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx).

BACKGROUND INFORMATION

Country:

Participant name/ID/(sex): (e.g. 123(M); 321(F))

Date of survey:

Method for collecting data (e.g. face-to-face/telephone/email):

Researcher name:

CONTEXT

Q1. Please mark below the gender and age of each member in your household

1. ☐ male ☐ female, age _____ years
2. ☐ male ☐ female, age _____ years
3. ☐ male ☐ female, age _____ years
4. ☐ male ☐ female, age _____ years
5. ☐ male ☐ female, age _____ years
6. ☐ male ☐ female, age _____ years
7. ☐ male ☐ female, age _____ years
8. ☐ male ☐ female, age _____ years
9. ☐ male ☐ female, age _____ years
10. ☐ male ☐ female, age _____ years

Q2. Please indicate the highest education level of each adult member in your household

Adult 1: ☐ Basic education ☐ Secondary level ☐ Secondary vocational education and training ☐ Higher (third level)
Adult 2: ☐ Basic education ☐ Secondary level ☐ Secondary vocational education and training ☐ Higher (third level)
Adult 3: ☐ Basic education ☐ Secondary level ☐ Secondary vocational education and training ☐ Higher (third level)
Adult 4: ☐ Basic education ☐ Secondary level ☐ Secondary vocational education and training ☐ Higher (third level)

Q3. Please indicate the employment status of each adult member in your household

Adult 1: ☐ Full-time employment ☐ Part-time employment ☐ Unemployed ☐ Student ☐ Retired ☐ Other
Adult 2: ☐ Full-time employment ☐ Part-time employment ☐ Unemployed ☐ Student ☐ Retired ☐ Other
Adult 3: ☐ Full-time employment ☐ Part-time employment ☐ Unemployed ☐ Student ☐ Retired ☐ Other
Adult 4: ☐ Full-time employment ☐ Part-time employment ☐ Unemployed ☐ Student ☐ Retired ☐ Other

Q4. What is your home ownership status?
☐ Tenant
☐ Owner
☐ Rent-free tenant
☐ Communal property
☐ Mix

Q5. What is your dwelling type?
☐ Detached house
☐ Semi-detached house
☐ Terraced house (including end of terrace)
☐ Apartment building
☐ Student housing
☐ Senior housing

Q6. How many storeys does your dwelling have?
☐ 1
☐ 2
☐ 3
☐ more than 3

Q7. What is the total number of bedrooms in your dwelling: ☐ Studio (apartment) ☐ 2-bedroom ☐ 3-bedroom ☐ 4-bedroom ☐ 5+-bedroom

Q8. What is the total floor area of your dwelling: _____m^2

Q9. What is the decade of construction of the building where you live?
☐ Before 1920
☐ 1920-1930
☐ 1931-1940
☐ 1941-1950
☐ 1951-1960
☐ 1961-1970
☐ 1971-1980
☐ 1981-1990
☐ 1991-2000
☐ 2001-2010
☐ after 2011
☐ Don’t know

Q10. What indoor temperatures do you consider to be normal for your (type of) building? ____°C

Q11. How many years have you lived in the house?
Less than 1 year
Less than 5 years
5-10 years
More than 10 years

Q12. How often are you (or another person) at home between 9am-6pm from Monday to Friday?
☐ Always
☐ Often
☐ Rarely
☐ Never

Q13. Are weekdays in your household similar to each other in terms of who is at home and what they do? (If kids live with you every other week, consider similar weeks)
☐ Always
☐ Often
☐ Rarely
☐ Never

Q14. Do you know the approximate amount of energy (in kWh) your household consumes per year?
☐ Yes (please enter amount): _____kWh
☐ No
☐ No, but I know where I can check

Q15. Do you know how much your household pays for energy per month?
☐ Yes (please enter approximate amount): €_____
☐ No
☐ No, but I know where I can check

Q16. How easy or difficult do you find it to manage overall household bills and other expenses, including savings?
☐ Very easy
☐ Fairly easy
☐ Not easy
☐ Not easy at all
☐ Impossible
☐ Don't know/Prefer not to say

Q17. Were you without heating at some stage in the last year?
☐ Yes
☐ No

Q18. Were you unable to afford to keep your home adequately warm in the last year?
☐ Yes
☐ No

*Q18b. Were you unable to afford to keep your home adequately cool in the last year? (**Potentially relevant for Spain/France)*
☐ Yes
☐ No

EVALUATING THE TURNKEY RETROFIT SERVICE

Quality of the service

Q19. Which of the following reasons influenced your decision to plan your home energy retrofit? (*Select all relevant options*)
☐ To make my home more modern
☐ To increase the value of my home
☐ To reduce my energy use
☐ To improve indoor air quality
☐ To lower my energy bills

☐ To increase the thermal comfort of my home
☐ To replace outdated/older materials
☐ To meet new regulations
☐ Availability of grant/subsidy to carry out the work
☐ Information provided by TURNKEY RETROFIT online platform
☐ Professional advice provided by TURNKEY RETROFIT service
☐ Professional advice (other than TURNKEY RETROFIT)
☐ Advice from friends or family

Q20. Which of the following retrofit options did you undertake? *(Select all relevant options)*
☐ Installed/upgraded attic insulation
☐ Installed/upgraded external wall insulation
☐ Installed/upgraded cavity wall insulation
☐ Installed/upgraded internal wall insulation
☐ Installed/upgraded floor insulation
☐ Replaced windows/doors
☐ Upgraded boiler
☐ Installed heat pump
☐ Installed solar/PV panels
☐ Installed heating/cooling controls (e.g. smart energy meter or radiator controls)
☐ Installed mechanical ventilation with heat recovery
☐ Installed demand control ventilation
☐ Installed passive ventilation (e.g. wall vents or window vents)
☐ Installed energy efficient lighting
☐ Other, please specify: _____

Q21. When did you undertake the most recent retrofitting work to your home?
☐ In the last 3 months
☐ In the last 6 months
☐ In the last 12 months
☐ Work is currently ongoing

Q22. What factors prevent you from further improving the energy efficiency of your home? (*Select all relevant options)*
☐ Difficulty in quantifying energy savings
☐ Disturbance/hassle of making home improvements
☐ Structural considerations
☐ High investment cost
☐ Difficulty finding information
☐ Lack of awareness of benefits
☐ Lack of trust in technology
☐ Lack of trust in the workforce (e.g. installers, suppliers)
☐ Lack of financial support (grant, loan, etc.)
☐ No motivation to reducing energy bills
☐ Other priorities (e.g. work, family, etc.)
☐ My home is already energy efficient

Q23. In general, how would you rate the quality of the workmanship associated with the upgrade works of your house?
☐ Very satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very dissatisfied

Q24. Are you satisfied with the technologies/upgrades installed in your house? (*Select 'n/a' for any work you have not undertaken*)
Attic insulation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
External wall insulation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a

Cavity wall insulation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Internal wall insulation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Floor insulation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Windows/doors ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Upgraded boiler ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Heat pump ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Solar/PV panels ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Heating/cooling controls ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Mechanical ventilation with heat recovery ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Demand control ventilation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Passive ventilation ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Energy efficient lighting ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a
Other, please specify: _____ ☐ Yes ☐ No ☐ Somewhat satisfied ☐ n/a

Additional comment: _____

Q25. Do you feel the upgrade works are of thermal comfort benefit to you?
☐ Yes
☐ No
☐ Somewhat

Q26. Which parts of your home, if any, do you feel the upgrade works are of thermal benefit to you?

	Yes	Please elaborate	No	Please elaborate	Somewhat	Please elaborate
Living Area	☐		☐		☐	
Bedroom(s)	☐		☐		☐	

Q27. Has retrofitting eliminated the instance of any of the following problems in your house? (*Please tick all relevant options)*
Leaks ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Draught(s) ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Cold ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Condensation ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Mould ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Damp ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Overheating ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Other, please specify:

Additional comment: _____

Q28. On a scale of 1-10 (1 = very poor, 10 = excellent), how would rate the quality of the retrofitting works undertaken through TURNKEY RETROFIT service:

1	2	3	4	5	6	7	8	9	10

Q29. Please indicate how you feel about the following statements relating to the TURNKEY RETROFIT online platform *(Please tick one box in each line).*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The online platform was easy-to-use					
The online platform contained the right amount of information					
The information on the platform is reliable and					

trustworthy					
The information on the online platform was relevant and useful for me					
The online platform provides details of enough contractors that are available to carry out retrofitting					
The online platform helped me identify to best technical options for retrofitting my home					
The online platform provided a sufficient number of design options					
The online platform provided an accurate estimate of the cost for each renovation step					
The online platform provided easy to understand information on financing and available grants					
The online platform provided access to financing options					
The online platform takes up too much of my time to use					
The online platform was quick to respond to any questions I had					
The information on the online platform was important in convincing me to carry out the works					
The online platform removed the burden of sourcing all the information I needed to carry out the retrofit works					
I would recommend to a family member/friend to use to TURNKEY RETROFIT online platform					

Q30. On a scale of 1-10 (1 = very poor, 10 = excellent), how would rate the TURNKEY RETROFIT online platform:

1	2	3	4	5	6	7	8	9	10

Q31. Do you believe the TURNKEY Retrofit online platform could be improved in anyway?

☐ Yes
☐ No

If yes, please comment on how you feel the TURNKEY Retrofit online platform could be improved: _____

Q32. Please indicate how you feel about the following statements relating to the relationship with 1. The retrofit coordinator/manager and 2. The contractor who carried out the works *(Please tick one box in each line).*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Relationship with retrofit coordinator/manager					
The retrofit coordinator/project manager provided reliable and trustworthy information					
The information provided by the coordinator/project manager was relevant and useful for me					
The retrofit coordinator/project manager helped me identify the best technical options for retrofitting my home					
The retrofit coordinator/project manager removed the burden of managing the retrofit work					
The retrofit coordinator/project manager was					

always available to answer my questions					
I would recommend to a family member/friend to use the retrofit coordinator/project manager					
I was satisfied with the communication levels between myself and the retrofit coordinator/project manager					
2. Relationship with contractor:					
The contractor(s) who carried out the works are reliable and trustworthy					
The contractor(s) who carried out the works always arrived as scheduled					
The level of workmanship of the contractor(s) was of a high standard					
The contractor(s) left my home in a clean and tidy manner					
I was satisfied with the communication levels between myself and the contractor(s)					
I would recommend to a family member/friend to use the contractor(s) who carried out the works					
I am fully aware of how to correctly use the new technology installed in my home					

Q33. Do you think your household has saved time during the retrofitting process as a result of using the TURNKEY RETROFIT service?
☐ Yes, a lot
☐ Yes, a little
☐ No
☐ I don't know

Q34. On a scale of 1-10 (1 = very poor, 10 = excellent), how would rate the overall TURNKEY RETROFIT service:

1	2	3	4	5	6	7	8	9	10

Evaluation of KPIs

Q35. What was the total investment you made in retrofitting works, including grants and subsidies? _____€

Q36. Did you avail of a grant/subsidy to retrofit your home?
☐ Yes, I got a grant for _____% of the cost
☐ No
If yes, please state type of grant:_____

Q37. Do you think your household has saved/will save any energy as a result of undertaking energy renovations?
☐ No
☐ Less than 5% of our annual energy use
☐ 6-20% of our annual energy use
☐ 21-35% of our annual energy use
☐ 36-50% of our annual energy use
☐ More than 50% of our annual energy use
☐ I don't know

Q38. Do you think your household has saved money/will save money on your annual energy bill as a result of undertaking energy renovations?

☐ Not specifically
☐ Yes, less than 100€
☐ Yes, about 100-200€
☐ Yes, about 200-350€
☐ Yes, about 350-500€
☐ Yes, more than 500€
☐ I don't know

Q39. What is your estimated annual spending on the following energy sources for heating and power to your home before and after retrofitting?

	1 year before retrofit	(Estimate) 1 year after retrofit
Renewables		
Heating Oil		
Natural Gas		
Electricity		
Coal		
Peat		
Briquettes		
Biomass (e.g. Firewood)		
Other: _____		

Communication and dissemination

Q40. Have you discussed the TURNKEY RETROFIT project with any other people? (*select all relevant options*)
☐ Not specifically
☐ Yes, with other members of my household
☐ Yes, with extended family/relatives
☐ Yes, with friends
☐ Yes, with neighbours
☐ Yes, with co-workers
☐ Yes, with groups/associations in which I participate
☐ Yes, with people at a school, sports club, or similar
☐ Other, please specify: _____

Q41. Have you shared your experiences of TURNKEY RETROFIT in the following media? (*select all relevant options*)
☐ Not specifically
☐ Facebook, Twitter or Instagram
☐ Blog post
☐ Newspaper article
☐ Other, please specify: _____

Q41b. If yes, did the exchange of experiences or ideas with people outside your household provide you any of the following benefits? (*select all relevant options*)
☐ Practical tips and advice
☐ Encouragement or confidence
☐ New knowledge
☐ Other, please specify: _____
☐ None of the above

Q42. Are there other things to reduce your environmental impact that you do differently as a result of engaging with the TURNKEY RETROFIT service?
☐ No
☐ Yes, please specify: _____

Q43. Do you have any other feedback on the TURNKEY RETROFIT service?
_____

ENERGY SYSTEMS, BEHAVIOURS, NORMS & STANDARDS

Home energy system

Q44. Is your home heating system?
☐ Individual per dwelling ☐ Collective (shared by several dwellings)

Q45. Can you adjust thermal settings by room or for your entire home?
☐ By room only ☐ For entire home only ☐ For both

Q46. What type of energy is used in your home for your primary space heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No heating system

Q46b. What type of energy is used in your home for your secondary space heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No secondary system

Q46c. What type of energy is used in your home for cooling?
☐ Electricity
☐ Other, please specify: _____
☐ No cooling system

Q47. What type of energy is used in your home for your primary domestic hot water heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No heating system

Q47b. What type of energy is used in your home for your secondary domestic hot water space heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No secondary system

Q48. Do you use any additional energy technologies? Please indicate all relevant options

☐ Heat pump
☐ Solar/PV panel
☐ Solar heaters/collectors
☐ Other, please specify: _____

Q49. Can you regulate the room temperature?
☐ Yes
☐ Somewhat
☐ No

Q50. Does your household have access to energy bills or meter data for electricity and all heating sources the past year?
☐ Yes
☐ No

Q51. Are you willing to agree to the use of your energy data (anonymously) in our study?
☐ Yes
☐ No

Engagement with energy and environment issues:

Q52. Are any members of your household active in the following types of associations? (*Select all relevant options*)
☐ Housing or neighbourhood associations
☐ Parent's association
☐ Local environmental NGO
☐ Local social NGO
☐ Sports club
☐ Community garden
☐ Other, please specify: _____

Q53. Do you follow energy and climate issues in the media (TV, newspapers, social media, etc.)?
☐ Regularly
☐ Occasionally
☐ Almost never

Q54. Do you engage with energy and climate outside the home? (*Mark all relevant options*)
☐ Not specifically
☐ Yes, I raise energy and climate issues at home or with friends
☐ Yes, I raise energy & climate issues at work
☐ Yes, I raise energy & climate issues in NGOs or other groups where I am a member
☐ Yes, I actively search for news or information on energy and climate issues
☐ Yes, I consider energy & climate when voting
☐ Yes, I have participated in an organized energy saving initiative
☐ Yes, I have participated in an organized environmental initiative
☐ Other, please specify: _____

Q55. Do you actively search for information on energy saving? (*Mark all relevant options)*
☐ Read brochures/newsletter when delivered home
☐ Actively search for information online or at the library, etc.
☐ Ask friends for advice
☐ Ask experts for advice
☐ Other, please specify:_____

Energy management:

Q56. Who looks after the temperature settings in your household, most of the time?
☐ Male adult
☐ Female adult
☐ Other, please specify: _____

Q57. Do you regulate the room temperature?
☐ Yes
☐ Somewhat
☐ No

Q58. When do you normally turn the heating on? *(Select most relevant options)*
☐ My thermostat controls when the heating is turned on throughout the day
☐ I manually turn on the heating throughout the day
☐ The heating is scheduled to turn on only in the morning
☐ I manually turn on the heating only in the morning
☐ The heating is scheduled to turn on only in the evening
☐ I manually turn on the heating only in the evening
☐ The heating is scheduled to turn on both in the morning and evening
☐ I manually turn on the heating both in the morning and evening
☐ other, please specify: _____

Q59. Have you made any of the following efforts in managing your heating (system)? (*Select all relevant options*)
☐ Monitor heat consumption
☐ Keep temperature below 20°C
☐ Turn down the heat when airing
☐ Turn down heating at night
☐ Turn down heating when not at home
☐ Avoid heating unused rooms
☐ Heat less and use clothing to keep warm
☐ Use curtains/blinds to regulate temperature
☐ Insulate heating pipes
☐ Clean radiators, convectors, vents, chimneys, etc.
☐ Regular maintenance of the heating system (settings, venting, cleaning, etc.)
☐ Other, please specify: _____

Q60. Do you make efforts or investments to manage energy in other consumption domains? (*Select all relevant options*)
☐ I purchase energy efficient home appliances
☐ I purchase energy efficient electronics (TV, computer),
☐ I purchase energy efficient light bulbs (LED)
☐ I make investments in renewable energy (at home or outside it, e.g. energy co-operative)
☐ I turn off electrical appliances/devices when not in use (no stand-by)
☐ I regularly defrost fridge/freezer
☐ I avoid purchasing additional appliances where possible
☐ I take short showers (less than 5 minutes)
☐ I walk, cycle, or use public transport to avoid driving
☐ other, please specify: _____

Q61. Which factor has the biggest impact when deciding on which appliance to purchase? (*Select <u>one</u> option*)
☐ Cost
☐ Energy rating
☐ Aesthetics
☐ Manufacturer
☐ Friends and family
☐ Other, please specify:

Norms and standards

Q62. In general, how would you rate the warmth of your house (i.e. your thermal comfort satisfaction with your house)?
☐ Very satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very dissatisfied

Q63. In the winter, is the usual day/evening time temperature in your home too low, too high or just right for you?
☐ Low
☐ High
☐ Just right

Q64. Would other household members agree with you?
☐ Yes
☐ No (please elaborate): _____

Q65. What is your preferred indoor temperature in the living area in winter during day/evening time? ____°C

Q66. What is your preferred indoor temperature in the living area in summer during day/evening time? ____°C

Q67. What does comfort in the home mean to you? (*Choose all relevant options*)

Cleanliness	☐	Peace & quietness	☐
Feeling of Ownership	☐	Privacy	☐
Having enough space	☐	Security	☐
Having lots of light	☐	Warmth	☐
Having the right facilities	☐	Other (please state)	☐

Q68. In your opinion, which of the following would encourage people the most to save energy? *(Tick one option only)*
☐ Financial incentives and grants
☐ Lower utility bills
☐ Information or campaigns on why and how to save energy
☐ Better labelling on appliances
☐ Support from family, friends, or community
☐ Education of environmental impacts of energy use
☐ None of the above

Q69. Please indicate how you feel about the following statements *(Please tick one box in each row).*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I'm willing to sacrifice some comfort to save energy.					
Everybody has the right to use natural resources according to their demand.					
I like people to think of me as being environmentally friendly.					
I feel guilty when I use a lot of energy.					
Owning a big house is a very important goal in my life.					
As a society we will need to consume a lot less to help protect the environment for future generations.					
I feel morally obliged to reduce my energy use, regardless of what other people do.					

It is important to me that using less energy lowers utility bills.					
My quality of life will decrease if I reduce my energy use.					
It takes up too much of my time to reduce energy use.					

Annex 8 – Property managers survey

PROPERTY MANAGERS SURVEY

INTRODUCTION

The primary aim of this survey is to assess property managers' experience of the TURNKEY RETROFIT service. The survey is designed to capture data that will be used to evaluate the technical quality of the TURNKEY RETROFIT service, as well as the quality of customer relationship and overall satisfaction with the service.

A property manager is a professional contracted by the board of owners of a building, who is responsible for managing (under request of the owners of the property, or by decision of a board of owners) the financial, legal and technical matters necessary for the maintenance and economic management of the property. In the case of carrying out building renovation, he is responsible for channelling the requests of the residents, contacting suppliers, requesting financial aid, etc.

For this reason, the questions are focused on building (not home) renovation work.

The survey is part of the strategy for evaluating the French service (Task 4.2) and local implementation in Spain (Task 4.3) and Ireland (Task 4.4) as well as the cross-national comparison of results and lessons for large-scale uptake (Task 4.5).

Rationale behind the questions included in the survey

The survey is designed to be user friendly and should be clear enough for property managers to fill in by themselves or with the assistance of a researcher. The survey also needs to work in three different countries, all with different energy systems, energy and retrofitting policies, user needs, and standards. At the same time, the survey needs to capture enough information to meet the aims and objectives of the TURNKEY RETROFIT project. Several of the questions are based on established surveys used in other projects that focus on household energy including ENERGISE, CONSENSUS, iBRoad, and nZEB-RETROFIT, and were tailored for the purposes of this project.

Q1-Q3 are basic questions about the building so we can build a profile and compare building types.

Q4 and 5 capture data on the level of energy use and cost of energy.

Q6 relates to decision-making and determining the reasons why people choose to undertake a retrofit.

Q7 and Q8 gather data on actual retrofit options undertaken and time of most recent work.

Q9 relates to barriers to (deep) retrofitting.

Q10-Q14 are used to evaluate the technical quality of the retrofit.

Q15-Q17 are used to evaluate the TURNKEY RETROFIT online platform. Some of these data can be also used to evaluate customer relationship.

Q18 is used to evaluate the quality of the customer relationship and quality of work.

Q19 is used to evaluate the efficiency of the service versus other options for retrofitting.

Q20 is used to evaluate the overall TURNKEY RETROFIT service.

Q21 and Q22 are used to calculate the total investment cost (investments in sustainable energy).

Q23 and Q24 are used to monitor and evaluate reported primary energy savings.

Q25 is used to monitor and evaluate the reduction of GHG emissions by comparing the reported spending on fossil fuel and renewable energy pre- and post-retrofit.

Q26 and Q27 gather data on dissemination and diffusion.

Q28 gathers data on spillover effects.

Q29 allows for additional feedback or comments from participants.

Q30-Q34 relate to the type and specification of heating/ cooling system in the building.

PROPERTY MANAGERS INFORMATION

The purpose of this survey is to evaluate and validate the TURNKEY RETROFIT service, which is designed to transform the complex renovation process into a simple, straightforward, and attractive process for the customer. The survey combines an evaluation of the quality of the service not only in terms of the quality of the technical refurbishment, but also on the quality of the customer relationship all along the renovation process.

Property managers are kindly asked to respond to the TURNKEY RETROFIT survey provided by the research team. The survey will take approximately 20 minutes to complete. Research participants may be contacted at a later date following the survey to answer some follow-up questions. If you have any further questions, please refer to the participant information sheet you have been provided.

Additionally, you can contact xxx who is your lead contact point. Xx will respond to any queries you have regarding the TURNKEY RETROFIT project. Xx can be reached Monday through Friday by email (xx@yy.zz) or phone (xxxxxxxxx).

BACKGROUND INFORMATION

Country:

Participant name/ID/(sex): (e.g. 123(M); 321(F))

Date of survey:

Method for collecting data (e.g. face-to-face/telephone/email):

Researcher name:

CONTEXT

Q1. What is the decade of construction of the building?

☐ Before 1920
☐ 1920-1930
☐ 1931-1940
☐ 1941-1950
☐ 1951-1960
☐ 1961-1970
☐ 1971-1980
☐ 1981-1990
☐ 1991-2000
☐ 2001-2010
☐ after 2011
☐ Don't know

Q2. How many storeys/floors has the building? Ground floor +_____

Q2b. How many apartments does the building have? _____

Q2c. What is the total floor area of the building? _____m^2

Q3. What kind of facade typology does the building have?
☐ Facing brick
☐ Plastered facade
☐ Ceramic cladding facade
☐ Other: _____

Q4. Do you know the approximate amount of energy (in kWh) the building consumes per year?
☐ Yes (please enter amount): _____kWh
☐ No
☐ No, but I know where I can check

Q5. Do you know how much the building pays for energy per month?
☐ Yes (please enter approximate amount): €_____month
☐ No
☐ No, but I know where I can check

EVALUATING THE TURNKEY RETROFIT SERVICE

Quality of the service

Q6. Which of the following reasons influenced the decision to plan the building energy retrofit? (*Select all relevant options*)
☐ To make the building more modern
☐ To increase the value of the building
☐ To reduce the energy use
☐ To improve indoor air quality
☐ To lower the energy bills
☐ To increase the thermal comfort of the homes of the building
☐ To replace outdated/older materials
☐ To meet new regulations
☐ Availability of grant/subsidy to carry out the work
☐ Information provided by TURNKEY RETROFIT online platform
☐ Professional advice provided by TURNKEY RETROFIT service
☐ Professional advice (other than TURNKEY RETROFIT)
☐ Advice from friends or family

Q7. Which of the following retrofit options did you undertake? *(Select all relevant options)*
☐ Renovation of the façade
☐ Renovation of the roof
☐ Elevator installation
☐ Installed/upgraded attic insulation
☐ Installed/upgraded external wall insulation
☐ Installed/upgraded cavity wall insulation
☐ Installed/upgraded internal wall insulation
☐ Installed/upgraded floor insulation
☐ Replaced windows
☐ Upgraded boiler
☐ Installed heat pump
☐ Installed solar/PV panels
☐ Installed heating/cooling controls (e.g. thermostat, smart energy meter, or radiator controls)
☐ Installed mechanical ventilation with heat recovery
☐ Installed demand control ventilation

☐ Installed passive ventilation (e.g. wall vents or window vents)
☐ Installed energy efficient lighting
☐ Other, please specify: _____

Q8. When did you undertake the most recent retrofitting work to the building?
☐ In the last 3 months
☐ In the last 6 months
☐ In the last 12 months
☐ Work is currently ongoing

Q9. What factors prevent further improving the energy efficiency of the building? (*Select all relevant options)*
☐ Difficulty in quantifying energy savings
☐ Disturbance/hassle of making home improvements
☐ Structural considerations
☐ High investment cost
☐ Difficulty in finding information
☐ Lack of consensus between the neighbours
☐ Lack of awareness of benefits
☐ Lack of trust in technology
☐ Lack of trust in the workforce (e.g. installers, suppliers)
☐ Lack of financial support (grant, loan, etc.)
☐ No motivation to reduce energy bills
☐ The building is already energy efficient
☐ Others, please specify: _____

Q10. In general, how would you rate the quality of the workmanship associated with the upgrade works of the building?
☐ Very satisfied ☐ Satisfied ☐ Neutral ☐ Dissatisfied ☐ Very dissatisfied

Q11. Are you satisfied with the technologies/upgrades installed in the building? (*Select 'n/a' for any work you have not undertaken*)

Façade	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Roof	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Elevator	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Attic insulation	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Wall insulation	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Floor insulation	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Windows	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Upgraded boiler	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Heat pump	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Solar/PV panels	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Heating/cooling controls	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Mechanical ventilation with heat recovery	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Demand control ventilation	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Passive ventilation	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Energy efficient lighting	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a
Other, please specify: _____	☐ Yes	☐ No	☐ Somewhat satisfied	☐ n/a

Additional comment: _____

Q12. Do you feel the upgrade works are of thermal comfort benefit to the occupants of the homes in the building?
☐ Yes
☐ No
☐ Somewhat

Q13. Has retrofitting eliminated the instance of any of the following problems in the building? (*Please tick all relevant options)*

Leaks ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Cold ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Condensation ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Mould ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Damp ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Overheating ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Accessibility ☐ Yes ☐ No ☐ Somewhat ☐ Did not have this issue
Other, please specify:

Additional comment: _____

Q14. On a scale of 1-10 (1 = very poor, 10 = excellent), how would rate the quality of the retrofitting works undertaken through TURNKEY RETROFIT service:

1	2	3	4	5	6	7	8	9	10

Q15. Please indicate how you feel about the following statements relating to the TURNKEY RETROFIT online platform *(Please tick one box in each line).*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The online platform was easy-to-use					
The online platform contained the right amount of information					
The information on the platform is reliable and trustworthy					
The information on the online platform was relevant and useful for me					
The online platform provides details of enough contractors that are available to carry out retrofitting					
The online platform helped me identify to best technical options for retrofitting the building I manage					
The online platform provided a sufficient number of design options					
The online platform provided an accurate estimate of the cost for each renovation step					
The online platform provided easy to understand information on financing and available grants					
The online platform provided access to financing options					
The online platform takes up too much of my time to use					
The online platform was quick to respond to any questions I had					
The information on the online platform was important in convincing the board of owners to carry out the works					
The online platform removed the burden of sourcing all the information I needed to carry out the retrofit works					
I would recommend to a colleague/family member/friend to use to TURNKEY RETROFIT					

online platform					

Q16. On a scale of 1-10 (1 = very poor, 10 = excellent), how would rate the TURNKEY RETROFIT online platform:

1	2	3	4	5	6	7	8	9	10

Q17. Do you believe the TURNKEY Retrofit online platform could be improved in anyway?

☐ Yes
☐ No

If yes, please comment on how you feel the TURNKEY Retrofit online platform could be improved:

_____

Q18. Please indicate how you feel about the following statements relating to the relationship with 1. The retrofit coordinator/manager and 2. The contractor who carried out the works *(Please tick one box in each line).*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Relationship with retrofit coordinator/manager:					
The retrofit coordinator/project manager provided reliable and trustworthy information					
The information provided by the coordinator/project manager was relevant and useful for me					
The retrofit coordinator/project manager helped me identify the best technical options for retrofitting the building					
The retrofit coordinator/project manager removed the burden of managing the retrofit work					
The retrofit coordinator/project manager was always available to answer my questions					
I would recommend to a board of owners or to a colleague to use the retrofit coordinator/project manager					
I was satisfied with the communication levels between myself and the retrofit coordinator/project manager					
2. Relationship with contractor:					
The contractor(s) who carried out the works are reliable and trustworthy					
The contractor(s) who carried out the works always arrived as scheduled					
The level of workmanship of the contractor(s) was of a high standard					
The contractor(s) left the building in a clean and tidy manner					
I was satisfied with the communication levels between myself and the contractor(s)					
I would recommend to a family member/friend/a board of owners or to a colleague to use the contractor(s) who carried out the works					
I am fully aware of how to correctly use the new technology installed the building					

Q19. Do you think the building has saved time during the retrofitting process as a result of using the TURNKEY RETROFIT service?

☐ Yes, a lot
☐ Yes, a little
☐ No
☐ I don't know

Q20. On a scale of 1-10 (1 = very poor, 10 = excellent), how would rate the overall TURNKEY RETROFIT service:

1	2	3	4	5	6	7	8	9	10

Evaluation of KPIs

Q21. What was the total investment you made in retrofitting works, including grants and subsidies? _____€

Q22. Did you avail of a grant/subsidy to retrofit the building?
☐ Yes, I got a grant for _____% of the cost
☐ No
If yes, please state type of grant:_____

Q23. Do you think the building has saved/will save any energy as a result of undertaking energy renovations?
☐ No
☐ Less than 5% of our annual energy use
☐ 6-20% of our annual energy use
☐ 21-35% of our annual energy use
☐ 36-50% of our annual energy use
☐ More than 50% of our annual energy use
☐ I don't know

Q24. Do you think the building has saved money/will save money on your annual energy bill as a result of undertaking energy renovations?
☐ Not specifically
☐ Yes, less than 100€
☐ Yes, about 100-200€
☐ Yes, about 200-350€
☐ Yes, about 350-500€
☐ Yes, more than 500€
☐ I don't know

Q25. What is your estimated annual spending on the following energy sources for heating and power to the building before and after retrofitting?

	1 year before retrofit	(Estimate) 1 year after retrofit
Renewables		
Heating Oil		
Natural Gas		
Electricity		
Coal		
Peat		
Briquettes		
Biomass (e.g. Firewood)		
Other:		

Communication and dissemination

Q26. Have you discussed the TURNKEY RETROFIT project with any other people? (*select all relevant options*)

☐ Not specifically
☐ Yes, with other members of my management company
☐ Yes, with colleagues
☐ Yes, with the board of owners of other buildings
☐ Yes, with groups/associations in which I participate
☐ Other, please specify: _____

Q27. Have you shared your experiences of TURNKEY RETROFIT in the following media? (*select all relevant options*)
☐ Not specifically
☐ Facebook, Twitter, or Instagram
☐ Blog post
☐ Newspaper article
☐ Other, please specify: _____

Q27b. If yes, did the exchange of experiences or ideas with people outside the community you manage provide you any of the following benefits? (*select all relevant options*)
☐ Practical tips and advice
☐ Encouragement or confidence
☐ New knowledge
☐ Other, please specify: _____
☐ None of the above

Q28. Are there other things to reduce your environmental impact that you do differently as a result of engaging with the TURNKEY RETROFIT service?
☐ No
☐ Yes, please specify: _____

Q29. Do you have any other feedback on the TURNKEY RETROFIT service?
_____

ENERGY SYSTEMS

Home energy system

Q30. Is the building's heating system?
☐ Individual per dwelling ☐ Collective (shared by several dwellings)

Q31 What type of energy is used in the building for the primary space heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No heating system

Q31b. What type of energy is used in the building for the secondary space heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No secondary system

Q31c. What type of energy is used in the building for cooling?
☐ Electricity
☐ Other, please specify: _____
☐ No cooling system

Q32. What type of energy is used in the building for the primary domestic hot water heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No heating system

Q32b. What type of energy is used in the building for the secondary domestic hot water space heating system?
☐ Gas
☐ Oil
☐ Electricity
☐ Biomass
☐ District heating
☐ Other, please specify: _____
☐ No secondary system

Q33. Are there any additional energy technologies? Please indicate all relevant options
☐ Heat pump
☐ Solar/PV panel
☐ Solar heaters/collectors
☐ Other, please specify: _____

Annex 9 – National report template (with instructions)

TURNKEY RETROFIT NATIONAL REPORT

France/Spain/Ireland

Upon completion by partners in France, Spain, and Ireland, we anticipate a document of 20-25 pages, without annexes. The completed report will serve as the evaluation results arising from the analysis of the TURNKEY RETROFIT service in your country and will each form a chapter in D4.2. A cross-country analysis of results will be undertaken and presented in D4.3. Please inform the WP4 team if you are experiencing any issues completing the report or working with the proposed tables, figures, etc.

SUMMARY PAGE

- Estimated at 1,000 words; overview of the main findings.
- Summary of background and methodology (100-200 words).
- Summary of key findings from homeowner surveys (250-400 words).
- Summary of key findings from expert interviews (250-400 words).
- Summary of implications for policy and practice and future (research) directions (100-200 words).

1. NATIONAL CONTEXT

(approx. 1000 words or 2 pages)

This report should be readable as a stand-alone document; this section is required to 'set the scene' by providing an introduction to the national context in which the TURNKEY RETROFIT service is being implemented. Much of this work describing the national context has been undertaken in previous deliverables and can be summarized from these.

In this section, briefly describe the national context relating to energy and retrofitting including, for example:

- Summary of national conditions in [your country] (see market & PESTLE analysis – D2.1)
    - National energy policy, national-level data on energy in the residential sector (energy mix, emissions per capita, etc.), type and condition of housing stock, key actors in the residential energy sector, national-level data on socio-demographics (rural/urban, education levels, etc.), etc.
- Summary of existing integrated services in [your country] (see D1.1).
- Summary of viable business models suitable for [your country] (see business models – D2.2).
- Brief summary of key findings from WP3 (D3.1/D3.2) relating to the national context. For example,
    - Local needs and actors (D3.1).
    - Key steps to follow and barriers (D3.2).

2. LOCAL/REGIONAL CONTEXT

(approx. 300-500 words, length of section depending on variations from national context described in previous section)

Describe the local or regional context in which the empirical work took place. For example:

- Where were the participants located?
- Are there any local/regional specifics?
    - Are there any local/regional geographic considerations?
    - Are there any local/regional political considerations?
    - Are there any local/regional economic considerations?
    - Are there any local/regional environmental considerations?
    - Are there any local/regional socio-demographic considerations?

3. EXPERT INTERVIEWS

This section should report on the semi-structured interviews with members of Local Implementation Groups.

3.1 Introduction, overview, methodology

(approx. 300-500 words)

- Describe the methodology used to identify and recruit interview participants.
- Provide a short description of the interview process (who did what and when, timing, challenges encountered, etc.).
- Describe the roles of interviewees (job description, employer/type of organization, role in the TURNKEY RETROFIT service).
    - Overview of interviewees can be summarized in table form if suitable.

Table X: Interview participants roles and responsibilities

Interviewee (job title)	Employer (type of organization)	Role in TURNKEY RETROFIT
e.g. Retrofit programme manager	e.g. National energy agency	Brief description of role and key responsibilities
e.g. Energy programme manager	e.g. Local Authority	
e.g. Contractor	e.g. Self-employed	
e.g. Installer	e.g. Utility company	
e.g. Financial advisor	e.g. Financial institution	

3.2 Comparing TURNKEY RETROFIT with state-of-the-art

(approx. 500-700 words)

Qualitative data is introduced here based on an analysis of the interview transcripts and interview feedback forms.

- Summarize how the interviewees' experience the TURNKEY RETROFIT service in comparison to other retrofitting schemes. What is similar and different to other retrofit services?
- Take note of any mention of any additional services offered by TURNKEY RETROFIT that are not generally available in other schemes.
- Consider what is similar between the interviewees' perspectives and what differs. Note similarities and differences in experiences that are more general as well as any interesting perspectives that stood out as outliers.
- Consider how different experiences relate to specific roles of interviewees.
- Consider how different experiences relate to national, regional, and local contexts.
- Highlight any key themes that emerged in your analysis
- Include direct quotations that are illustrative of the key points made.

3.3 Quality of service

(approx. 1000-1500 words)

Qualitative data is introduced here based on an analysis of the interview transcripts and interview feedback forms.

- Consider what is similar between the interviewees' perspectives and what differs. Note similarities and differences in experiences that are more general as well as any interesting perspectives that stood out as outliers.
- Consider how different experiences relate to specific roles of interviewees.
- Consider how different experiences relate to national, regional, and local contexts.
- Highlight any key themes that emerged in your analysis.
- Include direct quotations that are illustrative of the key points made.

3.3.1. Technical quality

- Summarize the interviewees' perception of the technical quality of the TURNKEY RETROFIT service: e.g. were any issues/benefits highlighted and if so what and by whom; how do these issues/benefits relate to the specific role of the interviewee and to the service more generally; were there any distinctions made between the technical quality of TURNKEY RETROFIT service and other retrofitting services; were there any suggestions for improving the technical quality.

3.3.2. Customer relationship

- Summarize the interviewees' perception of the quality of the customer relationship throughout the TURNKEY RETROFIT service: e.g. were any issues/benefits highlighted and if so what and by whom; how do these issues/benefits relate to the specific role of the interviewee and to the service more generally; were there any distinctions made between customer relationship in the TURNKEY RETROFIT service and other retrofitting services; did interviewees make any recommendations for improving the customer relationship.

3.3.3. Online platform

- Summarize the interviewees' perception using the TURNKEY RETROFIT online platform: e.g. were any issues/benefits highlighted and if so what and by whom; how do these issues/benefits relate to the specific role of the interviewee and to the service more generally; were there any distinctions made between the TURNKEY RETROFIT online platform and other online retrofitting services; did interviewees suggest how the online platform can be improved.

3.3.4 Overall service

- Summarize the interviewees' perception of the overall service provided by TURNKEY RETROFIT: e.g. were any issues/benefits highlighted and if so what and by whom; how do these issues/benefits relate to the specific role of the interviewee and to the service more generally; were there any distinctions made between the overall TURNKEY RETROFIT service and other retrofitting services; did any interviewees offer suggestions for improving the overall service.
- Summarize the key findings from different aspects relating to the quality of service.

3.4 Future development of the service

(approx. 500-700 words)

Qualitative data is introduced here based on an analysis of the interview transcripts and interview feedback forms.

- Summarize any recommendations, observations, or comments by the interviewees in relation to improving uptake of energy renovations more generally.
- Consider what is similar between interviewees' perspectives and what differs. Note similarities and differences in experiences that are more general as well as any interesting perspectives that stood out as outliers.
- Consider how different experiences relate to specific roles of interviewees.
- Consider how different experiences relate to national, regional, and local contexts.
- Highlight any key themes that emerged in your analysis.
- Include direct quotations that are illustrative of the key points made.

3.5 Additional comments

This section is used to capture any relevant additional elements, comments, or observations that came up in interviews or emerged inductively in your analysis but do not fit in to previous sections or with topics already discussed. Include direct quotations that are illustrative of the key points made.

4. HOUSEHOLD SURVEYS

This section should provide details on the methods used to identify and recruit participants, sociodemographic characteristics of participants, building characteristics, energy systems, and energy management, social norms, environmental attitudes, and participants' perceptions of the TURNKEY RETROFIT service.

4.1 Methodology

(approx. 500 words)

Describe details on the methodology used to identify, recruit, and engage with participants for the household survey (see local data collection plan). For example:

- How did you identify/select households to take part in the survey; sampling strategy; justification for selection
- What methods did you use to recruit/contact householders; what preparation work did you undertake in advance of conducting the survey.
- Short description of the data collection process (e.g. who did what and when, what did your timeline look like (possibly copy timeline from local implementation plan), what partners were involved in what roles, etc.).

4.2 Sociodemographics, building types, behaviours, norms, and standards

4.2.1 Characteristics of buildings and their occupants

(approx. 1000 words)

Household description (for participants, refer to Q1-Q4; Q11-Q13 of household survey):

- Describe the socio-demographic and socio-economic characteristics of participants (See also proposed Table A).
    - Size of household, breakdown of age, gender.
    - Education levels.
    - Employment status.
    - Home ownership status.
    - Duration of occupancy, routines.
- Describe the building characteristics (Q5-Q10) (See also proposed Table B).
    - Dwelling type.
    - Number of bedrooms.

- Size of dwelling.
- Age of dwelling.
- Energy use; cost of energy (Q14 and Q15).

- Describe the perceived financial situation of households (Q16) (See also proposed Figure C).
  - Experience of energy poverty (Q17 & Q18/18b).
- Describe the household energy systems (Q44-Q51).
  - Type of home heating/cooling system.
  - Heating sources (primary and secondary) (See also proposed Table D).
- Describe participants' experience of previous engagement with energy and environmental issues (Q52-Q55) (See also proposed Table E).

Proposed tables/figures for section 4.2.1 (please feel free to add any further tables or figures that you wish):

Table A: Socio-demographic characteristics of participants

Household size	**1 person**	**2 people**	**3 people**	**4 or more**
% of respondents (n=x)	xx	xx	xx	xx
Age of main contact (adult 1)	**29 or younger**	**30-49**	**50-69**	**70 or older**
% of respondents (n=x)	xx	xx	xx	xx
Employment status of main contact	**Full-time employed or entrepreneurs**	**Part-time**	**Student/ Unemployed**	**Retired**
% of respondents (n=x)	xx	xx	xx	xx
Educational level of main contact	**Tertiary**	**Secondary/ Vocational**	**Primary**	**Other/ Unknown**
% of respondents (n=x)	xx	xx	xx	xx
Home ownership status	**Tenant**	**Owner**	**Rent-free tenant**	**Other**
% of respondents (n=x)	xx	xx	xx	xx

Table B: Building characteristics

Type of dwelling	**apartment**	**terraced/semi-detached**	**detached**	**other**
% of respondents (n=x)	xx	xx	xx	xx
Size of dwelling	**<60 m2**	**60-100 m2**	**101-140 m2**	**>140 m2**
% of respondents (n=x)	xx	xx	xx	Xx
Decade of construction	**before 1920**	**1920s-1970s**	**1980s-2000s**	**After 2000**
% of respondents (n=x)	xx	xx	xx	xx

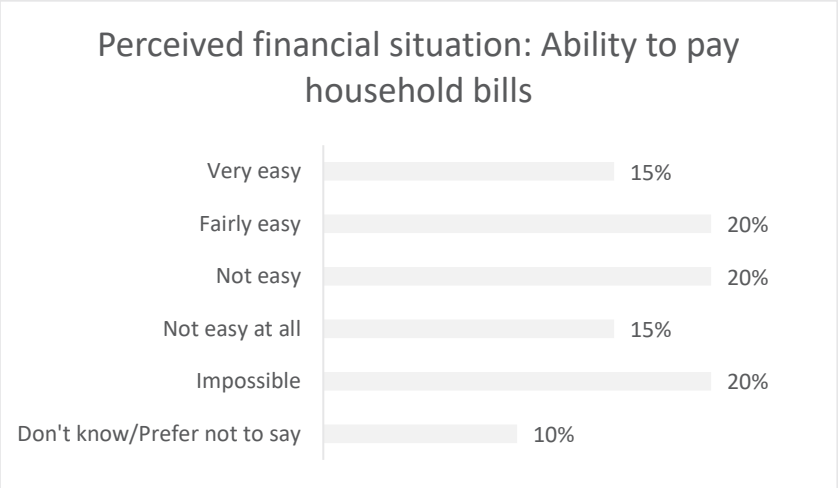

Figure C: Perceived financial situation of households (based on ability to pay bills)

Table D: Heating sources of participants

	Primary heating source, %	**Secondary heating source, %**
Gas	Xx	Xx
Oil	Xx	Xx
Electricity	Xx	Xx
Biomass	Xx	Xx
District heat	Xx	Xx
Heat pump	Xx	Xx
Solar collectors	Xx	Xx
Coal	Xx	Xx
Other/don't know	Xx	Xx

Table E: Engagement with energy and climate outside of the home

	Yes, %	No, %
I raise energy and climate issues at home or with friends	Xx	Xx
I raise energy & climate issues at work	Xx	Xx
I raise energy & climate issues in NGOs or other groups where I am a member	Xx	Xx
I actively search for news or information on energy and climate issues	Xx	Xx
I consider energy & climate when voting	Xx	Xx
I have participated in an organized energy saving initiative	xx	xx
I have participated in an organized environmental initiative	xx	xx
I don't specifically engage with energy and climate issues	Xx	Xx

4.2.2 Energy management

(approx. 250-500 words)

- Describe participants' efforts toward energy management.
  - Who takes responsibility for controlling temperature (Q56)?
  - What efforts are made to manage heating systems (Q57-Q59) and energy in other domains (Q60) (See also proposed Figure F and G)?
  - What factors influence purchase of appliances (Q61)?

Proposed tables/figures for section 4.2.2 (please feel free to add any further tables or figures that you wish):

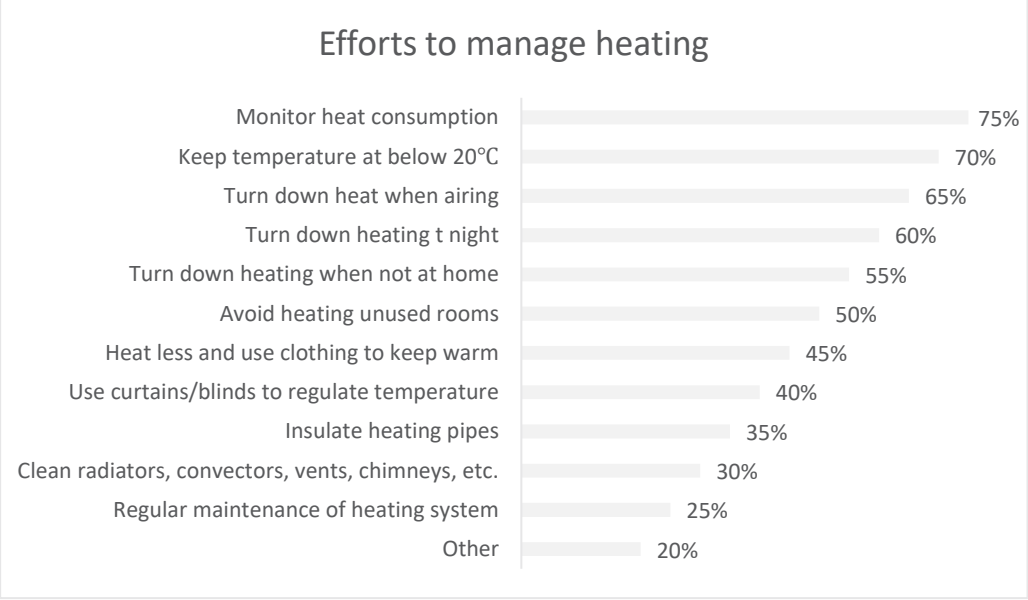

Figure F: Participants efforts to manage heating

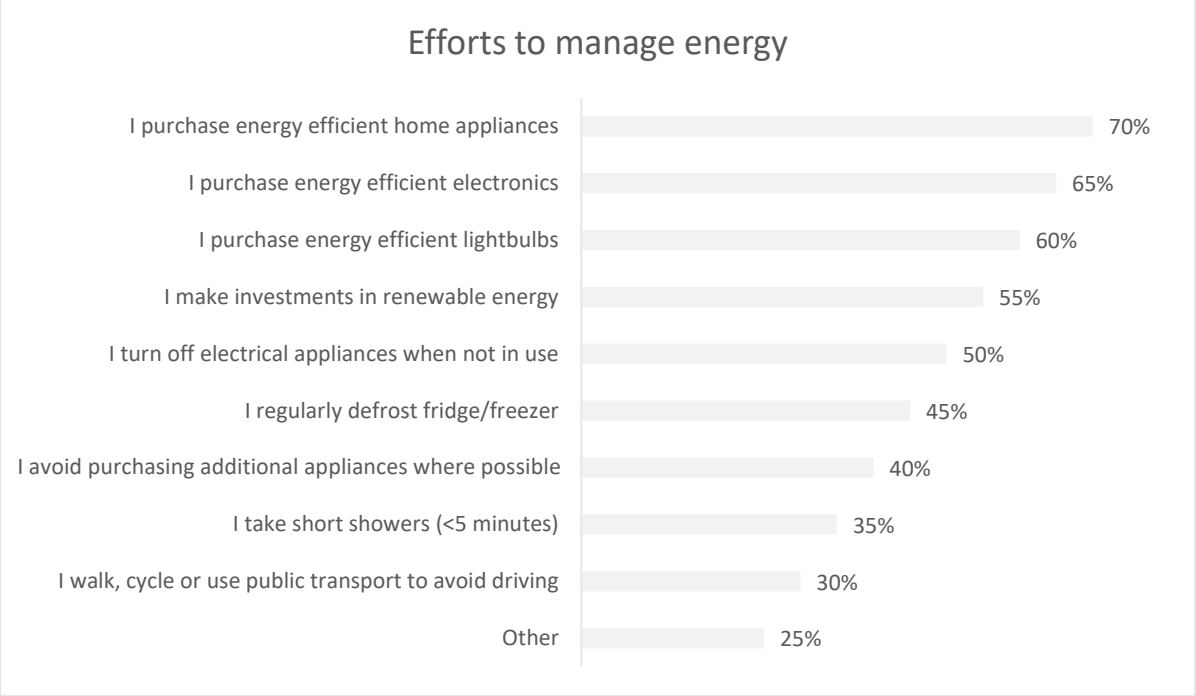

Figure G: Participants efforts to manage energy (other than heating)

4.2.3 Norms and standards

(approx. 250-500 words)

- Describe householders preferred indoor temperature and satisfaction with thermal comfort (Q62-Q66).
- Describe how participants most equate their perception of comfort in the home (Q67).
- Describe participants' perceptions of what are effective strategies to reduce energy use (Q68).
- Describe participants reported environmental attitudes (Q69) (See also proposed Figure H).

Proposed tables/figures for section 4.2.3 (please feel free to add any further tables or figures that you wish):

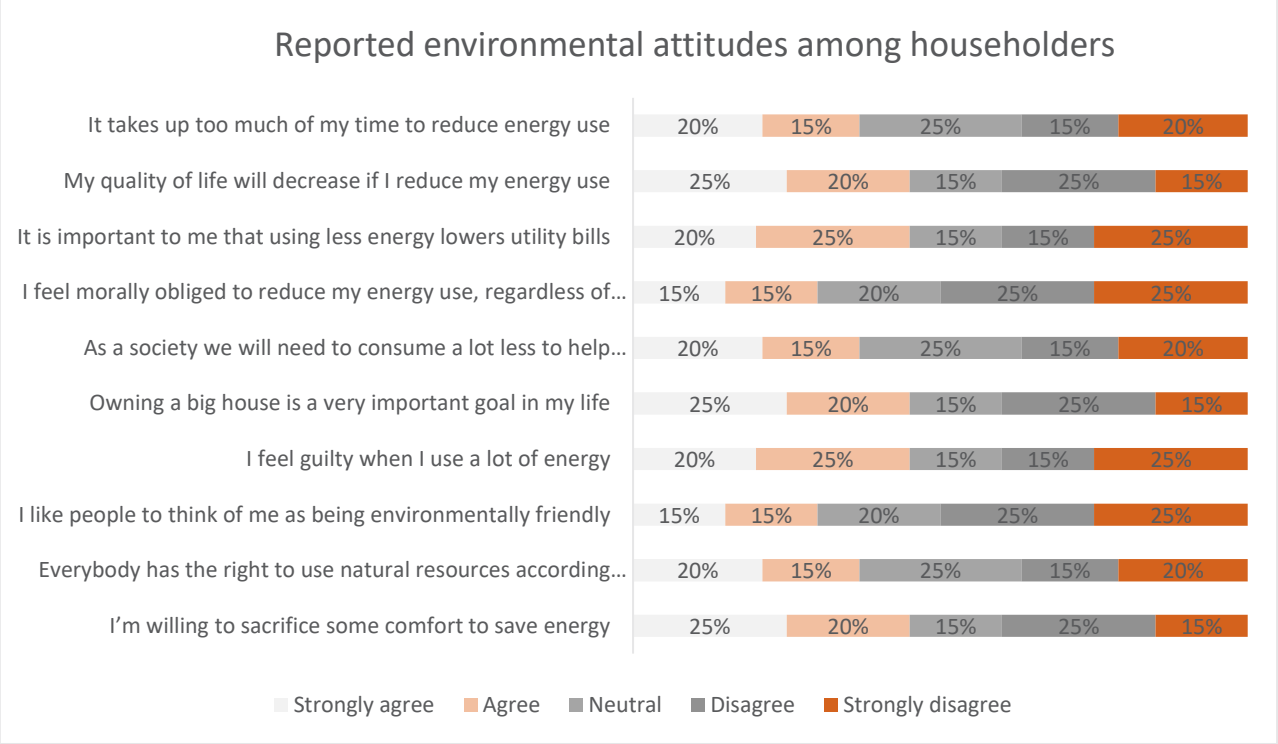

Figure H: Reported environmental attitudes

4.3 Evaluating the TURNKEY RETROFIT service

(approx. 1000 words)

This section should provide details on homeowner experiences of the TURNKEY RETROFIT service including:

- Retrofit decision-making process and retrofit options undertaken.
- Evaluation of technical quality.
- Evaluation of online platform and customer relationship.
- Evaluation of efficacy of service.
- Monitoring of KPIs including total investment, primary energy savings, and reduction of GHG emissions.
- Communication and dissemination, upscaling.

4.3.1 Quality of the service

- Describe the main factors that influenced the householders' decision to undertake a retrofit (Q19) (See also proposed Figure I).
- Describe the retrofitting options undertaken (can include description of individual options, combinations of measures, etc.) (Q20) (See also proposed Figure J).

    - Consider the timeframe (Q21) and how this relates to satisfaction with workmanship/technologies/benefits, etc. (Q23-Q34) as well as the evaluation of KPIs (Q35-Q39).
- Describe the main barriers to further/deeper retrofitting as reported by householders (Q22) (See also proposed Figure K).
- Describe the customer satisfaction with the technical quality of the retrofit (Q23-Q28).
    - Quality of workmanship (Q23).
    - Satisfaction with technologies/upgrades (Q24-Q26).
    - Performance of technologies/upgrades (Q27) (See also proposed Figure L).
    - Overall perception of quality of retrofit works (Q28).
- Evaluate the customer satisfaction with the online platform (Q29-Q31) (See also proposed Figure M).
- Evaluate the customer relationship and efficacy of the service (Q32 and Q33).
- Perception of overall TURNKEY RETROFIT service (Q34) (*Here we are aiming for a minimum average score of 8/10*).

Proposed tables/figures for section 4.3.1 (please feel free to add any further tables or figures that you wish):

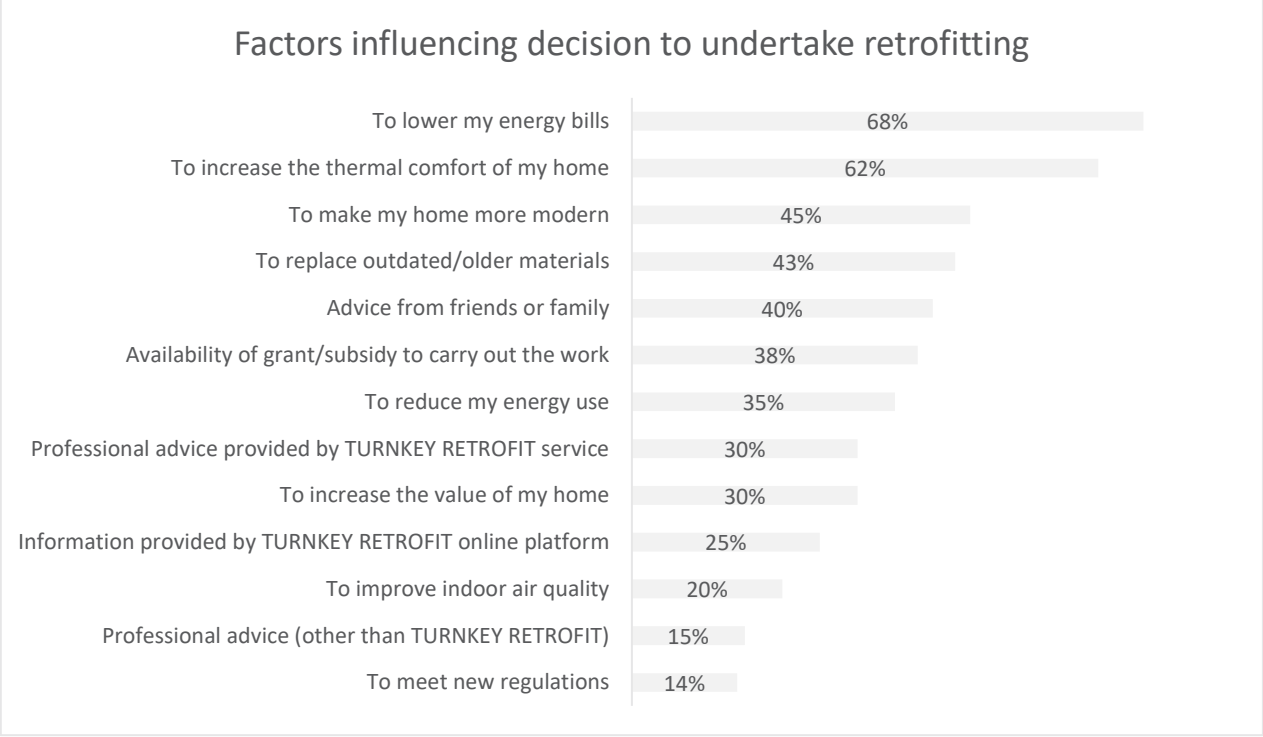

Figure I: Factors influencing householders' decision to undertake energy renovations

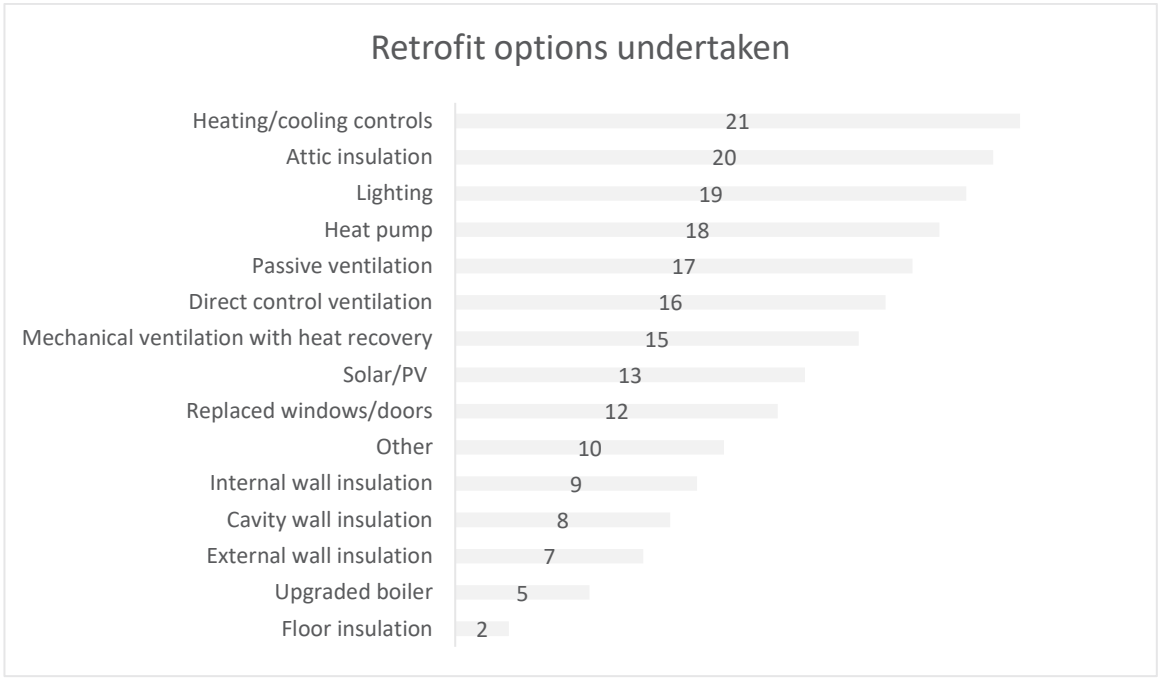

Figure J: Retrofitting measures undertaken (total households = xx)

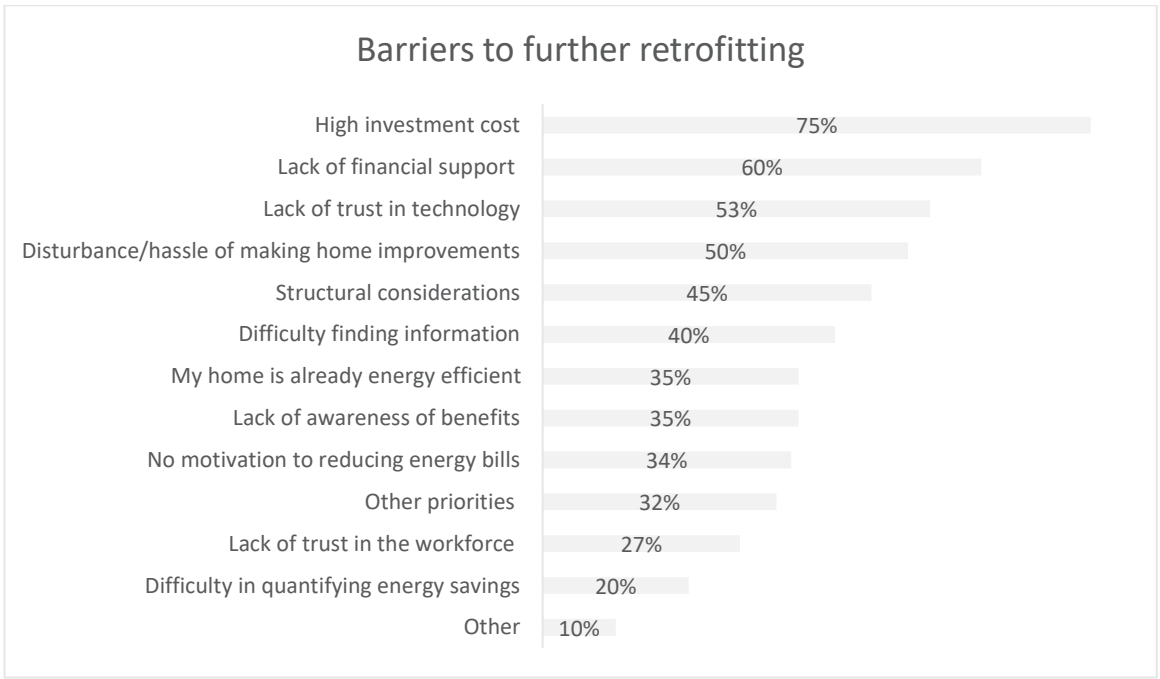

Figure K: Barriers to undertaking additional energy improvements

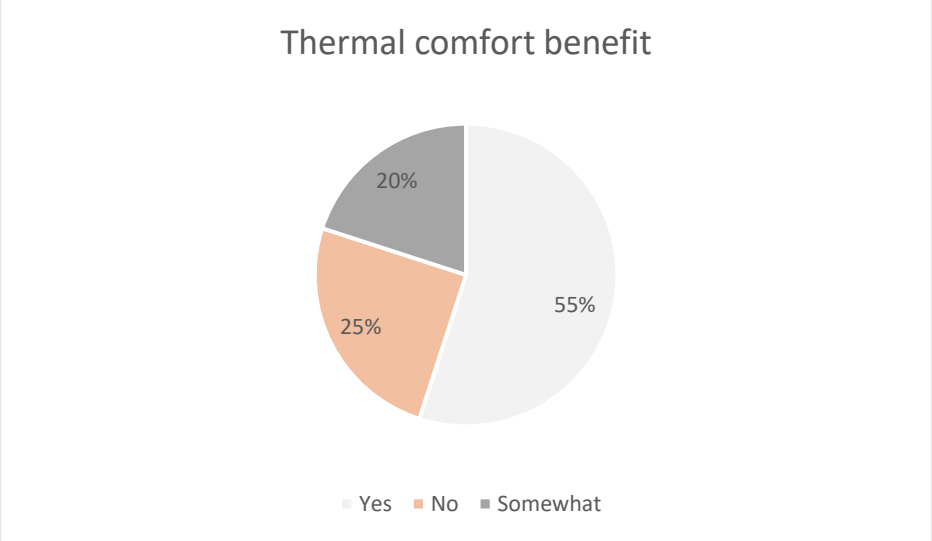

Figure L: Perceptions of thermal comfort benefit post retrofitting (total households = xx)

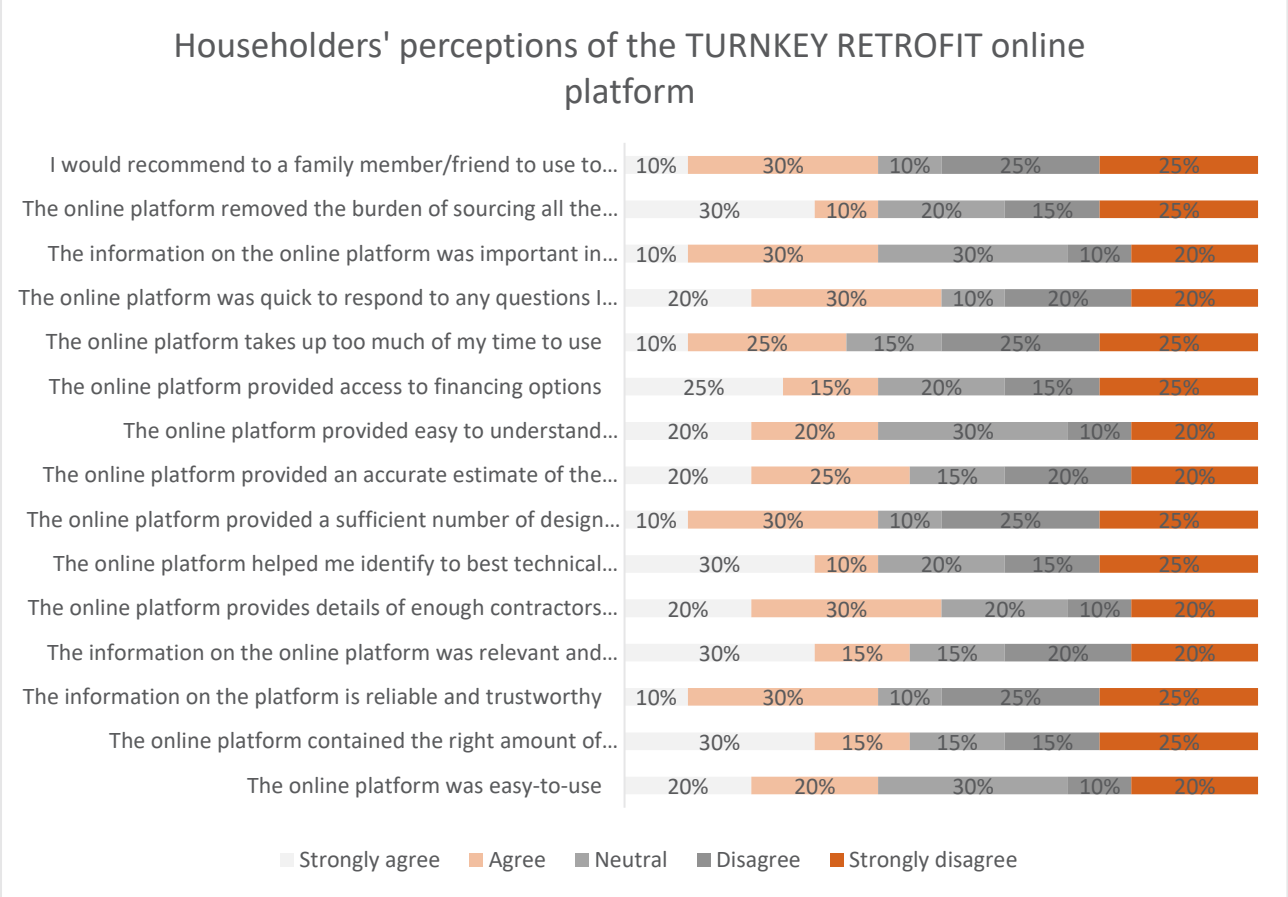

Figure M: Evaluation of the TURNKEY RETROFIT online platform from the householders' perspective

4.3.2 Evaluation of KPIs

(approx. 500 words)

This section presents data on Key Performance Indicators including total investment cost (investments in renewable energy), primary energy savings, and reductions in GHG emissions. In all cases, it may not be possible to gather verified data on energy use. Therefore, calculations for primary energy savings can be made based on reported data (Q37 and Q38) or on actual verified data, where available (Q50 and Q51). Please indicate in this report which types and sources of data are used to make calculations.

- Calculate and present the overall investment made in retrofitting (analysis can include total, average, min, max, etc.) and total grants awarded (as € and/or as % of cost) (Q35 and Q36).
- Calculate/present the actual, reported, or forecast energy and monetary savings as a result of undertaking energy renovations (see responses to Q14 and Q15; Q50 and Q51; Q37 and Q38) (See also proposed Figure N).
- Evaluate the reduction of GHG emissions by comparing the reported use and related carbon intensity of fossil fuel and renewable energy pre- and post-retrofit (Q39).

Proposed tables/figures for section 4.3.2 (please feel free to add any further tables or figures that you wish):

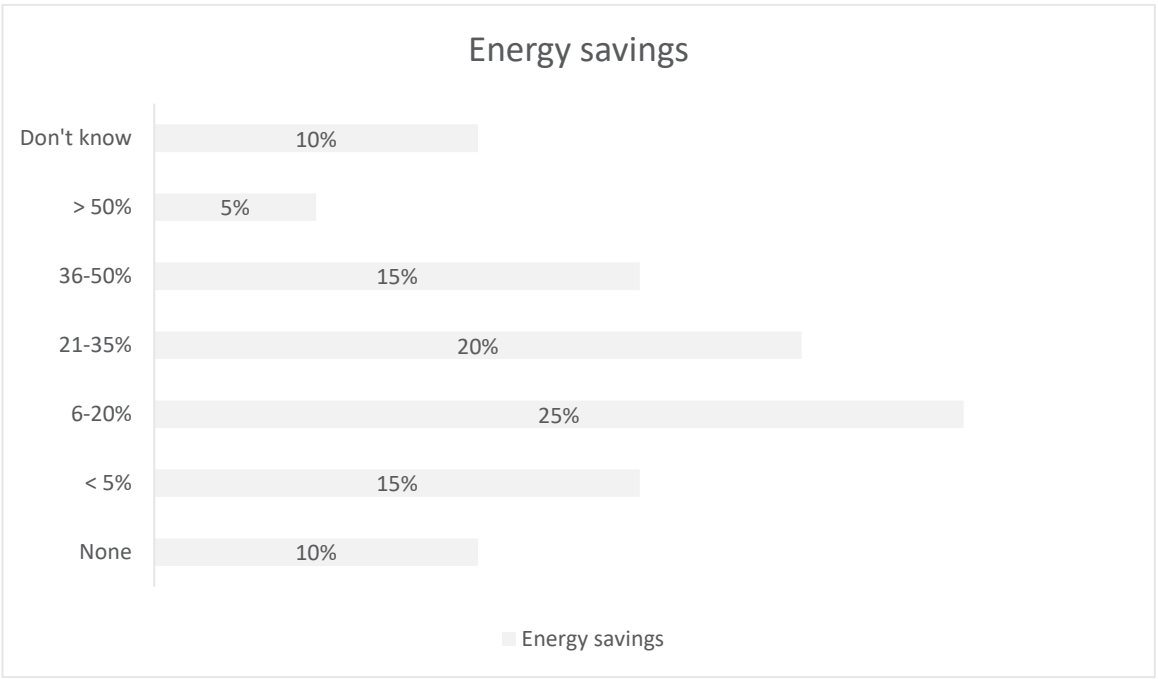

Figure N: Energy savings as a result of retrofit (indicate data source)

4.3.3 Communication and dissemination

(approx. 200 words)

This section is used to describe how participants shared or discussed their experiences with others, and the perceived benefits from engaging with others. Spillover effects are also considered (Q40-42).

4B. PROPERTY MANAGER SURVEYS

***Only complete this section 4b if you have surveyed Property Managers using the survey provided in Annex 8 of D4.1.**

This section should provide details on the methods used to identify and recruit participants, building characteristics, energy systems and the participants' perceptions of the TURNKEY RETROFIT service.

4.1b Methodology

(approx. 200-500 words)

Describe details on the methodology used to identify, recruit, and engage with participants for the property manager survey (see local data collection plan). For example:

- How did you identify/select people to take part in the survey; sampling strategy; justification for selection.
- What methods did you use to recruit/contact property managers; what preparation work did you undertake in advance of conducting the survey.
- Short description of the data collection process (e.g. who did what and when, what did your timeline look like (possibly copy timeline from local implementation plan), what partners were involved in what roles, etc.).

4.2b Building types, energy systems

4.2.1 Characteristics of buildings and energy systems

(approx. 500 words)

Building description (refer to Q1-Q3 of property manager survey):

- Describe the building characteristics (Q1-Q3) (See also proposed Table 1).
    - Size of building.
    - Age of building.
    - Façade type.
    - Energy use; cost of energy (Q4 and Q5).
- Describe the building energy systems (Q30-Q33).
    - Type of heating/cooling system.
    - Heating sources (primary and secondary) (See also proposed Table 2).

Proposed tables/figures for section 4.2.1 (please feel free to add any further tables or figures that you wish):

Table 1: Building characteristics

Façade typology	**Brick**	**Plaster**	**Ceramic**	**Other**
% of respondents (n=x)	xx	xx	xx	xx
Size of building	**1 floor**	**2 floors**	**3 floors**	**4+ floors**
% of respondents (n=x)	xx	xx	xx	Xx
Decade of construction	**before 1920**	**1920s-1970s**	**1980s-2000s**	**After 2000**
% of respondents (n=x)	xx	xx	xx	xx

Table 2: Heating sources of buildings

	Primary heating source, %	**Secondary heating source, %**
Gas	Xx	Xx
Oil	Xx	Xx
Electricity	Xx	Xx
Biomass	Xx	Xx
District heat	Xx	Xx
Heat pump	Xx	Xx
Solar collectors	Xx	Xx
Coal	Xx	Xx
Other/don't know	Xx	Xx

4.3b Evaluating the TURNKEY RETROFIT service (property managers survey)

(approx. 1000 words)

This section should provide details on property managers' experiences of TURNKEY RETROFIT service including:

- Retrofitting decision-making process and retrofitting options undertaken
- Evaluation of technical quality
- Evaluation of online platform and customer relationship
- Evaluation of efficacy of service
- Monitoring of KPIs including total investment, primary energy savings, reduction of GHG emissions
- Communication and dissemination, upscaling

4.3.1b Quality of the service

- Describe the main factors that influenced the decision to undertake a retrofit (Q6) (See also proposed Figure 1).
- Describe the retrofitting options undertaken (can include description of individual options, combinations of measures, etc.) (Q7) (See also proposed Figure 2).
    - Consider the timeframe (Q8) and how this relates to satisfaction with workmanship/technologies/benefits, etc. (Q10-Q20) as well as the evaluation of KPIs (Q21-Q25).
- Describe the main barriers to further/deeper retrofitting as reported by property managers (Q9) (See also proposed Figure 3).
- Describe the property managers' satisfaction with the technical quality of the retrofit (Q10-Q14).
    - Quality of workmanship (Q10).
    - Satisfaction with technologies/upgrades (Q11-Q12).
    - Performance of technologies/upgrades (Q13) (See also proposed Figure 4).
    - Overall perception of quality of retrofit works (Q14).
- Evaluate the property managers' satisfaction with the online platform (Q15-Q17) (See also proposed Figure 5).
- Evaluate the customer relationship and efficacy of the service (Q18 and Q19).
- Perception of overall TURNKEY RETROFIT service (Q20) (*Here we are aiming for a minimum average score of 8/10*).

Proposed tables/figures for section 4.3.1 (please feel free to add any further tables or figures that you wish):

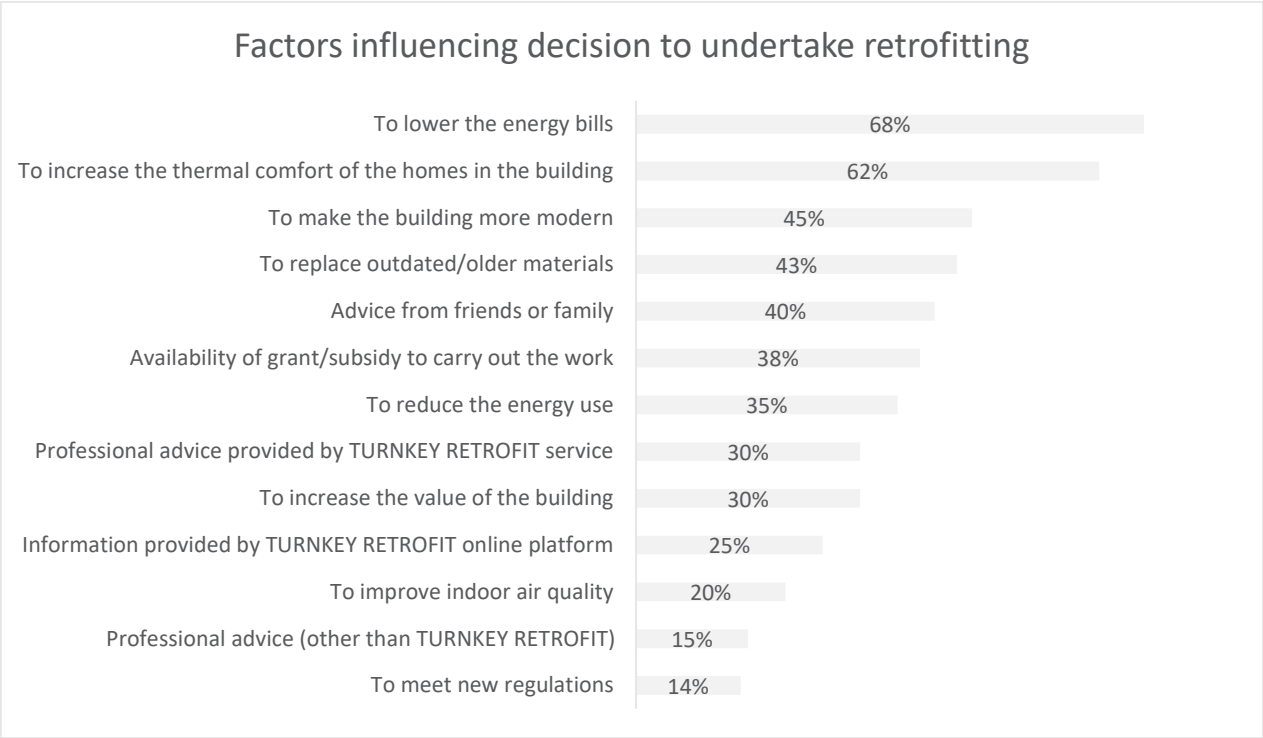

Figure 1: Factors influencing decision to undertake energy renovations (property managers)

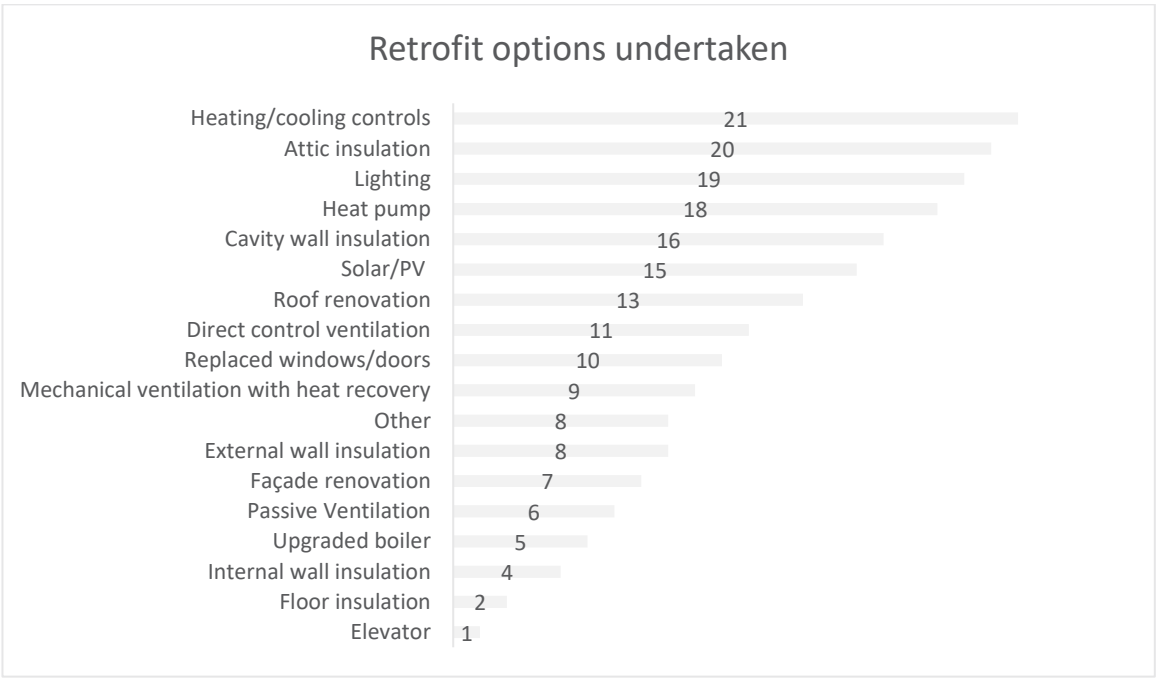

Figure 2: Retrofitting measures undertaken in buildings (n = xx)

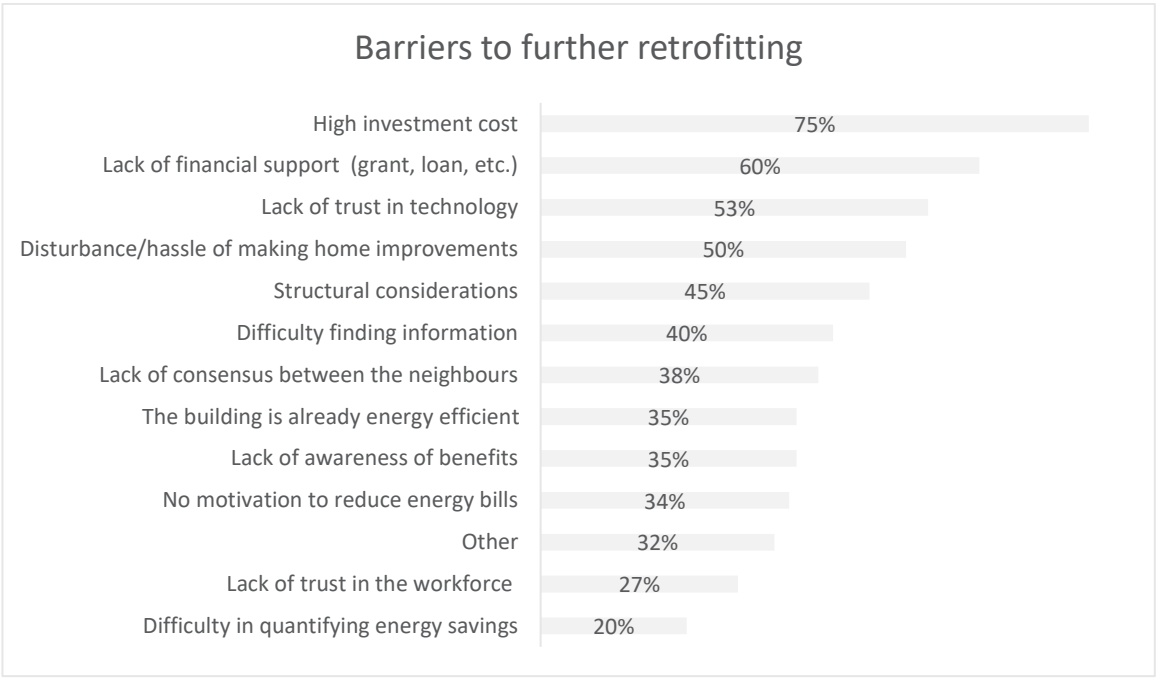

Figure 3: Barriers to undertaking additional energy improvements (property managers)

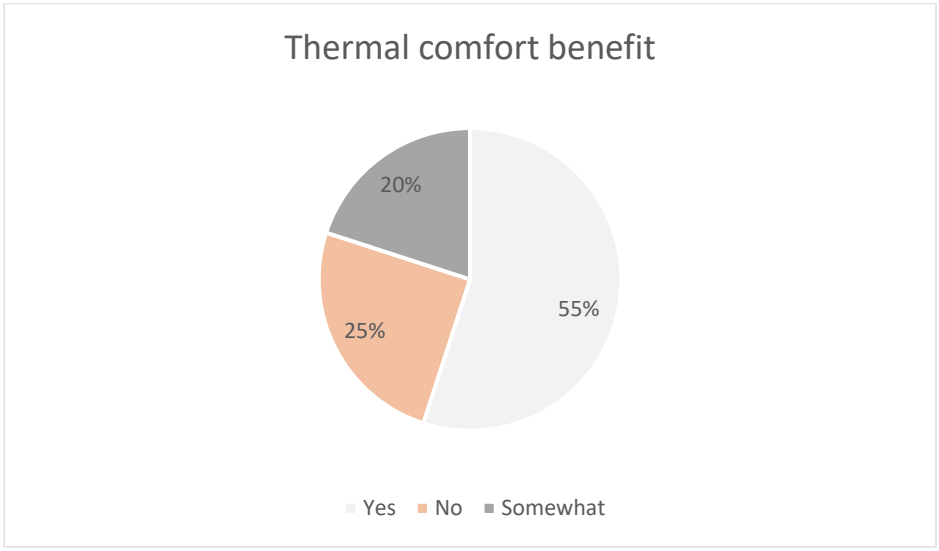

Figure 4: Property managers' perceptions of thermal comfort benefit post retrofitting (n= xx)

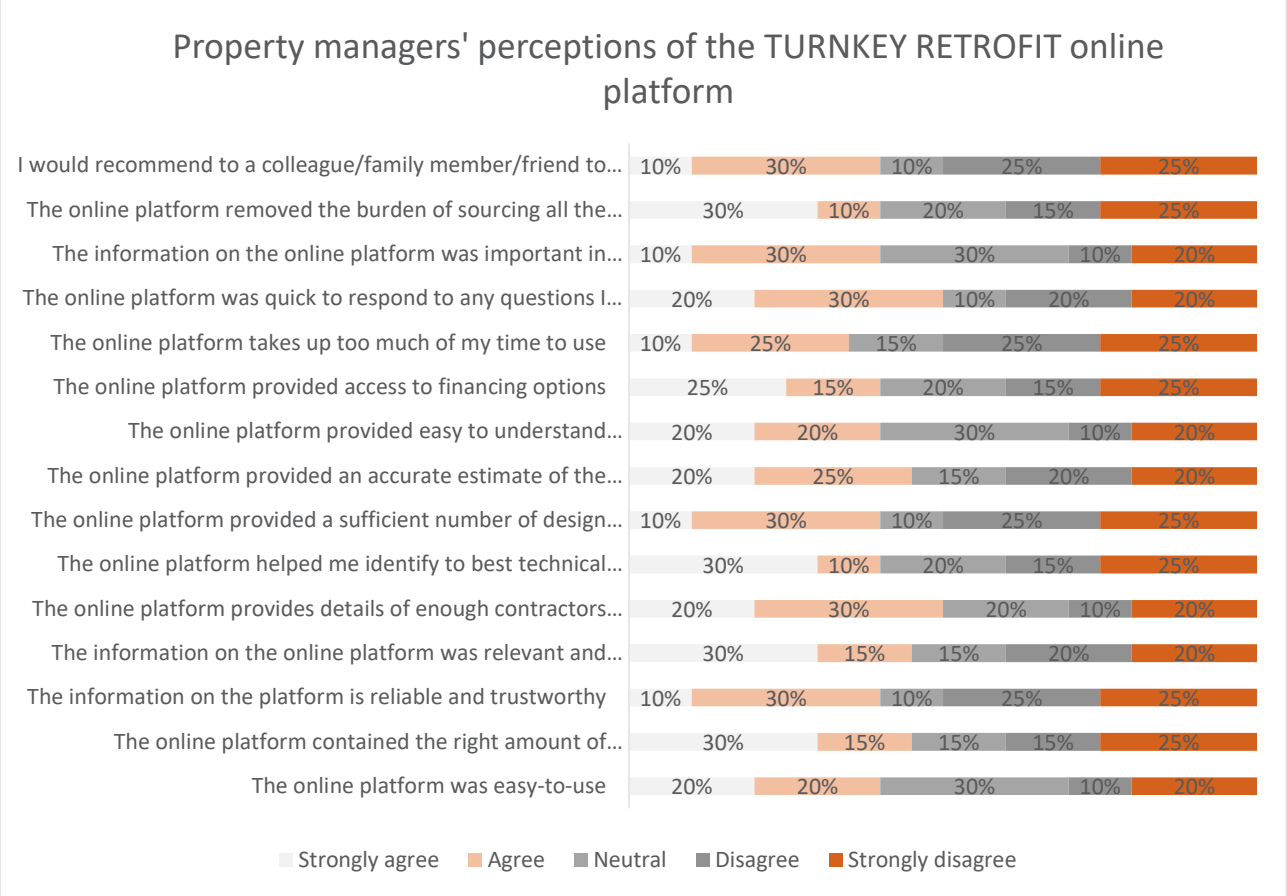

Figure 5: Evaluation of the TURNKEY RETROFIT online platform from property managers' perspective

4.3.2b Evaluation of KPIs

(approx. 500 words)

This section presents data on Key Performance Indicators including total investment cost (investments in renewable energy), primary energy savings, and reductions in GHG emissions. In all cases, it may not be possible to gather verified data on energy use. Therefore, calculations for primary energy savings can be made based on reported data (Q23 and Q24) or on actual verified data, where available. Please indicate in this report which types and sources of data are used to make calculations.

- Calculate and present the overall investment made in retrofitting (analysis can include total, average, min, max, etc.) and total grants awarded (as € and/or as % of cost) (Q21 and Q22).
- Calculate/present the actual, reported, or forecast energy and monetary savings as a result of undertaking energy renovations (see responses to Q4 and Q5; Q23 and Q24) (See also proposed Figure 6).
- Evaluate the reduction of GHG emissions by comparing the reported use and related carbon intensity of fossil fuel and renewable energy pre- and post-retrofit (Q25).

Proposed tables/figures for section 4.3.2 (please feel free to add any further tables or figures that you wish):

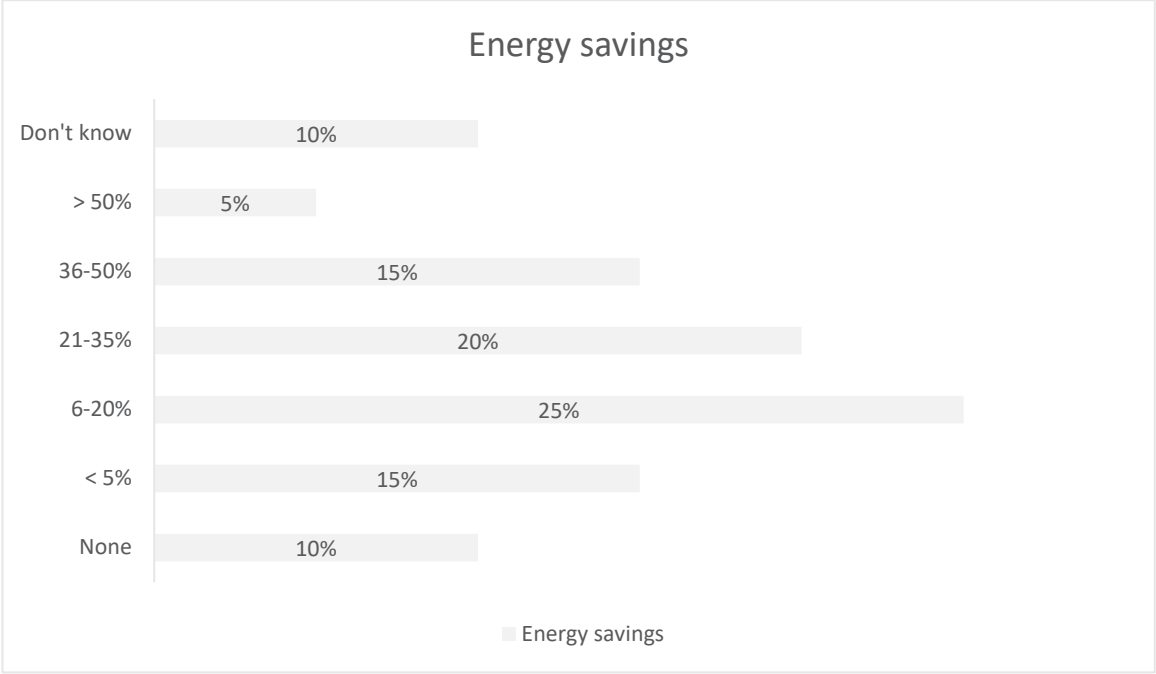

Figure 6: Energy savings as a result of retrofit (indicate data source)

4.3.3b Communication and dissemination

(approx. 200 words)

This section is used to describe how participants shared or discussed their experiences with others, and the perceived benefits from engaging with others. Spillover effects are also considered (Q26-28)

5. CONCLUSIONS

(approx. 500 words)

This section provides a summary of the key results and provides key messages and recommendations for policy in your country.

ACKNOWLEDGEMENTS

Team members that you would like to thank, as well as participants or other stakeholders.

REFERENCES

List of references here

Annex 10 – National report template (blank)

TURNKEY RETROFIT NATIONAL REPORT

FRANCE/SPAIN/IRELAND

SUMMARY PAGE

1. NATIONAL CONTEXT

2. LOCAL/REGIONAL CONTEXT

3. EXPERT INTERVIEWS

3.1 Introduction, overview, methodology

3.2 Comparing TURNKEY RETROFIT with state-of-the-art

3.3 Quality of service

3.3.1. Technical quality

3.3.2. Customer relationship