



Understanding potential user needs

A survey analysis of the markets for Individual Building Renovation Roadmaps in Bulgaria, Poland and Portugal

March 2018

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 754045

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Published in March 2018 by iBRoad.

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TABLE OF CONTENTS

I. OVERVIEW	4
II. BULGARIA.....	5
i.[BG] General attitudes towards energy renovations.....	5
ii.[BG] Views from buyers.....	6
iii.[BG] Views from homeowners.....	7
iv.[BG] Perspectives on the renovation roadmap	8
v.[BG] Perspectives on the logbook	9
vi.[BG] Views from public authorities	10
III. POLAND.....	11
i.[PL] General attitudes towards energy renovations.....	11
ii.[PL] Views from buyers.....	12
iii.[PL] Views from homeowners.....	13
iv.[PL] Perspectives on the renovation roadmap	14
v.[PL] Perspectives on the logbook	15
vi.[PL] Views from public authorities	16
IV. PORTUGAL.....	17
i.[PT] General attitudes towards energy renovations.....	17
ii.[PT] Views from buyers	18
iii.[PT] Views from homeowners	19
iv.[PT] Perspectives on the renovation roadmap.....	20
v.[PT] Perspectives on the logbook	21
vi.[PT] Views from public authorities	22
V. CONCLUSION	23
VI. ANNEXES.....	24

I. OVERVIEW

The iBRoad project aims to eliminate barriers to deep (staged) renovation by developing an Individual Building Renovation Roadmap for single-family houses. The tool provides a customised renovation plan over a long-term period (10-20 years), which considers the occupants' needs and specific situations (e.g. age, financial situation, composition and expected evolution of the household, etc.) and avoids the risk of 'locking-out' future renovation solutions due to a lack of foresight.

During the iBRoad project, the concept will be tested in three countries: Bulgaria, Poland and Portugal. In preparation for the testing, this analysis provides user-profiles and gathers knowledge of their needs, preferences, and trust in the pilot countries. Insights gathered will improve the understanding of the end-users and enable a more effective design of the individual building renovation roadmaps, tailored to the specific markets. This report highlights key findings from a set of qualitative interviews and a survey study conducted by Ipsos in Bulgaria, Poland, and Portugal

DID YOU KNOW?

- **83%** of respondents think they can reduce their household's energy consumption through renovation measures
- **92%** thinks that energy efficiency will be an important aspect when deciding to purchase a home
- Only **9%** would trust the Energy Performance Certificate for advice about potential renovation measures

BULGARIA



- To finance the renovation, **84%** planned to use money that they had saved up
- **44%** of respondents in Poland are interested in a building passport or logbook for their home or the home they would buy but would not be willing to pay
- **71%** have completed a renovation in the past five years

POLAND



- **51%** are more concerned about having a warm and comfortable home than saving energy
- **47%** would go to the Energy Performance Certificate for advice about renovation measures
- **49%** think that potential buyers should be allowed to access the logbook with all relevant information about the building

PORTUGAL



Methodology

This report is based on qualitative and quantitative research, commissioned by iBRoad and conducted by Ipsos in Bulgaria, Poland and Portugal. The underlying research comprises (i) a 90-minute focus group with eight participants in each of the three countries, (ii) qualitative interviews with three representatives for public authorities in each country, and (iii) 500 targeted surveys in each country with potential user types: building owners buying or selling property, building owners not currently buying or selling property.

- In Bulgaria, the survey was conducted between 28/12/2017 and 05/01/2018, with a total of 500 respondents completing the survey. Quotas were used to ensure a representative sample of respondents, and that a good mix of different types of building owners was achieved. The majority of respondents are homeowners (37%), or buyers and sellers (34%). Around a quarter of respondents are buyers only (26%) and a small proportion are sellers only (3%).

- In Poland, the survey was conducted between 28/12/2017 and 31/12/2018, with a total of 501 respondents completing the survey. Quotas were used to ensure a representative sample of respondents, and that a good mix of different types of building owners was achieved. Almost half of respondents are homeowners (45%) and around a quarter are either sellers and buyers or buyers only (26% and 24% respectively). A small proportion of respondents are sellers only (5%).

- In Portugal, the survey was conducted between 28/12/2017 and 03/01/2018, with a total of 501 respondents completing the survey. Quotas were used to ensure a representative sample of respondents, and that a good mix of different types of building owners was achieved. Around four in ten respondents are homeowners (43%). Around three in ten respondents are sellers and buyers (29%). A quarter of respondents are buyers only and a small proportion are only sellers (25% and 4% respectively).

II. BULGARIA

i. [BG] General attitudes towards energy renovations

Top 3 findings

83% reason they can reduce their household's energy consumption through renovation measures

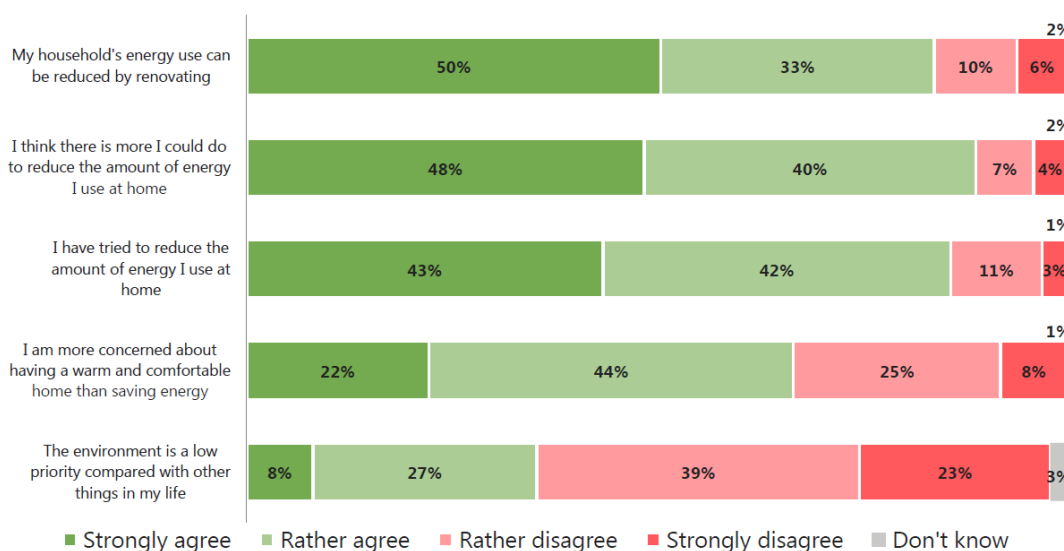
21% of homeowners, who had not renovated, stated that the main reason was that their home is "already energy efficient"

66% are more concerned about having a warm and comfortable home than saving energy

Energy renovation of buildings is perceived as an important way to reduce energy consumption, yet indoor comfort is considered more important by most respondents. 83% of respondents think they can reduce their household's energy consumption through renovation measures, with 50% strongly agreeing with this statement. Correspondingly, 88% of respondents think there is more they can do to reduce energy consumption in their home, while 85% say that they have tried to reduce the amount of energy they consume. About two in three respondents (66%) agree that they are more concerned about having a warm and comfortable home than saving energy.

More than 60% disagrees with the statement that the environment is a low priority compared to other things in their life, while only 8% strongly agrees with the statement.

To what extent do you agree or disagree with each of the following statements?



ii. [BG] Views from buyers

Top 3 findings

92% reason that energy efficiency will be an important aspect in their purchasing decision

When asked about which energy efficiency aspects will be important when buying a house **information about energy renovations completed in the past (73%), heating system and other equipment (64%), and the specifications of the building constructions (62%)** are most commonly mentioned

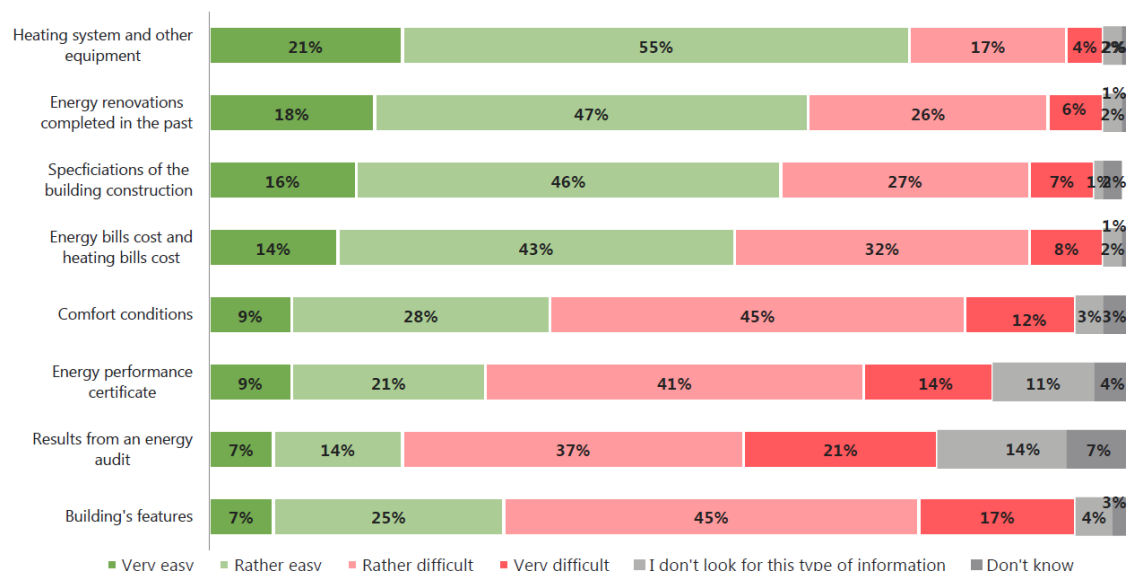
When asked about whether they would consider having an energy audit of the house they are about to buy, **64%** said that they would consider it. In contrast, only **3%** of homeowners have had an energy audit completed of their home

More than half of the buyers in the survey are interested in buying a single-family *house* (63%), while around a third (35%) are thinking about buying an *apartment*. When asked about the importance of certain aspects influencing their purchasing decision, *energy efficiency* was the fourth most significant aspect (after price, location and comfort). Over nine in ten respondents (92%) consider energy efficiency as an important aspect when buying a house, with almost half (49%) considering it to be very important.

Respondents were asked about how easy it is to locate information regarding different aspects of the building. Buyers find it the easiest to find information about the heating system and other equipment (76%), energy renovations completed in the past (65%) and the specifications of the building construction (62%) when deciding to buy a home. Oppositely, most buyers find it difficult to find information about the Energy Performance Certificate (55%) and energy audits (58%).

Almost two thirds (64%) would consider performing an energy audit of the building they are about to buy. For those who had not considered having an energy audit, the main reason was that they had simply not thought about it (43%). Around one in five respondents did not know who would conduct the audit (22%) or consider it to be too expensive (18%).

When thinking about buying a house, how easy is it to find information about:



iii. [BG] Views from homeowners

Top 3 findings

82% have completed some renovation measures in the past five years

The main barriers to renovation are identified as: **the cost is too high (35%)**, **other priorities at the moment (28%)** and **lack of available/attainable financial support (23%)**

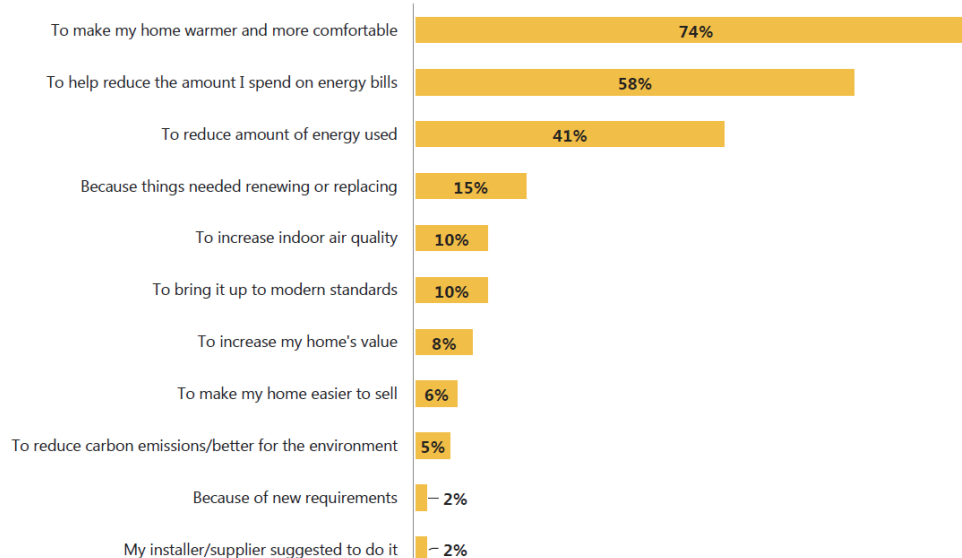
To finance the renovation works, **76%** used or planned to use money that they had saved up, while **37%** took a loan or intended to take a loan and only 2% used or planned to use a grant from the government or a subsidised programme

The most common renovation approach is to combine energy efficiency with other non-energy improvements (55%). Almost a quarter (23%) describes their approach as primarily focused on energy efficiency improvements.

Homeowners' motivations to invest in energy renovation centre around comfort and energy use/cost. Almost three quarters (74%) said they wanted to make their home warmer and more comfortable, followed by reducing the amount they spend on energy bills (58%) and reducing the energy consumed (41%).

Homeowners tend to hire one or more contractors to do the renovation works (56%), while around a quarter did some parts of the renovation themselves (26%) and almost one in five undertook the whole renovation themselves (18%).

Which of the following reasons made you decide to make your home more energy efficient?



iv. [BG] Perspectives on the renovation roadmap

Top 3 findings

Only **9%** would trust the Energy Performance Certificate for advice about renovation measures

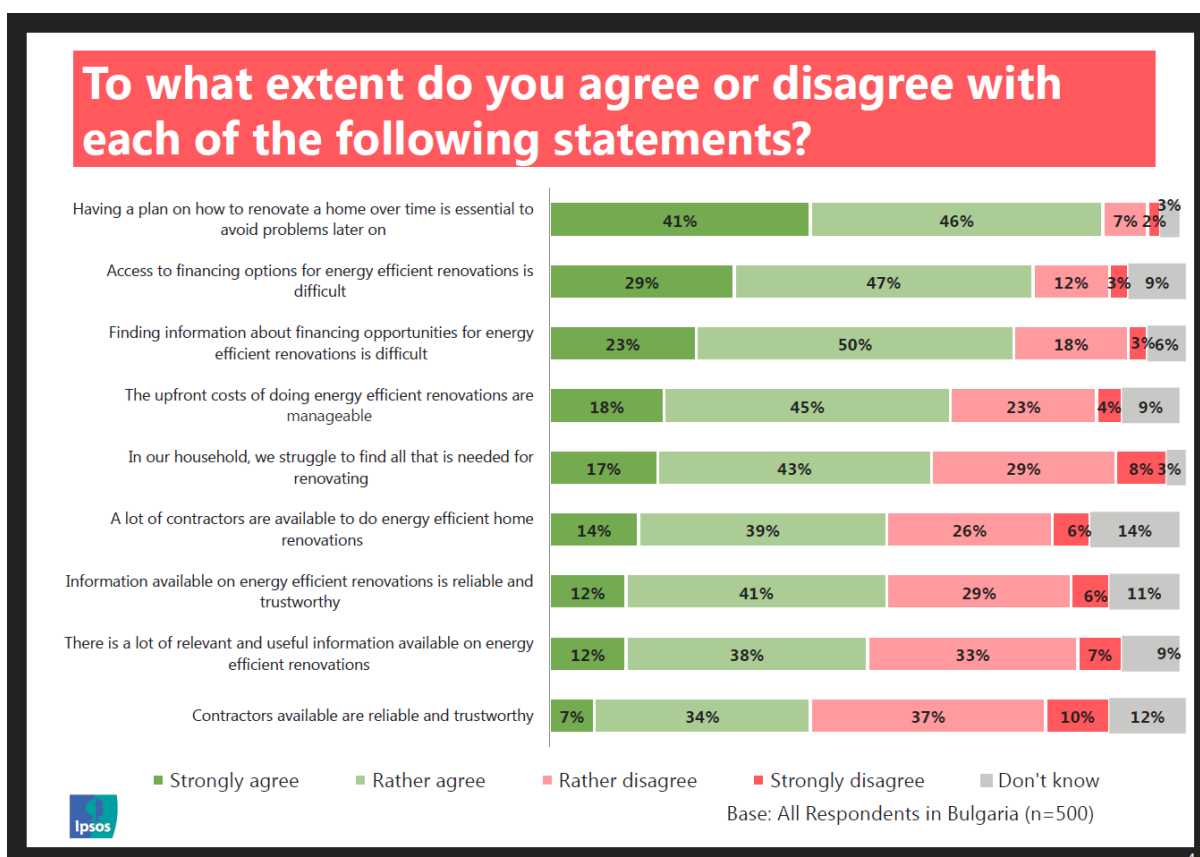
The most cited items the respondents wanted to see in a renovation roadmap are **estimated costs of each renovation step (59%)**, **expected benefits in terms of reduced heating/bills (58%)** and **technical information to help them avoid mistakes (47%)**

According to the respondents, the **ideal timeframe for the roadmap is 5 years**

In Bulgaria, the confidence in existing energy advice tools is modest. When asked about who they would consult for information on renovation measures, the most common response was to conduct an internet search (36%) followed by consulting with the builder or contractor (26%), or the previous owner (20%). Hardly one in five respondents stated they would consult the Energy Performance Certificate (18%) for this purpose. Respondents are most likely to trust their friends, family or colleagues (61%) when seeking financial advice related to energy measures.

The majority of respondents consider it important to have a renovation plan to avoid problems later on (87%). The building renovation roadmap intends to outline a long-term step-by-step renovation plan for an individual building. Over half of respondents (53%) think a 5-year plan would be the ideal time-frame for a renovation roadmap. Almost a quarter (24%) prefer the plan to be 10 years and only a minor share agrees it should be 15 (6%) or 20 years (10%).

When asked about who, apart from the homeowner, should be allowed to access the building renovation roadmap, respondents were most likely to say potential buyers (58%), the municipality (38%) and contractors (installers, craftsmen) (27%). More than half of respondents would be interested, but not willing to pay (54%), for a renovation roadmap, while a third (32%) would be interested and willing to pay.



v. [BG] Perspectives on the logbook

Top 3 findings

The top three aspects the respondents would like to see in a logbook are information on: **energy renovations completed in the past (57%)**, the **building's features (55%)** and **basic information about the house (52%)**

The majority of respondents think **the owner should be responsible for the logbook**

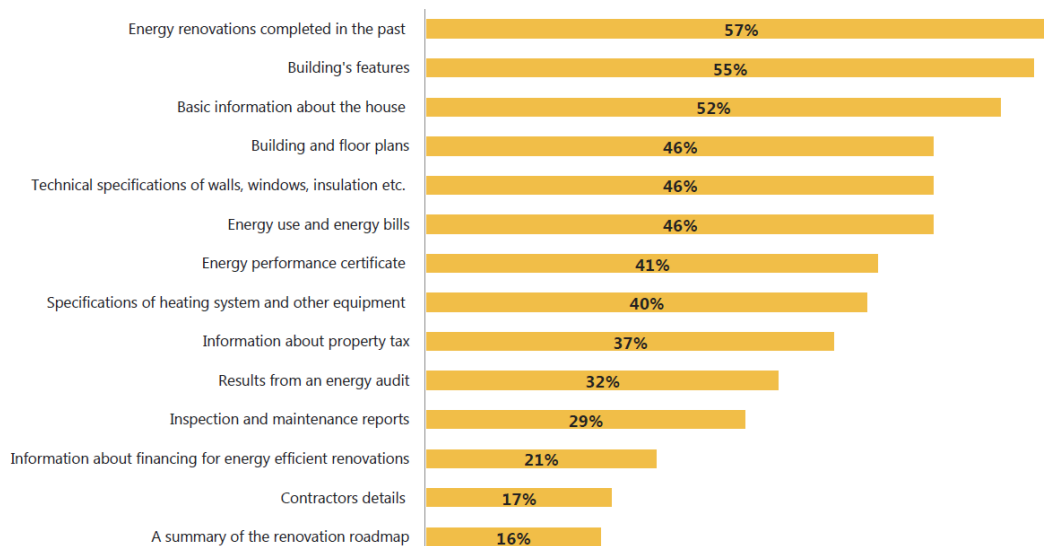
Homeowners are relatively more interested in finding **building's features in the logbook**, while buyers are more interested in finding the **results from an energy audit**

The logbook is a repository of building-related information on aspects such as the energy consumption and production, executed maintenance and building plans, providing several functionalities to the building owner which could go beyond the energy performance. The aspects the respondents mostly would like to see in a logbook are information on energy renovations completed in the past (57%), the building's features (55%) and basic information about the house (52%). The least popular aspects are a summary of the renovation roadmap (16%) and contractor details (17%).

Homeowners (60%) were more likely to want to find information on the building's features e.g. stability, humidity, executed maintenance etc. than *buyers* (54%), or *sellers and buyers* (49%). On the other hand, *sellers and buyers* (40%), and *buyers* (31%) are relatively more interested in finding results from an energy audit in the logbook than *homeowners* (25%).

The respondents had diverse views on who should be responsible of the logbook. They were slightly more likely to say that the logbook could be passed on from owner to owner and that new owners would be responsible for keeping it up-to-date (36%), rather than that each owner would be responsible for creating their own logbook or that the municipality would be responsible, with information being kept in a building registry (30% and 29% respectively).

What information would you like to find in a building passport or logbook?



vi. [BG] Views from public authorities

What type of information about residential buildings is currently being collected? And is this information sufficient?

The level of information on residential buildings was considered as 'not very high' or 'scarce' suggesting there is a lack of information about residential buildings and their energy performance details. No obligation exists to collect data about the residential building stock and building owners are not requested to inform the municipality about implemented energy efficiency measures.

Is energy renovation an important (political) priority? And what are the main barriers to setting up programmes promoting residential renovation?

Energy efficiency is a priority for the government(s) and actions are taken to boost energy efficiency in both residential and public building sectors. Although the focus remains on public buildings, municipalities have a limited possibility to develop their own energy efficiency policies.

The main challenge is funding and getting people excited about energy renovation and willing to invest on their own. More generally, the multiple benefits of energy renovation might not have been sufficiently communicated. Another barrier is the fact that a large share of residential buildings stems from the socialist years, and in each building, there is a number of households with a variety of financial means.

Would more building data be useful in designing and implementing renovation schemes? And what would be the value of a register (logbook)?

In order to develop good and efficient policies, accurate data is needed. A register, or logbook, would be useful for monitoring the current and evolving situation, help designing policies and encouraging people to renovate their building. More generally, a database could be helpful as it would allow the public authorities to make more informed decisions. The register should be publicly available and easily accessible – not only for the municipalities, but also for the homeowners themselves.

What would be the potential value of a building renovation roadmap?

Value of a building renovation roadmap for homeowners

It is unclear if there is enough interest among homeowners in a building renovation roadmap, as the interest in energy efficiency is modest. Publicly accessible data might encourage people to renovate as "people usually like to see what their neighbour is doing". A roadmap might help encouraging people to renovate as a proper understanding of the building and can influence the decision to renovate.

Role of public funding in the development of a building renovation roadmap

Public funding might be available for developing a tool such as the building renovation roadmap, although it cannot be expected that the source of the funding comes from the municipality. National and EU funding opportunities should be explored instead. Municipalities in turn could take responsibility in raising awareness and could potentially help in developing the technology to promote the tools.

III. POLAND

i. [PL] General attitudes towards energy renovations

Top 3 findings

60% of respondents reason they can reduce their household's energy consumption through renovation measures

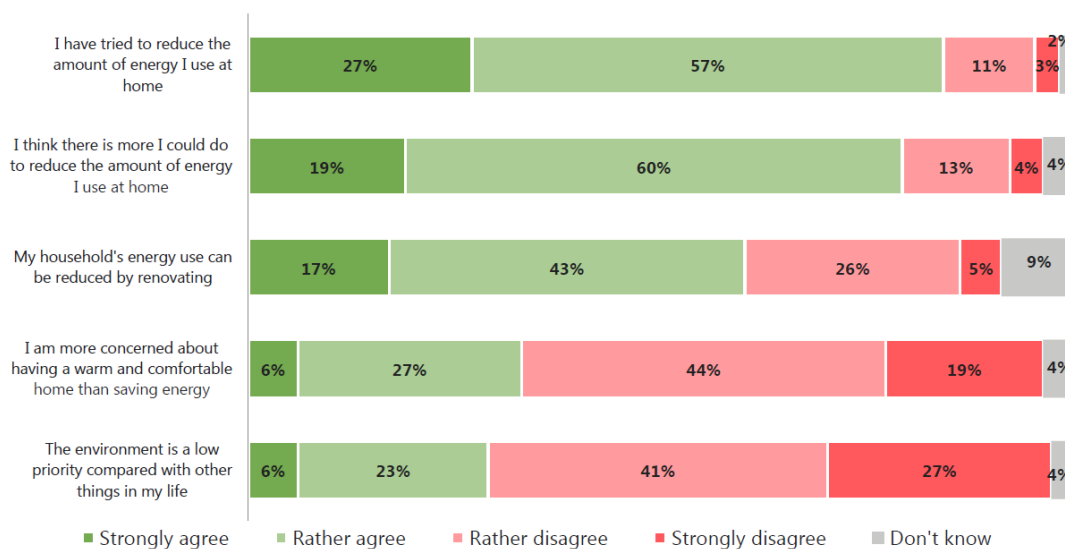
23% of homeowners, who had not renovated, stated that the main reason was that their home is "already energy efficient"

33% are more concerned about having a warm and comfortable home than saving energy

In Poland, most respondents have tried to reduce the amount of energy they use at home (84%), while a comparable share think there is more they could do to reduce the energy use in their home (79%). While 60% of respondents think that their household's energy use can be reduced by renovating, around three in ten (31%) disagree with this statement. 9% of respondents were simply not aware that their household energy usage could be reduced through renovation measures.

More than two thirds (68%) of respondents disagree that the environment is a low priority compared with other things in their life, while around a third (29%) of respondents agree with this statement.

To what extent do you agree or disagree with each of the following statements?



ii. [PL] Views from buyers

Top 3 findings

86% considers energy efficiency as an important aspect in their purchasing decision

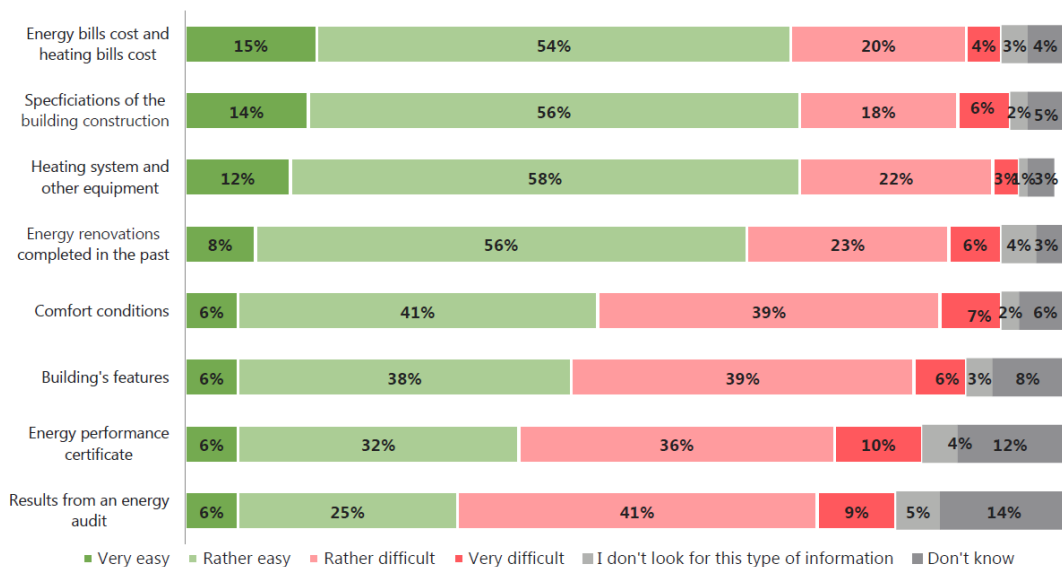
When asked about which energy efficiency aspects will be important when buying a house, **information on energy bills and heating bills (73%), heating system and other equipment (70%), and the specifications of the building constructions (65%),** are most commonly mentioned

When asked about whether they would consider having an energy audit of the house/apartment they are about to buy, **67% said that they would consider it.** In contrast, 8% of homeowners said that they have had an energy audit of their home

The majority of the buyers in the sample are thinking about buying a single-family *house* (72%), while around a third prefers an *apartment* (27%). When asked about the importance of how various aspects were affecting their decision to buy a house, “energy efficiency” was considered the fourth most important aspect (after price, location and comfort). Almost nine in ten respondents (86%) think that energy efficiency will be an important aspect in their purchasing decision, while 37% considers it to be “very important”.

Respondents were asked about how easy it is to locate information regarding different aspects of the building. Buyers find it the easiest to find information about the energy bills and heating costs (69%), specifications of the building construction (70%) and the heating system and other equipment (70%). In contrast, almost half of buyers find it difficult to find information on the Energy Performance Certificate (46%) and energy audits (50%).

When thinking about buying a house? How easy is it to find information about:



Base: All buyers only and buyers and sellers in Poland (n=252)

iii. [PL] Views from homeowners

Top 3 findings

71% have completed some renovation measures in the past five years

The main barriers to renovation are identified as **the cost of renovations is too high (34%)**, **no guarantees of energy savings (25%)**, and **the perception that my home is already efficient (23%)**

To finance the renovation, **84% used or planned to use money that they had saved up**, while **28% took a loan or intended to take a loan** and only 8% used or planned to use a grant from the government or a subsidised programme

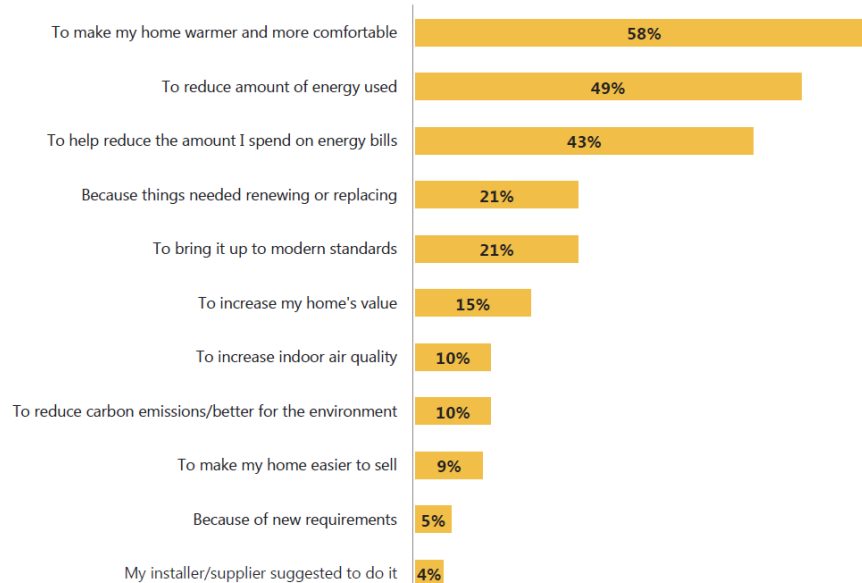
The most common renovation approach is to combine energy efficiency with other non-energy improvements (42%), while one fifth describes the renovation as energy efficiency improvements.

Most homeowners who recently renovated, or are planning to renovate, want to make their home more comfortable and to reduce the amount of energy consumed (58% and 49% respectively), while around one fifth of the respondents (21%) decided to renovate because things needed replacing or just to bring their home up to modern standards.

Homeowners who are planning to renovate, or recently completed a renovation, were asked questions about their renovation plan. Most homeowners implemented, or are planning to implement, more than one renovation measures. The most common approach is to finish one measure, and only later, start thinking about the next one (48%). Four in ten plans for all measures at once and then implement them according to a step-by-step approach, while just one in ten (11%) complete all measures in one go.

Most homeowners hired one or more contractors to do the renovation works (59%), while around a quarter did some parts of the renovation themselves (23%) and almost one in five undertook the whole renovation themselves (18%).

Which of the following reasons made you decide to make your home more energy efficient?



iv. [PL] Perspectives on the renovation roadmap

Top 3 findings

Only **11%** would trust the Energy Performance Certificate for advice about renovation measures

The most cited items the respondents wanted to see in a renovation roadmap are **estimated costs of each renovation step (69%)**, **technical information to help them avoid mistakes (52%)** and **expected benefits in terms of reduced heating/bills (48%)**

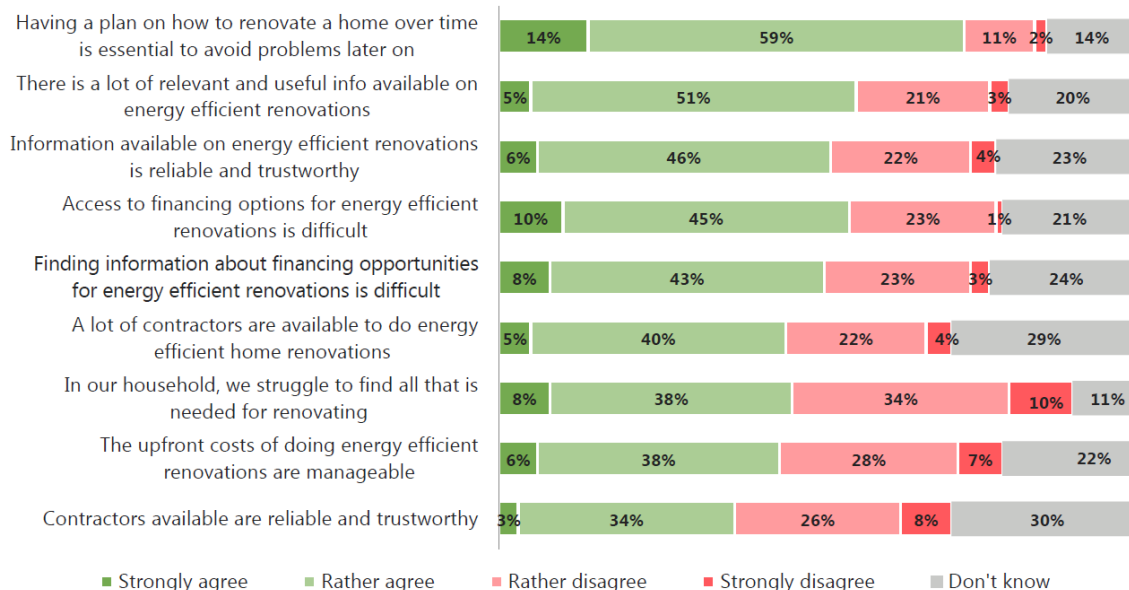
According to the respondents, the ideal timeframe for the roadmap is 5 years

In Poland, the confidence in existing energy advice tools is modest. When asked about whom they would consult for information on renovation measures, the respondents are most likely to trust their friends, family and colleagues (46%). After this, respondents would trust an architect (25%), a general internet search (15%), an energy auditor (14%) or an Energy Performance Certificate (11%).

The building renovation roadmap would outline a long-term step-by-step renovation plan for an individual building. The most cited items the respondents wanted to see in a renovation roadmap are the estimated costs of each renovation step (69%), technical information to help them avoid mistakes (52%) and expected benefits in terms of reduced heating/bills (48%). The majority of respondents (69%) think a 5-year plan would be the ideal time-frame for a renovation roadmap.

When asked about who, apart from the homeowner, is to be allowed to access the building renovation roadmap, respondents cited potential buyers (45%), contractors (installers, craftsmen) (41%) and the municipality (20%). Around four in ten (43%) respondents would be interested but not willing to pay for a renovation roadmap, while 23% would be interested in and willing to pay for it. 15% of respondents stated that they are not interested in a building renovation roadmap.

To what extent do you agree or disagree with each of the following statements?



v. [PL] Perspectives on the logbook

Top 3 findings

The top three aspects the respondents would like to see in a logbook are **information on energy use and bills (51%)**, **the building's features (49%)** and **technical specifications (49%)**

The majority of respondents think the owner should be responsible for the logbook and that it should be passed on from owner to owner

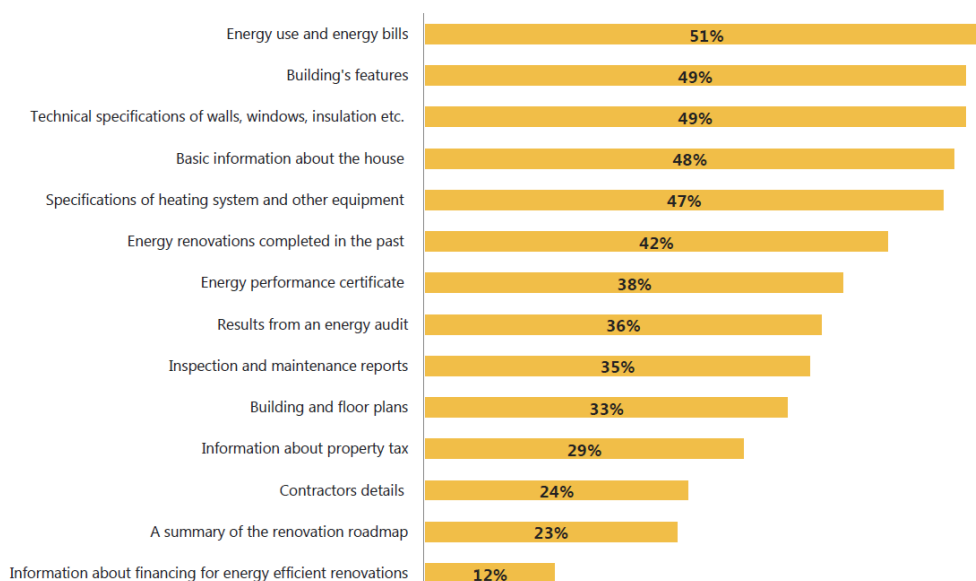
Buyers are more likely than other respondents to be interested in finding information about the **technical specifications of walls, windows, insulation etc.** (59% versus 49% overall) and the **outcomes of inspection and maintenance reports** (47% versus 35% overall)

The logbook is a repository of building-related information on aspects such as the energy consumption and production, executed maintenance and building plans, providing several functionalities to the building owner which could go beyond the energy performance. The top three aspects the respondents would like to see in a logbook are information on energy use and bills (51%), the building's features (49%) and technical specifications (49%).

Around four in ten respondents think that the logbook should be passed on from owner to owner and that new owners should be responsible for keeping it up to date (39%). More than three in ten respondents think that each owner would be responsible for creating their own logbook (34%), while one in ten thinks that the municipality should be responsible for keeping the logbook up to date with information kept in a building registry (15%).

The majority of respondents in Poland are interested in a logbook but would not be willing to pay for it (44%). Around one fifth of respondents is interested and would be willing to pay (23%). Around 17% said that they are not interested in a logbook.

What information would you like to find in a building passport or logbook?



Base: All respondents in Poland (n=501)

vi. [PL] Views from public authorities

What type of information about residential buildings is currently being collected? And is this information sufficient?

The National Statistical Office has conducted a number of studies and surveys about the building stock. Yet, the amount of information was mostly described as 'sufficient'. The information is not well structured and sometimes the data collection is not being coordinated effectively. There are no real incentives to collect information about single-family houses, as no programmes target this part of the building stock. An EPC-registry does exist, but it does not cover all buildings in Poland (only those for which an EPC has been issued) and the registry does not always seem to be enforced.

Is energy renovation an important (political) priority? And what are the main barriers to setting up programmes promoting residential renovation?

Energy efficiency is viewed as important, but maybe not as a political priority. Due to problems with air quality the issue has risen on the agenda. Policies tend to target multi-family houses, which often are publicly owned, while little attention is put on privately owned single-family houses (around 5 million in Poland). Insufficient knowledge when setting up measures to support energy renovations – not only among investors, but also among professionals (designers, contractors) – is described as one of the main barriers to renovation. For single-family house owners, the main barrier is that they do not know what the best measures would be.

Would more building data be useful in designing and implementing renovation schemes? And what would be the value of a register (logbook)?

Real-life data for buildings could be useful. It has proven to be useful in the Thermal Modernization and Renovation Fund, where the Minister and Bank Gospodarstwa Krajowego collects information about multi-family buildings and uses this information to make design changes or pinpoint trends concerning thermal renovations. Better data would also allow policy makers to better target policies (e.g. to a particularly polluted neighbourhood).

All information could be saved in an electronic register, which would have to respect privacy laws.

What would be the potential value of a building renovation roadmap?

Value of a building renovation roadmap for homeowners

It would be important for the roadmap not to be a static document and to be updated on a regular basis. If a roadmap presents a plan for the next 15-20 years, it will have to be monitored, to show the results over time – e.g. how the situation changes year on year, how is the plan executed, etc. – and potentially adjust the plan throughout the years. Some doubts were raised whether a roadmap should also contain information about financing options, as these options are highly variable.

Role of public funding in the development of a building renovation roadmap

In order to create roadmaps, audits will need to be carried out, and such audits cost money. Partially funding the audits with public money would provide an incentive to homeowners. In addition to maintenance of the database that brings all information together, public funding should be used to subsidise the process of collecting the necessary data for the roadmaps.

IV. PORTUGAL

i. [PT] General attitudes towards energy renovations

Top 3 findings

61% of respondents think they can reduce their household's energy consumption through renovation measures

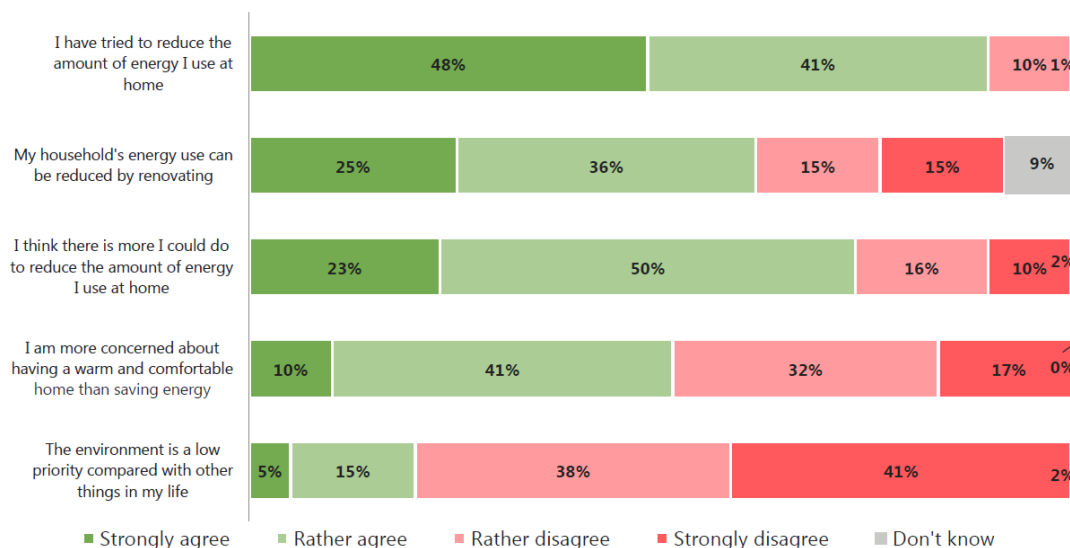
23% of homeowners, who had not renovated, stated that the main reason was that their home is "already energy efficient"

51% are more concerned about having a warm and comfortable home than saving energy

In Portugal, almost three quarters (73%) of respondents think that there is more they could do to reduce the energy consumption in their home. 61% of respondents agree that their household's energy use can be reduced through renovation measures. Whilst around half of respondents (51%) agree that they are more concerned about having a warm and comfortable home than saving energy.

More than three quarters (79%) disagree that the environment is a low priority compared with other things in their lives. Only 20% consider the environment to be a low priority compared to other priorities in their life.

To what extent do you agree or disagree with each of the following statements?



ii. [PT] Views from buyers

Top 3 findings

94% considers energy efficiency to be an important aspect in their purchasing decision

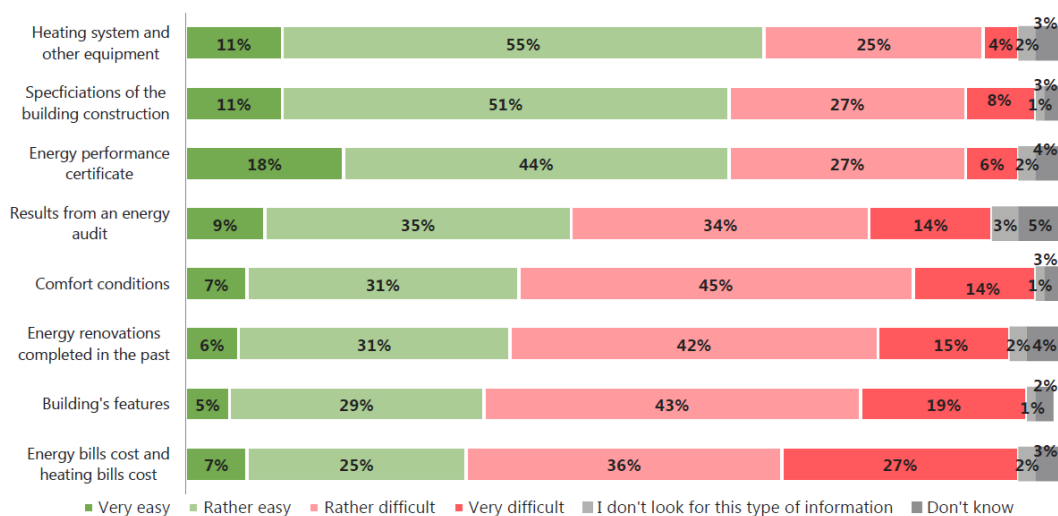
When asked about which energy efficiency aspects will be important when buying a house, **information on building's features (78%), specifications of the building constructions (68%), and comfort conditions (68%),** are most commonly mentioned

When asked about whether they would consider having an energy audit of the house/apartment they are about to buy, **78%** said that they would consider it. **20%** of homeowners said that they have had an energy audit completed of their home

More than half of the buyers in the sample are thinking about buying a single-family *house* (56%), while a smaller share (41%) are thinking about buying an *apartment*. When asked about the importance of how various aspects were affecting their decision to buy a house, "energy efficiency" was the fourth most important aspect (after price, location and comfort). More than nine in ten respondents (94%) think that energy efficiency will be an important aspect in their purchasing decision, with almost half (49%) considering it to be very important.

Buyers find it the easiest to allocate information about the heating system and other equipment (66%), specifications of the building construction (62%) and Energy Performance Certificate (62%). In contrast, more than half (63%) find it difficult to find information about energy and heating bills costs.

When thinking about buying a house? How easy is it to finding information about:



iii. [PT] Views from homeowners

Top 3 findings

34% have completed some renovation measures in the past five years

The main barriers to renovation are identified as: **the cost of renovations is too high (47%)**, **lack of financial support (27%)**, and **the perception that my home is already efficient (23%)**

To finance the renovation, **81% used or planned to use money that they had saved up**, while **16%** took a loan or intended to take a loan and only **1%** used or planned to use a grant from the government or a subsidised programme

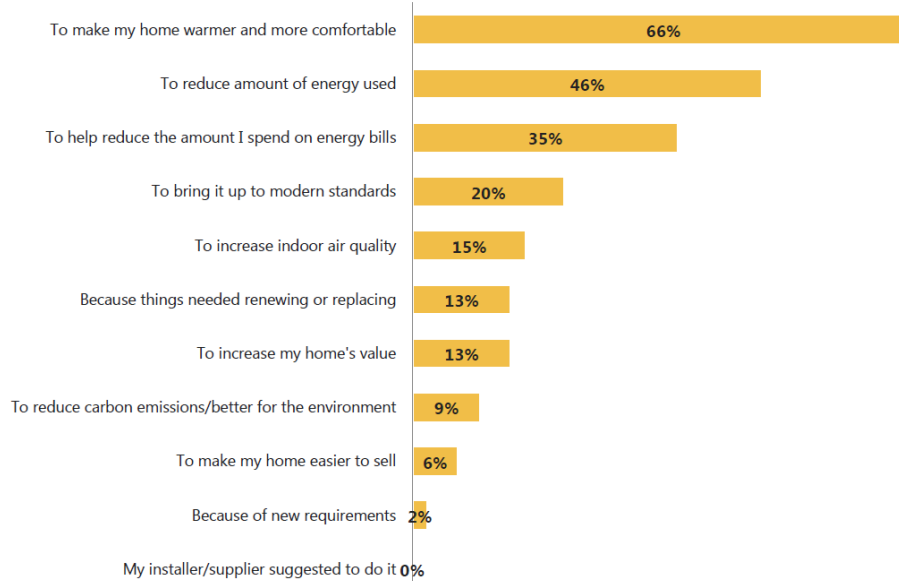
34% of the respondents have completed some renovation works in the past five years. The most common renovation approach is to combine energy efficiency with other non-energy improvements (41%), while one fifth describes the renovation as primarily energy efficiency improvements (20%).

Most homeowners wanted to make their home more comfortable and reduce the amount of energy used (66% and 46% respectively). A sizeable portion (35%) wanted to reduce energy bills, while almost one in ten respondents (9%) decided to renovate to reduce their carbon footprint.

Some homeowners planned to implement several measures to their home. The most common approach is to finish one measure, and only later, start thinking about the next renovation (39%). Around three in ten plans to either complete all renovations at the same time (33%) or to plan for all renovations at the same and then complete those in a step-by-step approach (28%).

The majority of respondents said that they hired one or more contractors to do the renovation works (71%), while almost one in four undertook the whole renovation themselves (24%).

Which of the following reasons made you decide to make your home more energy efficient?



iv. [PT] Perspectives on the renovation roadmap

Top 3 findings

47% would trust the Energy Performance Certificate for advice about renovation measures

The most cited items the respondents wanted to see in a renovation roadmap are **estimated costs of each renovation step (67%)**, **expected benefits in terms of reduced heating/bills (60%)** and **technical information to help them avoid mistakes (56%)**

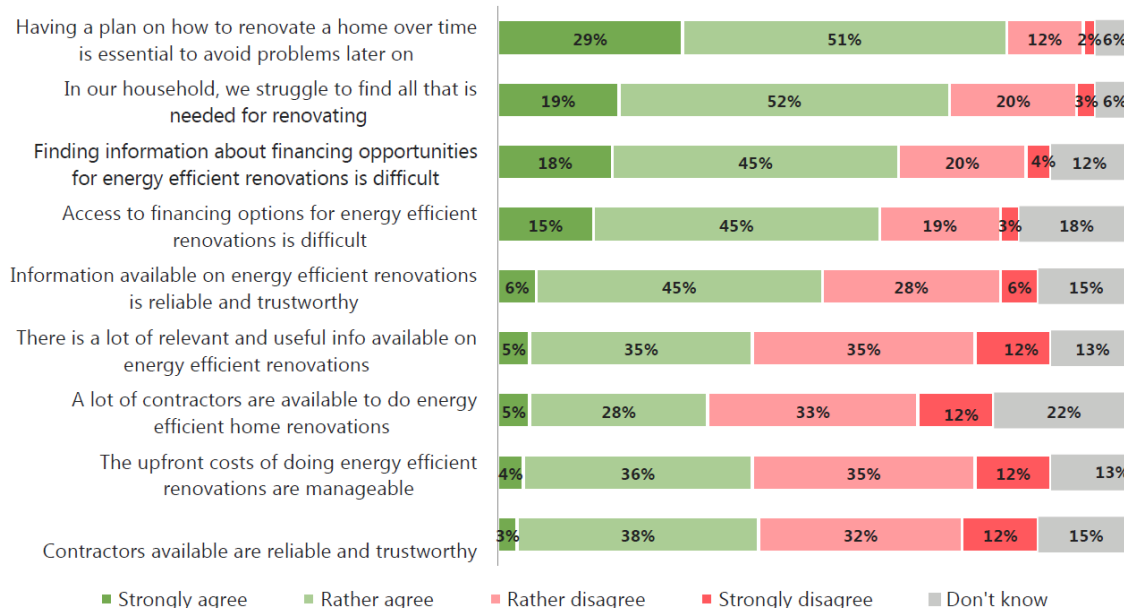
The ideal timeframe for the roadmap is 5 years

In Portugal, respondents are most likely to trust their friends (50%), family and colleagues (40%), an architect or a builder/contractor (40%) for advice about renovation measures. When looking for information about the energy performance of the building, almost half (47%) would look at the Energy Performance Certificate and around a fifth would consult an energy auditor (22%) or an architect (21%).

The building renovation roadmap would outline a long-term step-by-step renovation plan for an individual building. The most cited items the respondents wanted to see in a renovation roadmap are the estimated costs of each renovation step (67%), expected benefits in terms of reduced heating/bills (60%) and technical information to help them avoid mistakes (56%). The majority of respondents (62%) think a 5-year plan would be the ideal time-frame for a renovation roadmap.

When asked about who, apart from the homeowner, is to be allowed access to the building renovation roadmap, respondents cited potential buyers (49%), municipality (38%) and contractors (installers, craftsmen) (35%). More than half (53%) of the respondents would be interested but not willing to pay for a renovation roadmap, while 20% would be interested in and willing to pay for it. 15% of respondents are not interested in a building renovation roadmap.

To what extent do you agree or disagree with each of the following statements?



v. [PT] Perspectives on the logbook

Top 3 findings

The top three aspects the respondents would like to see in a logbook are information on: **Energy Performance Certificate (62%)**, **the building's features (59%)** and **technical specifications (58%)**

The majority of respondents think the owner should be responsible for the logbook and that it should be passed on from owner to owner

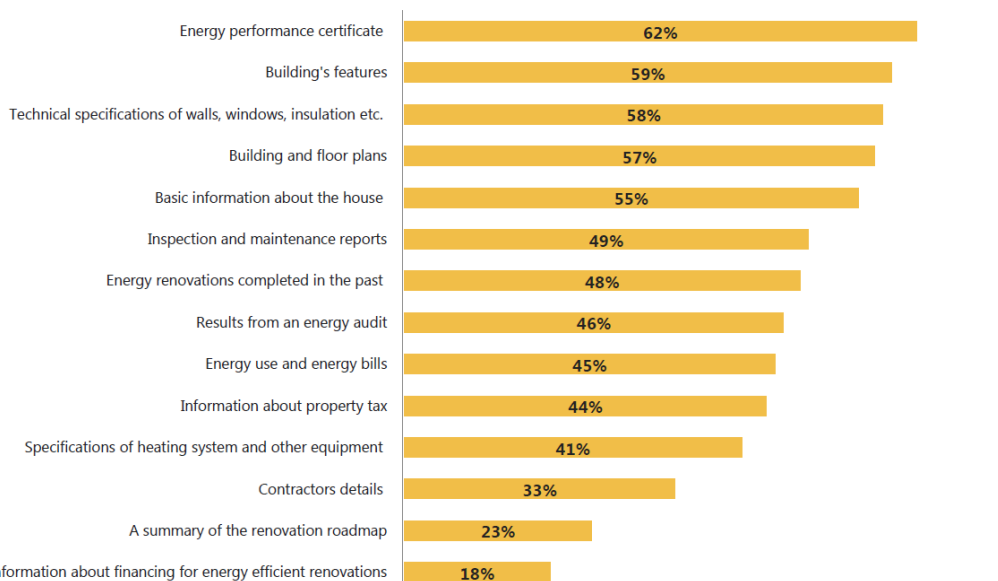
Almost half of respondents (49%) think that potential buyers should be allowed to access the logbook with all relevant information about the building

The logbook is a repository of building-related information on aspects such as the energy consumption and production, executed maintenance and building plans, providing several functionalities to the building owner which could go beyond the energy performance. The top aspects the respondents would like to see in a logbook are information on Energy Performance Certificate (62%), the building's features (59%) and technical specifications (58%). Only 18% were interested in finding information about financing for energy efficiency.

Around four in ten respondents think that the logbook should be passed on from owner to owner and that new owners should be responsible for keeping it up to date (44%). Almost three in ten (29%) think that the municipality would be responsible for keeping the logbook up to date with information being kept in a building registry. Less than one fifth (16%) respondents think that each owner would be responsible for creating their own logbook.

The majority of respondents in Portugal would be interested in the logbook but not willing to pay for it (58%) and around a fifth of respondents are interested and would be willing to pay for it (19%). 12% are not interested in a logbook.

What information would you like to find in a building passport or logbook?



Base: All respondents in Portugal (n=501)

vi. [PT] Views from public authorities

What type of information about residential buildings is currently being collected? And is this information sufficient?

Data for the residential building stock is extensively collected in Portugal, including aspects such as energy performance level, energy consumption by source of energy, type of building, year built, occupancy, size, climate zone and location. It was noted that information about a building's energy class is not sufficient, and that other important information is lacking, such as information linked to comfort, environmental issue, carbon emissions, indoor air quality, etc. It was also noted that data collection could be supported by digital platforms and a better use could be made of data collected via smart meters.

Is energy renovation an important (political) priority? And what are the main barriers to setting up programmes promoting residential renovation?

In Portugal, there is financial support for energy renovation and the main reason is to comply with EU regulations. Three main motivations to implement renovation measures were identified: (i) promote energy efficiency and increase the quality of urban environments, contributing to the people's quality of life overall; (ii) energy independence as most energy in Portugal is imported; (iii) tourism requires an enhancement of the quality of the building stock.

Barriers to residential renovation are either financial (the cost of performing an energy audit and the cost to implement renovation measures) or a lack of awareness.

Would more building data be useful in designing and implementing renovation schemes? And what would be the value of a register (logbook)?

It is simply not possible to design effective policies or implement schemes without correct and up-to-date information about the building stock. Data collected in a tool, such as the logbook, would need to be cross-checked and validated, for example by conducting sample surveys or by using other mechanisms and gathering of existing information.

What would be the potential value of a building renovation roadmap?

Value of a building renovation roadmap for homeowners

The roadmap should be dynamic and proactive, giving recommendations for implementation, and should not just be informative. It should recommend 'specific actions' for buildings, being dynamic, proactive and with a very integrated foresight, proposing solutions that improve the building as a whole. It should give a medium and long-term perspective, following the people's profile, their future needs, for example: someone may be thinking about raising a family and having children, so telling the person "with your profile and needs, this is the desirable roadmap to renovate your building".

Role of public funding in the development of a building renovation roadmap

It will need to be the government's responsibility to create structures that allow for the aggregation of the information that is being collected (while respecting rules for data protection), and for making legislative changes that encourage the project's implementation.

V. CONCLUSION

A total of 1502 individuals from Bulgaria, Poland and Portugal took part in the survey and the answers are alike in many regards. For example, comfort and energy reduction are described as central reasons to renovate, while between 86% – 94% describe energy efficiency as an important aspect when buying a house. Another example is the view of the renovation roadmap where around half would be interested but not willing to pay for it and most respondents view 5 years as the ideal timeframe for the roadmap.

MAIN TAKEAWAYS:

- Between **21% and 23% of homeowners, who had not renovated, stated the reason was their home is “already energy efficient”**. This is surprising as it is not in accordance with available energy performance data, which indicate that just around 3% of buildings can be considered efficient [1]¹. Some users seem to see an “energy efficient house” as a house that is relatively new and in good condition.
- Only **17%-18% of the respondents in Bulgaria and Poland would go to the Energy Performance Certificate** for advice on renovation measures. In Portugal, where the EPC is more developed and implemented, this figure is **47%**.
- Most building owners planned to finance the renovation **with their own savings** (between 76% and 84%). As deep renovation is rather expensive, most owners will perform one measure after another with some time interval. A Building Renovation Passport could ensure that the best measures are taken in an optimal order.
- The most cited items the respondents wanted to see in a renovation roadmap are **estimated costs of each renovation step** (59% - 69%), **expected benefits in terms of reduced heating/bills** (48% - 60%) and **technical information to help them avoid mistakes** (47% - 56%).
- The most cited items the respondents wanted to see in a logbook are the **building’s features** (49% - 59%), **technical specifications** (46% - 58%), **basic information about the house** (48% - 55%). Respondents from Portugal are more interested in finding the Energy Performance Certificate in the logbook (62% compared to 41% and 38%).
- **Public authorities could play a role in setting up and incentivising the use of a Building Renovation Passport**. Some different roles were mentioned; (i) setting up the structure for data gathering and use, (ii) provide funding for energy audits, (iii) raise awareness on the benefits of deep energy renovations and (iv) provide funding for the development of a national Building Renovation Passport-tool.
- Publicly accessible data could encourage people to renovate as **“people like to see what their neighbour is doing”**.
- The owners are primarily not looking for qualification certificates when choosing craftsmen, rather **basing their choice on recommendations from acquaintances and friends** (46% - 61%), which often leads to insufficient quality and mistakes.
- **Consumers give a relevant importance to energy efficiency aspects**, not only at the moment of purchasing a house but also when renovating their house with their own money.

¹ BPIE, 2017, 97% of buildings in the EU need to be upgraded

VI. ANNEXES

Annex I: Report on Focus Groups Findings

Annex II: Summary of interviews with public authorities

Annex III: Summary of surveys results

Annex I

Report on focus groups findings



January 2018

H2020 project iBRoad

Summary of focus group findings

Ipsos

Contents

Introduction	1
1 General awareness and interest in home energy issues	2
1.1 Awareness of the energy efficiency of one's house	2
1.2 Value attached to energy efficiency	3
1.3 Energy performance certificates.....	4
2 Energy renovations: experience and barriers.....	5
2.1 Experience with energy renovations and reasons to renovate.....	5
2.2 Barriers to energy renovations	6
Time and effort required	6
Lack of awareness, distrust	6
Administrative barriers	7
Other barriers	7
2.3 Finding advice about energy renovations	7
3 Building renovation roadmap and logbook.....	8
3.1 Building renovation roadmap.....	8
Information to be included in a Building Renovation Roadmap	8
Value of the Building Renovation Roadmap for buyers, sellers and homeowners	8
Potential drawbacks of the Building Renovation Roadmap	9
3.2 Building passport or logbook	10
Useful information to be included in the building passport	10
Authorising access to the building passport	10

Introduction

This report summarises the key findings from the focus groups for the H2020 project iBRoad. In total, three focus groups were carried out by Ipsos, one group in each of the following countries: Bulgaria, Poland and Portugal. In each country, the focus group was moderated in the local language and the discussion was designed to last about 90 minutes. All participants were provided with an incentive, as a “thank you” for their participation.

Each focus group included participants with various profiles: participants who intended to purchase a single-family house (referred to as “buyers” throughout the report), participants who planned to sell a single-family house (referred to as “sellers”) and single-family home owners planning some renovations in the near future (referred to as “owners”).

The following table presents details about the fieldwork in each country, in terms of fieldwork date, location, number and type of participants and incentives.

Country	Fieldwork date	Location	Number of participants	Incentive
Bulgaria	21.11.2017	Sofia	8 participants (3 homeowners, 3 buyers, 2 sellers)	Vouchers (45 BGN)
Poland	16.11.2017	Warsaw	8 participants (3 homeowners, 3 sellers, 2 buyers)	Vouchers (80 PNL)
Portugal	16.11.2017	Lisbon	9 participants (3 homeowners, 3 buyers, 3 sellers)	Vouchers (40 EUR)

1 General awareness and interest in energy efficiency

1.1 Awareness of the energy efficiency of one's house

Interest in the topic of energy efficiency was high among participants in the three groups, and most participants were familiar with the topic (e.g. they could list various energy saving measures). Nonetheless, awareness about their household's actual energy consumption level tended to be low.

Energy efficiency was often associated with the home's heating system and level/type of insulation, and with the cost of energy used for heating. Despite the fact that awareness about the household's actual energy consumption level was low, many participants were aware of the amount they paid for heating and electricity, and of the fact that energy bills are influenced by various factors, such as seasonal conditions, type of insulation or the type of energy used for heating.

Across the three groups, knowledge about **whether their house would be considered energy efficient or not** was generally low. In **Portugal**, two participants stated that they lived in an energy-efficient house (e.g. due to having installed ventilation, solar panels etc.), while the other participants were unable to say whether or not their house was energy efficient. Most of the latter participants, however, did add that their house could probably benefit from energy-efficient renovations. In **Bulgaria**, there was no shared definition of the type of criteria an energy-efficient house would need to meet. Opinions regarding their own homes varied by participants' personal situation. Among the sellers, one participant felt that his house was not energy efficient. The homeowners appeared to be more confident that their house was energy efficient, as they had already invested in energy renovations; however, they also had various other renovations planned, which indicates that the energy efficiency of their homes could still be increased.

When asked about **what makes (or could make) their homes more energy efficient**, participants named various measures, such as:

- Double or triple glazing, new windows (all three countries)
- Technology for renewable energy supply, e.g. solar panels, photovoltaic roof tiles (Bulgaria, Portugal)
- Floor, roof and wall insulation (Portugal, Poland)
- Replacing the heating system, new radiators, new boiler (Poland)
- Ventilation/dehumidifiers to reduce humidity (Portugal)
- More effective use of space (Bulgaria)
- Monitoring of heating bills (Poland)
- Carrying out a thermal audit with a thermal-imaging camera (Poland).

"If you have to heat a house on electricity, that's 400-500 BGN a month, absolutely. My house has two storeys and that was the bill until I renovated. I used to have only the northern side insulated, there was some panelling which reduced the cost of heating a little. But after I insulated the whole house with Styrofoam I must tell you that the effect is wonderful." (Homeowner, Bulgaria)

1.2 Value attached to energy efficiency

Views about the importance of energy efficiency when buying or selling a property varied by country. Participants in Bulgaria tended to attach a lot of importance to this aspect, associating a home's energy efficiency level with comfort (i.e. being able to keep the house warm), money saving (i.e. spending less on energy bills), and to a lesser extent, protecting the environment.

"What does 'comfort' refer to?" (Moderator) "That you do not need to wear fluffy socks and knitted vests indoors, it's generally about that." (Seller, Bulgaria)

In Bulgaria, the topic was of particular interest to participants who intended to purchase a house. In this context, insulation was seen as particularly important. Participants discussed two options – one of which was to purchase a well-insulated, renovated house at a higher cost, and the other was to purchase a non-insulated, but less expensive house, and to invest in renovating it in order to make it energy efficient according to their own preferences and criteria. Both possibilities were attractive to the buyers participating in the group, although they acknowledged that other potential buyers under time pressure to find a house might go for the first option.

"I think that's very important, having smaller bills for energy. I checked some new systems, like solar collectors that are in the tiles of the house. They say that these are not much more expensive than the regular tiles. I think that if I buy a house, even one that is already properly insulated, it might be worth changing the tiles with this type of tiles". (Buyer, Bulgaria)

The sellers in the Bulgaria group also agreed that energy efficiency was an important aspect, with one of the sellers being willing to invest in renovations in order to make the property more energy efficient, while others felt that it should be left to the person purchasing the house to make the renovations according to their preferences.

In Portugal, the participants who intended to purchase a house did not see energy efficiency as a key factor when buying a property, and they were not willing to pay more for a property because it is more energy efficient. However, the topic was of interest, as potential buyers said they always requested access to the property's energy performance certificate (EPC). Participants were aware of the various advantages of purchasing an energy-efficient house, both in terms of comfort and quality of life, and expected that the value of the property would be higher should they wish to sell it later on.

The sellers in the Portuguese group felt that energy efficiency of the house was an important aspect, and could be a differentiating factor for potential buyers. Some were aware that it is possible to consult a property's energy performance score online, and that a high score can be used as a sales argument, because it implies better comfort, as well as lower energy bills.

In Poland, participants felt that energy efficiency was not an important selection criterion when purchasing a house, and that the most important aspects were its location, size, price, and the buyers' preferences. The view was shared that a potential buyer would not ask questions about the energy efficiency of a house, or would only ask about this at a later stage (e.g. when discussing the type of heating and the energy bills). The buyers in the group reported that the information they receive about energy efficiency would not impact their interest in a property, as they would prefer to handle energy-efficiency issues themselves by completing the appropriate renovations once the property is purchased.

Sellers in the Polish group agreed that potential buyers do not tend to ask questions about the property's energy efficiency. However, they felt that this aspect could become important during negotiations about the property's final price.

1.3 Energy performance certificates

Awareness about Energy Performance Certificates (EPC) was highest in Portugal. Participants knew that it is compulsory to have an EPC for the property, and that without a certificate, the seller may undergo a penalty. Only one of the participants did not have an EPC, because he had built the house himself and had not yet put it up for sale. Participants were aware of their house's EP score.

Awareness about the EPC was low in Bulgaria – where none of the participants knew that properties needed to have an energy certificate, **as well as in Poland** – where very few mentioned having an energy certificate for their home, while the others either claimed that they did not have one, or were unaware of whether or not they had one. Participants in Poland were also unaware of what type of information an EPC would include. Some participants in Bulgaria raised questions about the price of the execution of an EPC.

Although awareness about the EPC was low in Bulgaria and Poland, in both countries, interest in having an EPC for their house (or the house they would like to buy) was high, as participants were keen to find out as much as possible about improving their house and optimising energy costs. Some participants in the Polish group also highlighted the fact that this type of document should be accurate and reliable, and that consumers should be able to use it in case of complaints.

"I've heard of cases where the actual situation differed considerably from what the EPC stated, and it ended up in court. The EPC listed incorrect data." (Homeowner, Poland)

In terms of **content of the EPC**, respondents in Portugal tended to consider the EPC reliable, but also found it to be too long and technical. They felt that the information should be presented in clearer terms, and that the certificate should include a summary, explaining the content in a concise, easy to understand manner. Some participants in Poland also stressed that the EPC should be drafted using simple terminology that anyone can understand.

Across the three countries, participants felt that the following main aspects should be included in an EPC:

- General advice on how to insulate, save energy and reduce energy consumption (Portugal)
- Recommendations on the most energy-efficient household appliances (Portugal)
- Information about solar panels: brand, maintenance, requirements etc. (Portugal)
- Specific recommendations for energy improvements that can be made to the house, e.g. in terms of insulating roof and floors (Portugal)
- Specific information about the property, in terms of building materials used, type of energy used for heating, type of heating system, type of windows/window insulation (Poland)
- Details about monthly bills for energy used for heating during winter and/or details about energy bills over the previous year (Bulgaria)

"I will be interested to know about the heating costs of the house I consider buying, how much did it cost per month in the winter. Then, I can estimate if this house is suitable for me or if I should do something additional, insulate it somehow. [...] I guess the certificate would be about the energy efficiency of the building, how the home is kept warm, to what extent. I mean, what part of the warmth generated is kept and what part is lost." (Buyer, Bulgaria)

2 Energy renovations: experience and barriers

2.1 Experience with energy renovations and reasons to renovate

Across the three countries, participants had carried out various renovations, and many had plans for further improvements. Many of these were related to saving energy, particularly in Poland and Bulgaria. In Portugal, those who had recently carried out renovations, had mainly done this for other reasons (e.g. aesthetic improvements and renovations to gain space).

The energy-efficient improvements that participants had made to their houses included:

- Replacing windows with double-glazed windows (Portugal, Poland)
- Placing more doors inside the house in order to keep the home warm (Portugal)
- Installing a fireplace with a heat recovery unit (Portugal)
- Changing floors, using materials that provide better insulation (Portugal)
- Installing solar panels (Portugal, Bulgaria)
- Sealing a leaky roof with mineral wool (Poland)
- Switching from an electric boiler to a natural gas boiler (Poland)
- Switching from a coal boiler to oil heating (Poland)
- Insulating the building with Styrofoam, plaster and paint (Poland)
- Installing a standalone wood stove in order to make the living room warmer (Poland)
- Installing a ventilation heater in order to bring down the gas heating bill (Poland)
- Switching from old rib-style radiators to more modern types with fins, for better heat distribution (Poland)
- Insulating walls (Bulgaria)
- Insulating roof (Bulgaria)

Some of the renovations participants planned to make included:

- Changing the roof (sealing and insulation) (Poland)
- Building an extension, which would also need insulation (Bulgaria)
- Additional insulation (Bulgaria)
- Changing the roof to gain space, building an attic room and insulating, changing the panelling (Bulgaria)

The main **drivers for energy-efficiency related renovations** were reducing energy costs and gaining comfort. The aesthetic improvements that are a result of these renovations were also mentioned. Participants in Portugal also spoke about preventing illnesses (respiratory problems or allergies) that can be caused by humidity or mould. Factors related to the environment were only brought up in the Bulgarian group, and although important, the environment was considered to be less of a priority when planning renovations.

Renovations are mainly done **one step at a time**, due to financial reasons, as well as due to the effort required. Participants in Poland felt that one should start renovation works on the least energy-efficient elements of the house (depending on each individual situation, this would mean replacing windows, insulating, replacing the boiler etc.). In Portugal, participants who were planning to buy a house thought that renovations should be carried out in one go, if financially possible, in order to avoid further discomfort after moving into the new house.

"I plan some further repairs and renovations; a lot is coming up. For instance, my roof is without overhangs, I don't know if you know what I mean, but that's how it was designed. I want to lift it up a bit so that I can use the space. The roof without overhangs is ineffective, especially when there is wind blowing, the rain is forced into the walls and it's just ineffective despite the insulation. Now, for instance, I will have to change the panelling that is on the outside, I will replace these, and add new insulation, Styrofoam, ground coat and plaster." (Homeowner, Bulgaria)

In the Portuguese group, the sellers felt that **energy efficiency was not sufficiently valued by potential buyers**, and that it was therefore not worth carrying out energy renovations. Renovations would need to be carried out by the new owners, who can decide for themselves what type of improvements they want to make. This view was also shared by the sellers in the Polish group, who felt that renovating would not increase the value of the house; they preferred negotiating the price, leaving the house in its current condition. This attitude is in line with the buyers' expectations in these countries. In Bulgaria, one of the sellers considered making renovations (changing the heating system of the house), mainly because the current system was unsafe (boiler unsafe if the water is too hot).

2.2 Barriers to energy renovations

The main non-financial barriers to energy renovations that were discussed during the groups are as follows:

Time and effort required

- The "disruption" caused by carrying out renovation works and not having access to certain parts of the house (Portugal)
- General effort and discomfort related to having to constantly clean the house during the works, the noise and presence of contractors in the house (Portugal, Poland)

"Oh, how I hate renovations. It's just one big mess." (Seller, Poland)

- Time required for the various tasks, such as gathering information (both online and during visits to stores), making decisions, ordering materials, supervising contractors (Portugal, Poland); need to take time off work (Poland).

Lack of awareness, distrust

- Lack of awareness about the most appropriate renovations for one's house, as well as about costs of the renovations and maintenance after the renovations have been completed (all three countries)

"Maybe the maintenance is a bigger hindrance. Not everyone is an engineer and if thinking about solar panels, collectors, photovoltaic systems, all this requires more technical thinking. Most families are unprepared for things like that until they really have to take action... I can tell you about myself, when I have to think about technological issues, I start feeling frustrated, it takes a lot of your personal energy to maintain these systems." (Buyer, Bulgaria)

- Fear of financially investing in renovations, but not seeing the expected return and effectiveness (Portugal)
- Distrust in the information available, especially online information about renovations, associated costs and expected maintenance (all three countries)
- Distrust towards contractors (all three countries)

"The materials that the contractors bought were twice as expensive as what we would've bought ourselves". (Homeowner, Poland)

"It is very difficult to find repairmen, workers who can be trusted to do a good job." (Homeowner, Bulgaria)

Administrative barriers

- Administrative issues related to licensing *(all countries)*

"Some bureaucratic measures might be a problem... In this country, everything is difficult... A friend of mine says that if you are to go to an institution (for example, the municipality) and you want to get things done, you should go on a Thursday... as people are better predisposed that day." (Seller, Bulgaria)

- Requesting permissions from the monuments authority, if the property is (in) a listed building *(Poland)*
- Requesting permissions from neighbours, e.g. statutory regulations on the spacing between neighbouring houses means that a neighbour can block an attempt to insulate walls *(Poland)*

"If the neighbours are normal people, they'll allow it. But if they are difficult, then they won't allow it." (Homeowner, Poland)

Other barriers

- Specialisation of professionals/contractors: expertise is focussed on one specific area/type of renovation, and it is difficult to find someone with a more global expertise *(Portugal)*
- Risks associated with unforeseen changes to the surroundings of the house (e.g. in the case of installing solar panels, it is difficult to anticipate whether or not another building will be built in front of the property) *(Portugal)*
- Access to materials that cannot be found in the country, especially in terms of flooring *(Portugal)*
- Other difficulties related to equipment, materials and maintenance (e.g. a solar panel lasts between 7 and 10 years and require maintenance) *(Portugal)*

When discussing possible barriers, no major differences in views were observed between homeowners, sellers and buyers.

2.3 Finding advice about energy renovations

In terms of information about energy renovations, participants across the three countries tended to rely mostly on advice from **people they knew personally and trusted**: friends, family, neighbours, but also professionals.

Other sources of information were magazines and the **internet** (e.g. tutorials on YouTube, comments on forums and online reviews of contractors), and advice from **sales staff** in specialised stores. Seeking advice from architects was mentioned by a few participants in Poland. Some participants in Poland also said not to seek advice from energy suppliers and expressed a high level of distrust towards this sector.

In the Bulgarian group, the potential buyers felt less knowledgeable, and showed mainly willingness to search for new and innovative solutions online. As they had multiple options to consider, they were interested in gathering information about their possible choices and in evaluating the costs and benefits of their potential investments. The homeowners and sellers in the Bulgarian group were more confident, as they already had experience with renovations, and could count on a wider network of peers (neighbours and friends) who were also homeowners for advice.

3 Building renovation roadmap and logbook

3.1 Building renovation roadmap

Information to be included in a Building Renovation Roadmap

When discussing the type of information that should be included in a Building Renovation Roadmap, participants across the three countries came up with various suggestions:

- Information on the current heating costs of the property and on the amount of savings that can be made with each energy measure proposed
- Detailed recommendations tailored to each specific property, taking into account aspects such as location, climate of the surrounding area
- Measures and actions to be implemented to increase the energy efficiency of the house
- The amount of money the owner would need to invest in the renovations
- Advice for choosing equipment and materials for the renovation to improve the energy efficiency of the house (price, brand, technical specifications and maintenance schedule)
- An estimation of the duration of the renovations
- A schedule or plan, presenting each of the stages of the renovations, ordered by priority
- An estimation of the timeframe as of when the investment would “payoff”
- Habits and behaviours that help to make their home more energy efficient
- More generally, sharing knowledge on energy efficiency and its importance in order to raise awareness

In Portugal, respondents flagged that the step-by-step plan for implementing the renovations should be based on a **duration of maximum five years** (rather than 15 to 20 years), as they felt that, given the fast technological progress in the field, the proposed solutions would be outdated and therefore less relevant after a longer period of time.

Value of the Building Renovation Roadmap for buyers, sellers and homeowners

In **Portugal**, participants felt that the roadmap would be important for potential buyers and sellers, as it would contain information about energy saving measures already taken, and would contribute to the transparency of the transaction. Also, it would enable potential buyers to identify the type of renovations that would need to be undertaken. For home owners who do not intend to sell, this type of initiative would enable them to evaluate their property in terms of energy efficiency, and to plan their investment in future renovations.

In **Poland and Bulgaria**, views with regard to the value of a Building Renovation Roadmap for sellers, buyers and home owners varied more and the roadmap was mainly appreciated by the potential buyers in the groups.

In Poland, the potential buyers discussed the advantages of a roadmap, which could provide them with an accurate indication of the actual value of the property, as well as the amount of renovations required, along with their cost.

“Say you pay PLN 400 K for a house, and you need to put in another 200 K. It sets you back to PLN 600 K. If I spend PLN 500 K, I might be able to buy something that doesn’t require any work in the next 5 years.” (Buyer, Poland)

The homeowners in the Polish group felt that the roadmap would be mainly useful for new owners. **Sellers** in this group, on the other hand, felt that a roadmap might reduce the value of their property by highlighting its problems/issues, making it more difficult to sell.

In Bulgaria, the buyers found the roadmap useful as they felt that it would provide an accurate, external evaluation of the property. The homeowners in the group felt that the roadmap was useful, but not really necessary; they would only request a roadmap if it was for free. Participants in the Bulgarian group did not see any drawbacks to having this type of document, but emphasised that it should be prepared by experts, and that it should be impartial.

"I think that this would be very helpful, to help me orientate. It's one thing to have someone tell you about the house, it's another to see it in a document... I would like to see the plan, how the house can be improved and how much it would cost. I think that's very important when taking decisions about the houses you compare."
(Buyer, Bulgaria)

"Considering the buyer, I think it's best to hire an expert to prepare the roadmap so you know what you get. You can't rely on the seller for that." (Seller, Bulgaria)

"If a potential buyer wants such a thing I would do it at my own expense. But otherwise I wouldn't need to."
(Seller, Bulgaria)

Potential drawbacks of the Building Renovation Roadmap

The main drawbacks of the Building Renovation Roadmap were similar to those discussed for the EPC, namely cost and the roadmap's source.

Many participants were interested in knowing whether the document would be obtained for free, and, if not, **what it would cost, and who would need to pay for it** (buyer vs. seller). In **Poland**, potential buyers and home owners agreed that the seller should be paying for the roadmap. Sellers in this country, on the other hand, thought that this would be an additional expense, which would not necessarily make the house easier to sell (or might even make it more difficult to sell).

In **Portugal**, some participants felt that the value of the roadmap would depend on its cost. If the cost would be too high (i.e. higher than the cost of an energy certificate), they would not be interested in having it, unless it was compulsory.

Across the three countries, participants expressed concerns about the **document's source**. In **Bulgaria**, there was no agreement regarding whether it should be produced by companies or by public authorities. In **Poland**, some participants stated that the roadmap should be issued by an "independent, unbiased party". Participants in the **Portuguese** group felt that including recommendations from professionals or private companies would generate distrust and make the document less credible.

"There would be a conflict of interest, it would seem like they were all in it together." (Seller, Portugal)

Other potential drawbacks, highlighted in Portugal, were:

- The time required to design the roadmap
- Potential bureaucratic barriers associated with the process (gathering information, authorisations, licensing)
- On the longer term, if only some houses would have a roadmap, not having a roadmap when selling a property could become a major disadvantage, hindering its sale.

3.2 Building passport or logbook

Useful information to be included in the building passport

Across the three countries, participants indicated that the building passport could include the following information:

- All the information included in the roadmap (Poland)
- Building materials used (roof, walls) (Poland)
- Energy consumption (water, gas, electricity) and information about energy bills (Poland)
- Information about renovation grants and funding opportunities, both at local and national level (Poland)
- Information about any type of external threats (e.g. high level of groundwater or proximity of floodplains) (Poland)
- Renovations already carried out (Portugal)
- Energy-efficient equipment already in place (Portugal)
- Energy performance score from the EPC (Portugal)
- Energy efficiency initiatives that have been carried out in the surrounding areas (street, neighbourhood) (Portugal)
- Renovations carried out based on suggestions/recommendations in the EPC with an indication of the date and the value of the investment (Portugal)

"if I decide to sell my house, I would like to be able to present the building's report, and I could refer to the firm that produced it. A thorough report on what's the current condition and what can be improved, I find this useful." (Homeowner, Bulgaria)

Authorising access to the building passport

Views with respect to who should be allowed to have access to the building passport varied across the three countries. In **Portugal**, participants felt that the information could be made available to potential buyers, but also to builders, contractors and the administration at municipal level. However, with regard to banks, they felt that information should only be shared if there is an intention to ask for a housing loan or a credit for energy-efficient renovations.

In **Bulgaria**, participants tended to feel that access to information in the logbook should be restricted to those directly involved in the potential negotiation about a house (sellers and buyers). In **Poland**, the sellers in the group were not in favour of sharing information in the log book with banks or public authorities, as they did not see the benefit of it, but they were also reluctant to allow access to potential buyers, as they felt that the logbook could reduce the value of the property and show its disadvantages, therefore making it more difficult to sell.

About Ipsos MORI's Social Research Institute

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Annex II

Summary of interviews with public authorities

March 2018

H2020 project iBRoad

**Summary of interviews with
public authorities**

Ipsos

Contents

Introduction	1
Bulgaria.....	1
Poland.....	1
Portugal.....	1
Summary of findings	2
What type of information about residential buildings is currently being collected? And is this information sufficient?	2
Bulgaria.....	2
Poland.....	3
Portugal.....	4
Is energy renovation an important (political) priority? And what are the main barriers to setting up programmes promoting residential renovation?.....	4
Bulgaria.....	4
Poland.....	5
Portugal.....	5
Would more building data be useful in designing and implementing renovation schemes? And what would be the value of a register (logbook)?	6
Bulgaria.....	6
Poland.....	6
Portugal.....	7
What would be the potential value of building renovation roadmap?	7
Bulgaria.....	7
Poland.....	8
Portugal.....	9

Introduction

This report summarises the key findings from the interviews with public authorities in Bulgaria, Portugal and Romania for the H2020 project iBRoad. In each of the three countries, three telephone interviews were carried out, between 17 and 31 January 2018, with key stakeholders at different public authorities. Respondents for the interviews were selected by iBRoad consortium partners in the respective pilot countries, while the interviews and reporting were carried out by Ipsos.

Bulgaria

- **Bulgarian Energy Efficiency and Renewable Sources Fund:** The fund was created in 2005 as a part of a project of the World Bank, with as main purpose to finance projects for energy efficiency. Over the past years, the fund has offered low interest credits and partial credit frameworks to finance over 200 projects. The fund focuses on public buildings, such as administrative buildings, hospitals, schools, and they occasionally work with medium-sized enterprises. The fund's activities are not limited to a particular local level.
- **"European Policies and Programmes" Directorate of Burgas municipality:** The directorate works on research, execution and coordination of projects in areas of energy efficiency, climate change issues, etc. and sets up policies in these areas. It works at local level – i.e. the territory of Burgas municipality only.
- **Dobrich municipality** is separated from Dobrichka municipality (or Dobrich rural municipality) and is responsible only for the territory of Dobrich city. Dobrich is an active municipality regarding energy efficiency issues, and the municipality is one of the founders of the "Municipal Energy Efficiency Network".

Poland

- **Ministry of Investment and Development:** This ministry is a recently established ministry, supporting the Minister for Construction, Spatial Planning and Housing. It is a national administrative body, operating at the national level. *(Two experts were interviewed at the Ministry.¹)*
- **National Fund for Environmental Protection and Water Management:** the fund is a state-owned legal entity (Public Finance Act) and is the most important element in Poland's environmental protection and water management financing system. The fund is in charge of funding and uses two channels: (1) the fund's own resources and programmes (including programmes devoted to thermal renovation or energy management of buildings), and (2) implementation of the Infrastructure and Environment Operational Programme with regard to various tasks and sub-tasks entrusted to the fund by the Minister of Energy or the Minister of the Environment.

Portugal

- **Directorate-General for Energy and Geology (DGEG)** is the national authority for the energy sector (in Portugal) and an interview was conducted with an expert at the **Department for Energy Sustainability**.
- **Agency for Energy (ADENE)** is a private, non-profit organisation with as main mission to promote initiatives in the areas of energy efficiency, mobility and water efficiency. It is a mostly state-owned entity and is the managing body

¹ The two experts were previously employed by Ministry of Infrastructure and Buildings. As there were a restructuring, their departments were moved to newly developed Ministry of Investment and Developing. The Ministry of Infrastructure and Buildings changed into the Ministry of Infrastructure.

of the Energy Certification System. ADENE manages the entire database of energy certificates for both residential and non-residential buildings. ADENE is a national agency (although its role with respect to certification excludes the Azores and Madeira archipelagos).

- **National Laboratory for Civil Engineering (LNEC)** operates at a national level, carrying out surveys throughout the country, including the Azores and Madeira. LNEC collaborates with ADENE and DGEG in carrying out studies that support the implementation of renovation plans, for example, the creation of a passive house indicator, identification of optimal solutions for housing, development of methodologies to determine optimal energy levels in commercial buildings. Presently, LNEC is building a simulator to measure energy efficiency of public administration buildings.

Summary of findings

What type of information about residential buildings is currently being collected? And is this information sufficient?

Bulgaria

When presented with questions about available statistics and whether sufficient data is available, the expert at the Bulgarian Energy Efficiency and Renewable Sources Fund explained that they use information made available by the National Statistical Office and that these statistics are sufficient for their needs. It should be added here, however, that the fund tends to have a focus on non-residential buildings. The two experts at the municipalities (Burgas and Dobrich municipality), on the other hand, thought that the level of information on residential buildings was 'not very high' and 'scarce'; there is a lack of information about residential buildings and their energy performance details.

Both experts explained that, as municipality, they are obliged to provide annual data for their own building stock to the Sustainable Energy Development Agency; this data is provided in the format of 'technical passports' for the municipal buildings. However, no such obligation exists to collect data about the residential building stock. At the same time, building owners do not tend to declare when they renovate or apply energy efficiency measures; although one expert added that this is as expected, because the municipality does not request this information from homeowners.

Both municipalities had taken the initiative to collect some information on part of the residential building stock in the municipality; they collected the data in the framework of the National Programme for Energy Efficiency that provided funding for renovation of multi-family buildings. Burgas collected data on energy consumption for over 200 large multi-family buildings with more than 36 units (about 50% of all such buildings on the municipal territory). In Dobrich, an energy audit was completed and a technical passport created for 41 out of 230 multi-family buildings in the municipality. This experience showed how little information there was for old buildings in the municipality. It was further added that some information is available on newly-built dwellings with information being collected as part of the process of getting permissions for construction the buildings.

The information that was being collected by the municipalities is, however, not published, and is stored as raw data used for internal analyses only. One of the experts further noted that it was unclear what would happen next; for example, will they continue to collect data about the buildings renovated with support of the National Programme for Energy Efficiency? Moreover, although the data helps the municipality to assess the effectiveness of the implemented measures

and serves as a baseline for further planning, one expert thought it would be good to make the data public; so that one can see when a building was built, the parameters of the construction, materials used, when it was renovated most recently, what efficiency class it has reached, when the next renovation expected etc.

Poland

In Poland, each of the experts explained that a lot of information and different types of statistics are being collected. One expert explained that there is a considerable amount of information available from the National Statistical Office [Pol. GUS – Główny Urząd Statystyczny]. The National Statistical Office has conducted a number of studies and surveys about the building stock. References were also made to data collection about detached residential dwellings (as part of a programme called Lynx) and to energy management in Public Administration buildings and public-use buildings (via the Infrastructure and Environment Operational Programme). One of the experts referred to independent databases, such as AMRON (a database kept by the Polish Banks Association) and the Polish National Bank's database; although it was added that these databases serve mainly the purposes of these specific organisations. Although the experts tended to describe the amount of information as being 'sufficient', one expert added that the information is 'not structured' and another expert explained that the data collection is not being coordinated very well and that the data is not brought together in a single repository.

One expert explained that one issue with respect to available data is that the vast majority of buildings (over 5 million) are single-family homes, and that the authorities tended to be less interested in this type of buildings (compared to multi-family homes). Firstly, a considerable share of the multi-family dwellings is publicly owned, while single-family dwellings tend to be privately owned. Secondly, there was also no real motivation for gathering information about single-family dwellings, as there were no programmes targeted at single-family dwellings.

With two of the experts, a more detailed discussion followed about the building energy performance certificate registry at the Ministry of Infrastructure – currently known as the Ministry of Investment and Development. The registry collects information about energy performance of buildings in the broad sense, i.e. their energy consumption (primary energy, final energy, and usable energy), about thermal insulation of buildings subject to energy certification, and also information about the usable area and intended use of the building. The year when the building was commissioned is also processed in the registry, and information contained in this registry also allows to infer some information about typology of the given building (the construction technology), though this is not listed directly. There is also information about the technology of the utility systems and the material used for the walls of the building.

The registry, however, does not cover all buildings in Poland, but only those buildings for which an energy performance certificate (EPC) has been drawn up, in line with the legislation – i.e. a certificate is needed when a building (or a part of it) is being sold or rented out, as well as for buildings used by public authorities and newly commissioned buildings. The National Statistical Office has been monitoring newly commissioned buildings for several years; but only since recently (2017), information about these newly-commissioned buildings is also added in the registry (information about the building's energy performance parameters, utility installations, intended use etc.). As such, it is difficult to find information about older buildings (from the 1960s). Moreover, although an EPC registry exists in Poland, registration in the registry does not always seem to be enforced. It was further added that, in Poland, if something is not enforced and obligatory, people do not tend to abide by it. There are people who are selling dwellings without an EPC, and, as such, EPCs for these dwellings are not introduced in the registry. As a consequence, failure to enforce existing regulations is also one of the reasons for the shortage of information.

The registry was also described as ‘incomplete’ because, after a building is being commissioned, and after the EPC has been prepared, the building might be further changed and new elements improving its energy performance might be introduced – however, these changes are not recorded, and the EPC is not updated. Finally, the information collected in the energy performance certificate registry is not available to the public; only information about buildings used by public authorities is available to the general public, whereas information about privately-owned buildings is not.

Portugal

The type of data that is being collected about the residential sector consists of: annual volume of new constructions and rehabilitation; construction year; conservation state; type of building (single-family or multi-family); typology (studio apartment, one, two, three, four bedroom apartment, etc.); occupancy regime (owner, tenant, etc.); useful floor area (by steps: up to 59 m², between 60-79 m², between 80-99 m², between 100-119 m² and more than 120 m²); climate zone (the country is divided into three large climatic zones); energy performance class; energy consumption by source of energy; equipment used, especially for heating and cooling (incl. presence of solar panels); location.

One expert added that some of this information is especially relevant with respect to energy efficiency; such as the year a building was built, because across the years, different trends were observed and building solutions introduced that determine the buildings’ energetic performance.

It should, however, be added that although the experts were able to list various types of data that is being collected, the level of information tended to be described as incomplete. One expert noted that information about a building’s energy class is not sufficient, and that other important information is lacking, such as information linked to comfort, environmental issues and the impact of emissions on the environment, indoor air quality, etc. There is also a lack of statistical routines for data collection; moreover, the data collection should be supported on digital platforms (e.g. where the building owners or occupants and official entities can record relevant information about the buildings), and more use could also be made of data collected via smart meters (since all large buildings now have smart meters).

Is energy renovation an important (political) priority? And what are the main barriers to setting up programmes promoting residential renovation?

Bulgaria

One expert in Bulgaria explained that energy efficiency is definitely a priority, as a lot of efforts are being made and actions were taken to boost energy efficiency of both residential and public buildings. He comments that people work actively to increase energy efficiency, although the focus sometimes tends to be more on public buildings (“I can tell you that there is hardly any municipality school or kindergarten that is not yet renovated”). Another expert commented that renovating municipal buildings sets a good and necessary example, and shows how beneficial renovation is, leading to better allocation of the budget.

In Burgas, energy efficiency of buildings is one of the main components of the Municipality Strategy 2011-2020. The municipality is renovating their own buildings, but the expert added that regarding privately owned buildings only ‘soft measures’ can be applied. These measures include communication campaigns and information provision. An example was given of a campaign that was recently launched and that targeted households with children. The campaign informed households about possible ways to save energy that do not require renovation (e.g. turning off the hot plate 15 minutes earlier, setting the heater 5 degrees lower while sleeping, etc.). The expert of Dobrich municipality explained that the

municipality is in the process of adjusting its policy (created in accordance with the Covenant of Mayors for Climate and Energy), considering that the current strategy was for the period up to 2020; the plan is to optimise their strategy for the period 2020-2030. The main elements of the current strategy include work on street lights and implementing comprehensive measures to improve building performance.

One expert noted that there are no specific barriers to setting up measures promoting energy renovation, but that the main challenge is funding and that people are generally unwilling to invest in renovation on their own. Municipalities are very limited in their options to develop their own energy efficiency policies. However, their work could be easier if citizens have some sort of obligation to cooperate. Although restrictive measures are not supported, some legislative change that makes collaboration easier might be beneficial. More generally, the benefits of energy renovation might not have been communicated enough. More information is needed so that citizens get convinced that there are a lot of benefits from energy renovation. One expert also pointed out that there is a barrier linked to the fact that the largest share of residential housing is inherited from the socialist years, and as such, in each building you will find a mix of households, some have sufficient incomes, while others can barely make ends meet. The respondent further explained that it would be difficult to make these households work together unless some policy is in place to support those with lower incomes.

Poland

Energy renovations of buildings have been carried for many years. For example, the Thermal Modernisation Support Act has been binding for about 20 years. As such, energy renovation of buildings is an ongoing process, various actions have been taken, with a varying degree of dynamism, but EU funding, for example, increases these dynamics. Another expert added that the intention to improve energy efficiency of buildings is present, but that it remains to be seen whether or not this is going to be reflected in funding. An expert noted that the fact remains that not everything can be funded by the state, and that building owners (and society, more generally) will have to shoulder part of the cost.

One expert in Poland described energy efficiency as 'important, but not a political priority', but also added that it is becoming more of a priority since the dangers of smog have entered the public discourse. Switching to a low-emission economy is one of the current priorities. For example, there is a newly appointed minister, whose sole responsibility is to cut emissions.

When discussing barriers to set up measures to support energy renovations, insufficient knowledge – not only among investors, but also among professionals (designers, contractors) – was described as one of the main barriers. Moreover, there do not seem to be enough experts who are able to carry out energy audits and advise investors. It was further added that a distinction should be made between single-family or multi-family housing. One expert explained that the situation with multi-family housing is 'good' at the moment, although in some smaller housing communities, there might be some challenges (if there are one or two owners who can not afford to renovate, the community might end up not renovating at all). For single-family owners, the situation is very different, as they do not know what would be the best measures and are at a risk of wasting money making the wrong decisions. The expert knows of various examples where local contractors were hired, who claimed that they were able to handle thermal modernisation of a building correctly, whereas they actually did not even know what materials they were supposed to use.

Portugal

One expert stated that, at national level, there is financial support for energy renovation and that the reason that lies behind these initiatives is the intention to comply with the European policies. Moreover, three main motivations to implement these measures were identified: (1) promote energy efficiency and increase the quality of urban environments,

contributing to the people's quality of life overall; (2) most energy in Portugal is imported, and if the country is more energy efficient, it will be more autonomous in relation to external energy sources; (3) although tourism is not a central reason, it indirectly requires an improvement in the quality of the building stock. Tourism has increased in Portugal, mainly in the big cities, Lisbon and Porto, and therefore the demand for buildings that have implemented an energy efficiency plan has increased.

Another expert added that the importance given by political authorities to the theme of energy efficiency has been increasing because there is a greater availability of funding, which has generated a greater supply of products and services that meet these needs. Although it was also noted that there appears to be a problem with sustaining policies in Portugal (sometimes there is funding for two or three years and then the support is discontinued due to lack of funds).

Other barriers to promoting residential renovation are either financial (the cost of performing an energy audit and the cost to implement renovation measures) or are linked to a lack of awareness. One expert explained there is a lack of awareness on the benefits of energy renovations; moreover, although more funding is now available, awareness about funding opportunities is lagging behind.

Would more building data be useful in designing and implementing renovation schemes? And what would be the value of a register (logbook)?

Bulgaria

One expert explained that, in order to develop efficient policies, accurate data is needed to work out adequate solutions for specific problems. The experts at the two municipalities agreed that a register or logbook would be useful for monitoring the current and evolving situation, help designing policies and encouraging people to renovate. It was suggested that a database could help planning their work, choosing on the proper course of action. More generally, a database would be helpful as it would allow the municipal employees to make informed decisions.

One expert stressed that a register would be useful on the condition that information about all buildings is synchronized, gathered in one 'space' and is easily accessible – not only for the municipalities, but also for the homeowners themselves ("I think that a common database should be created, a database that everyone can access. I have the municipality in mind but homeowners might take advantage of such access as well. ... So that they could see what condition their building is in and receive necessary information easily.")

Poland

One expert explained that real-life data from building owners would be useful, and in fact has already proven to be useful; for example, the Thermal Modernization and Renovation Fund, with the relevant Minister and Bank Gospodarstwa Krajowego, collects information about multi-family buildings, and this information allows them to make design changes or pinpoint trends concerning thermal renovations.

A lot of information that should be collected at the level of the boroughs (Pol. Gmina – an administrative division unit) would also be very useful. With that data, it would be possible to identify where problems are located on a local level – is the air polluted, are there any issues with heritage building inspectors, what has been done so far (e.g. have buildings in an area been renovated?), how old are the buildings etc. Although partial information is currently already available, a comprehensive outlook is needed that would allow policy makers to decide e.g. in terms of what kind of funding would be required in a given borough.

One expert suggested that all information collected should be saved in an electronic register, although this would mean that a number of issues with guaranteeing anonymity of individual homeowners would first need to be resolved. Any type of register or logbook that is being developed will need to be compliant with binding legal provisions and will need to respect privacy laws. For many purposes, aggregated, anonymised data might be sufficient, but local authorities (e.g. boroughs) might require highly detailed, specific information about their area to be able to take specific actions.

Portugal

Experts in Portugal also agreed that it is not possible to design effective policies or implement schemes without correct and up-to-date information. For example, it is essential to have answers to a series of questions: How many buildings are there? What is the type and the construction year? What is the occupation type? What is the conservation state? Where are they located, in urban or rural areas? Whether or not they have been subject to intervention and what was the type of intervention? What are the energy needs? What buildings have certification and which one is it? Have improvement measures been implemented? What results have they had?

One stakeholder in Portugal suggested to invest in data collection, supported on digital platforms, where the building owners or tenants of the buildings can record the relevant information relating to these buildings. The information collected in this way would then need to be cross-checked and validated, for example by conducting sample surveys or by using other mechanisms and gathering of existing information.

What would be the potential value of building renovation roadmap?

Bulgaria

Value of a building renovation roadmap for homeowners

One expert in Bulgaria wondered if there would be enough interest among homeowners in a building renovation roadmap – although this remark tends to apply also for energy efficiency measures in general (“There are moments when you can see the lack of interest, that’s unfortunate. ... We just don’t consider it as the most important thing.”). It was added that publicly accessible data might encourage people to renovate as “people usually like to see what their neighbour does”. One expert explained that a roadmap might help encouraging people to renovate as a proper diagnosis makes the decision better motivated, but would only be considered useful if funding is foreseen (“the owners wouldn’t invest in this.”)

Role of public funding in development of a building renovation roadmap

One experts at a municipality agreed that public funding might be possible for developing a building renovation roadmap, although it can not be expected that the source of the funding comes from the municipality, instead national and EU funding opportunities should be explored. Municipalities in turn should take responsibility in raising awareness and could potentially also help in developing the technology to promote the tools. One expert found this a difficult topic, but added that the public tends to feel incapable to invest in renovations, and that, therefore, financial support seems to be the only way to invest in energy efficiency.

Poland

Value of a building renovation roadmap for homeowners

One expert in Poland, after having been read the description of a building renovation roadmap, explained that he did not see substantial differences between the roadmap as conceptualised by the study and an energy audit: “going by the definition that building renovation roadmaps will serve as a tool outlining a customised renovation plan, this is actually just an energy audit along with a design created on the basis of this audit.” The expert explained that an energy audit, as defined by the Act on supporting thermal performance improvement projects and refurbishment, lists a range of improvements, as well as a procedure for optimising the choice of these improvements, and a summary in the form of guidelines for a construction design for the thermal renovation, and as such, concluded that a roadmap and an energy audit are related terms.

It was further added that, if the roadmap is understood as an audit, that it is actually indispensable for carrying out energy renovations in a satisfactory way, as numerous tasks are involved. An energy audit or building renovation roadmap constitutes valuable information and informs investors or potential investors about work to be done and actual savings that can be expected (how much can be saved, how long will it take for the investment to pay for itself).

One expert replied that it would be essential that the roadmap is not a static document, but is updated on a regular basis: if a roadmap presents a plan for the next 15-20 years, then it will have to be monitored somehow, to see the results over time – how the situation changes year on year, how the plan is executed, etc. – and potentially adjust the plan throughout the years.

Some doubts were raised whether a roadmap should also contain information about financing options. The reason being that such options are highly variable (it was added that, considering for example EU funding, changes are applied all the time). Moreover, it would be difficult to know if a given source of funding for a regional programme is actually available (taking into account various rules for applications etc.).

Experts also expressed some doubts whether it would be realistic to convince a lot of people to build a roadmap for their home. The first issue is whether homeowners will be willing to disclose the necessary information, and an incentive will be needed (e.g. some kind of help with the renovation). Secondly, reaching potentially interested people will be difficult and a carefully considered educational campaign will need to be set up. In addition to education, one expert added that boroughs play a crucial part with regard to residential buildings, and that if the borough is not involved, creating any sort of document intended for homeowners is going to be pointless. Every single-family building is different, and every family's situation is different, and without this kind of knowledge (and only the local authorities are able to obtain it), it will not be possible to target the product well. Finally, the product needs to be compatible with the way that banks prefer to work (financing clusters of homes); the borough's role will be to present such clusters of homes to the banks, just like it was done in the case of solar panel subsidies.

Role of public funding in development of a building renovation roadmap

One expert noted that public funding will be necessary, but is a limited resource, and other sources will need to be considered as well. In addition, the discussion should not only be about public funding, as the public sector will, for example, also need to be included to provide education in this area.

In order to create roadmaps, audits will need to be carried out, and such audits cost money. One expert replied that partially funding the audits with public money would provide an incentive to homeowners. In addition to maintenance of the database that brings all information together, public funding should be used to subsidise the process of collecting the necessary data for the roadmaps.

Another respondent noted that, ultimately, it is a political decision if public funding will be made available. For example, there has been a political decision to directly fund state-owned buildings, housing cooperatives and tenants' associations, this to apply for EU funding. A similar process could be imagined for funding the development of a renovation roadmap, also in this case, EU funding might trigger other actions.

Portugal

Value of a building renovation roadmap for homeowners

A roadmap was described as promising because it is important to help people with advice and information (telling people what they have to do for their specific building and what they will save if they do it, how long it will take them to implement the plan, and how many years they will take to recover the money they will invest in this plan). One expert noted that there are sometimes doubts about the trustworthiness of information about energy efficiency, but the fact that this information would be included in a roadmap would validate and assign accuracy to the same information.

One expert suggested that the roadmap should be dynamic and proactive, giving recommendations for implementation, and should definitely not just be informative. It should recommend 'specific actions' for buildings, being dynamic, proactive and with a very integrated foresight, proposing solutions that improve the building as a whole. It should give a medium and long-term perspective, following the people's profile, their future needs, for example: someone may be thinking about raising a family and having children, so telling the person "with your profile and needs, this is the desirable roadmap to renovate your building". Telling people how they should do it, what sources of financing they can use, what benefits they will have over time in the various stages of life, and what are the various steps of the roadmap in order to get to the end and have their building renovated. It should help consumers by giving them support in the implementation plan by providing them a contact in which they can rely on and indicating the sources of information they can access.

It was noted that, for building owners, it will be important to further nurture the idea that energy renovation is an effective means to improve the value of a property, and that certification (diagnosis) and implementation are interventions that do not 'devalue' over time. A greater visibility of the effects of investments in energy efficiency may encourage the average citizen to decide to invest as well, should there be the appropriate instruments to support it.

Role of public funding in development of a building renovation roadmap

One expert noted that the government will need to help implement these measures by providing financing and more information. Another expert added that it will need to be the government's responsibility to create structures that allow for the aggregation of the information that is being collected (while respecting rules for data protection), and for making legislative changes that encourage the project's implementation. Finally, it was added that the government would have a responsibility in making the data available to the public.

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Annex III

Summary of surveys results

January 2018

H2020 project iBRoad

Summary of survey results

Ipsos |

Contents

Introduction	1
Bulgaria	2
1.1 Summary of sample achieved	2
1.2 Summary of results for buyers and buyers/sellers	3
Buyers attitudes towards energy efficiency in Bulgaria	5
Building the renovation roadmap	6
1.3 Summary of results for homeowners	6
Homeowners who have completed, are currently completing or thinking about completing a renovation	7
Reasons for making energy efficient renovations.....	8
Types of renovations	9
1.4 Asking for advice about energy efficiency and renovation measures	11
1.5 The building passport or logbook.....	11
1.6 The renovation roadmap	13
2 Poland	15
Summary of results for buyers and buyers/sellers	16
Buyers attitudes towards energy efficiency	17
Summary of results for homeowners	19
Homeowners who have completed, are currently completing or thinking about completing a renovation	19
Types of renovations	21
2.2 Asking for advice about energy efficiency and renovation measures	23
2.3 The building passport or logbook.....	23
2.4 The renovation roadmap	25
3 Portugal	27
General attitudes to energy efficiency	27
Summary of results for buyers and buyers/sellers	28
Buyers attitudes towards energy efficiency	29
Summary of results for homeowners	31
Homeowners who have completed, are currently completing or thinking about completing a renovation	31
Types of renovations	33
3.2 Asking for advice about energy efficiency and renovation measures	35
3.3 The building passport or logbook.....	35
3.4 The renovation roadmap	36
Appendices	39
Bulgaria – Demographic info	39

Poland – demographic info	41
Portugal: Demographic info	43

List of Figures

Figure 1.1: Respondents by type of building ownership	2
Figure 1.2: General attitudes to energy use/concerns for the environment	3
Figure 1.3: Importance of particular aspects when buying a home.....	4
Figure 1.4: Energy efficiency information that is important in decision making	5
Figure 1.5: Ease of finding information about energy efficiency.....	6
Figure 1.6: Energy efficient renovations	7
Figure 1.7: Barriers to energy efficient renovations.....	8
Figure 1.8: Reasons for making energy efficient renovations	9
Figure 1.9: Information in a building passport or logbook.....	12
Figure 1.10: Attitudes towards energy efficiency and renovations	13
Figure 1.11: Information in a renovation roadmap	14
Figure 2.1: Type of building ownership in Poland.....	15
Figure 2.2: General attitudes to energy use/concerns for the environment in Poland	16
Figure 2.3: Importance of particular aspects when buying a home in Poland.....	17
Figure 2.4: Energy efficiency information that is important in decision making in Poland	18
Figure 2.5: Ease of finding information about energy efficiency.....	19
Figure 2.6: Barriers to energy efficient renovations in Poland	20
Figure 2.7: Reasons for making energy efficient renovations	21
Figure 2.8: Information in a building passport or logbook.....	24
Figure 2.9: Attitudes towards energy efficiency and renovation	25
Figure 2.10: Information in a roadmap	26
Figure 3.1: Type of building ownership.....	27
Figure 3.2: General attitudes to energy use/concerns for the environment	28
Figure 3.3: Importance of particular aspects when buying a home.....	29
Figure 3.4: Importance of particular aspects when buying a home.....	30
Figure 3.5: Ease of finding information about energy efficiency.....	31
Figure 3.6: Barrier to energy efficient renovations	32
Figure 3.7: Reasons for making energy efficient improvements	33
Figure 3.8: Information in a building passport or logbook.....	36
Figure 3.9: Attitudes towards energy efficiency and renovation	37
Figure 3.10: Information in a renovation roadmap	38

List of Tables

Table 3.1: Gender	39
Table 3.2: Age	39
Table 3.3: Level of education	39
Table 3.4: Working status	39
Table 3.5: Household composition.....	40
Table 3.6: Perceived household financial situation	40
Table 3.7: Breakdown of sample by target group	40

Introduction

This report summarises the key findings from the online survey for the H2020 project iBRoad. The survey was carried out by Ipsos over the following dates in each country;

Bulgaria: 28/12/2017 to 05/01/2018

Poland: 28/12/2017 to 31/12/2018

Portugal: 28/12/2017 to 03/01/2018

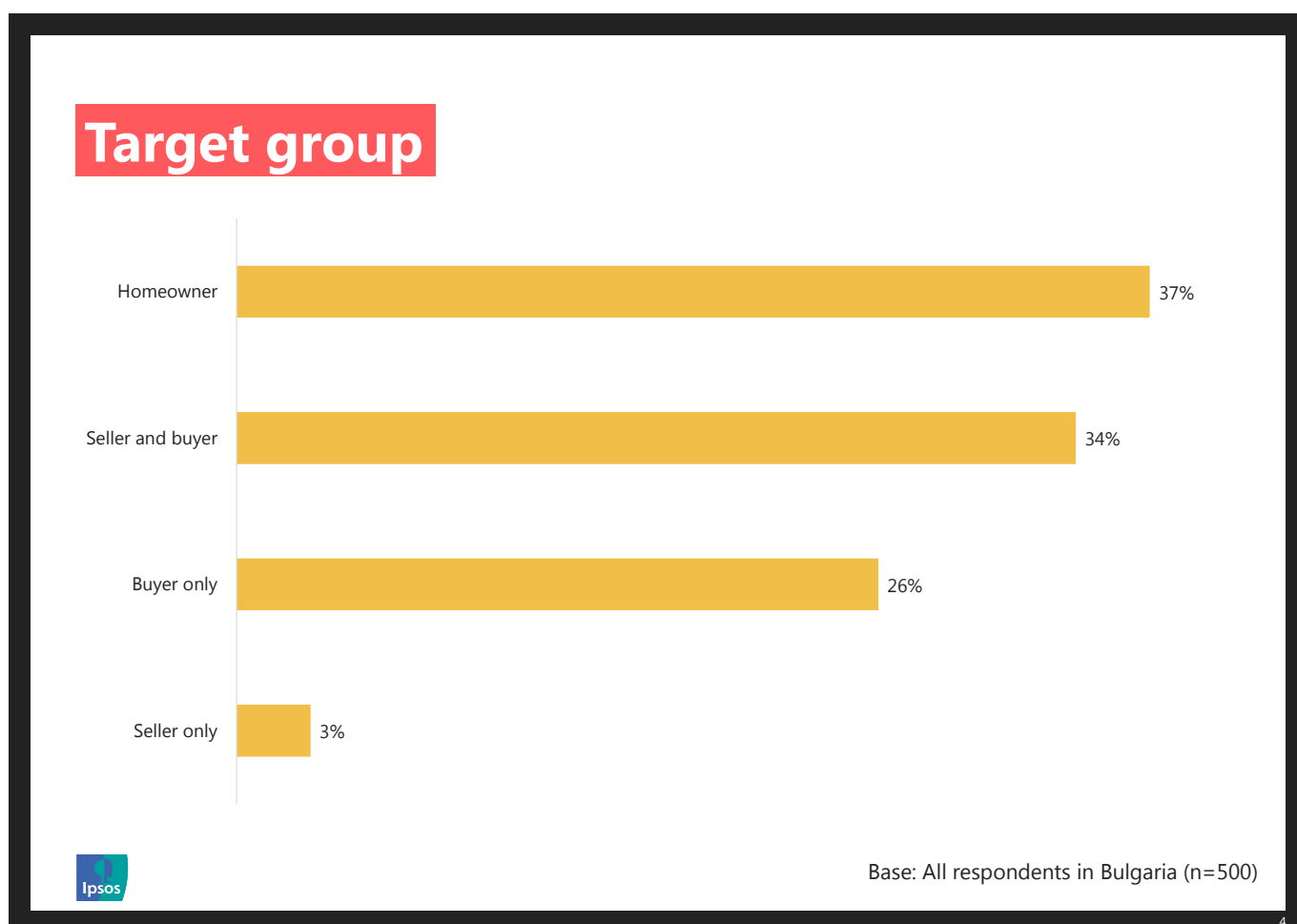
The findings are drawn from 1,502 interviews across Bulgaria, Poland and Portugal with building owners looking to sell their property or who have recently sold their property, building owners who are currently not selling or buying a property, and potential and recent buyers (including first time buyers). The findings are reported by country.

Bulgaria

1.1 Summary of sample achieved

In Bulgaria, a total of 500 respondents completed the survey. During survey implementation quotas were set to ensure a representative sample was achieved and that a good mix of different types of building owners was achieved. For a breakdown of the sample achieved by demographics please refer to the appendix. Figure 1.1 shows the breakdown of respondents by target group. In Bulgaria the majority of respondents are homeowners who are currently not selling or buying a property (37%), or homeowners who recently sold and bought a property ("buyers and sellers") (34%). Around a quarter of respondents are buyers only (26%) and a small proportion are sellers only (3%).

Figure 1.1: Respondents by type of building ownership

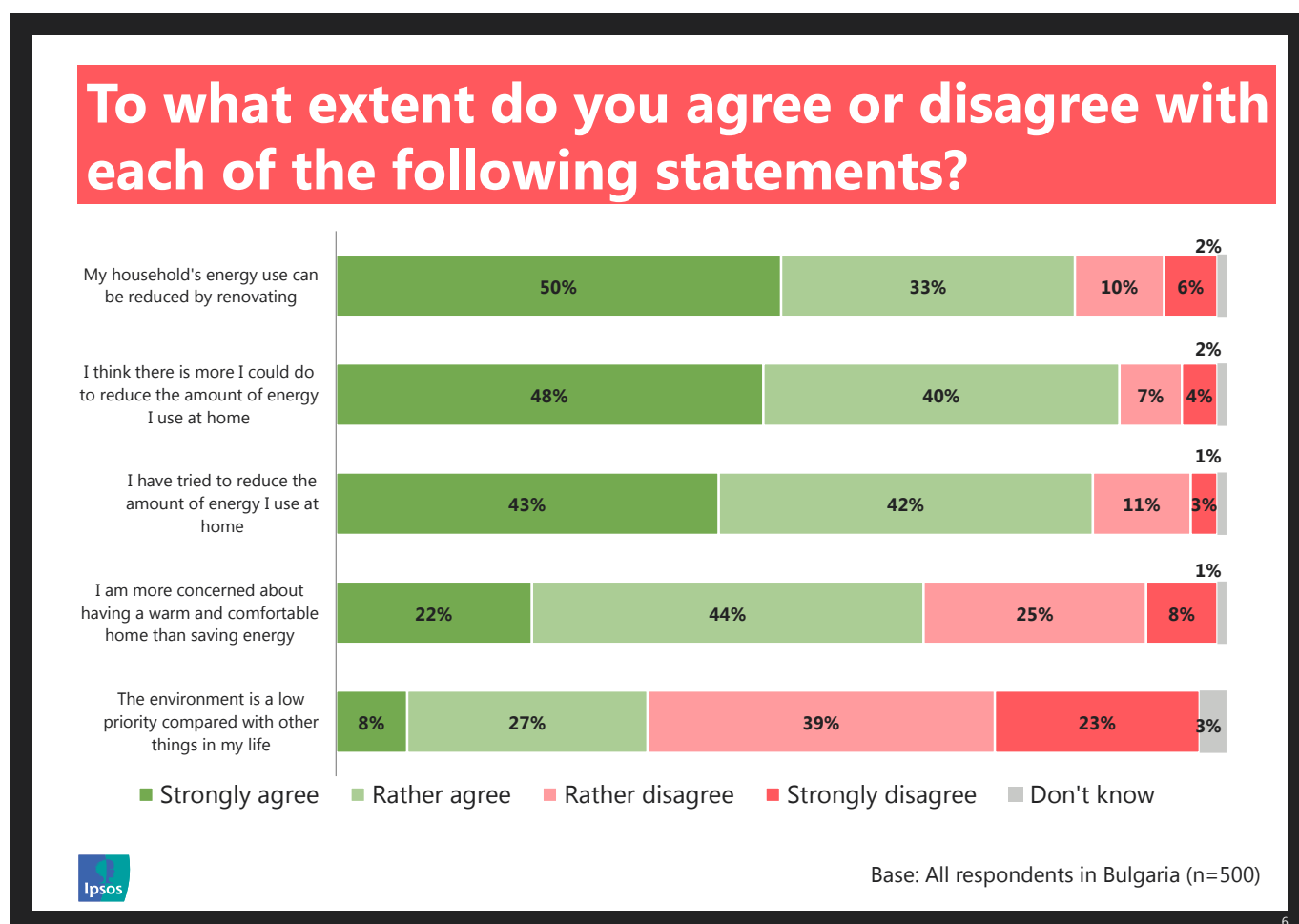


General attitudes to energy efficiency

In Bulgaria the majority of respondents think that there is more they can do to improve energy efficiency in their homes. Figure 1.2 shows that 83% of respondents agree that they can reduce their household's energy consumption by renovating, with half strongly agreeing with this statement. Similarly, 88% of respondents agree that there is more they can do to reduce the amount of energy used in their homes. Related to this, 85% of respondents agree that they have

tried to reduce the amount of energy they use at home. Turning to concerns for the environment, almost two thirds of respondents disagree that the environment is a low priority compared with other things in their life (62%). However, more than one in three respondents agree that they are more concerned about having a warm and comfortable home than saving energy (66%).

Figure 1.2: General attitudes to energy use/concerns for the environment



1.2 Summary of results for buyers and buyers/sellers

In Bulgaria, over half of buyers and those who are looking to buy are attempting to buy or thinking about buying a separate house (54%) and around a third are attempting to buy or thinking about buying a flat or apartment (35%). Other respondents are attempting to buy or thinking about buying a row or terraced house (5%), a semi-detached house (4%) or a different type of home (3%).

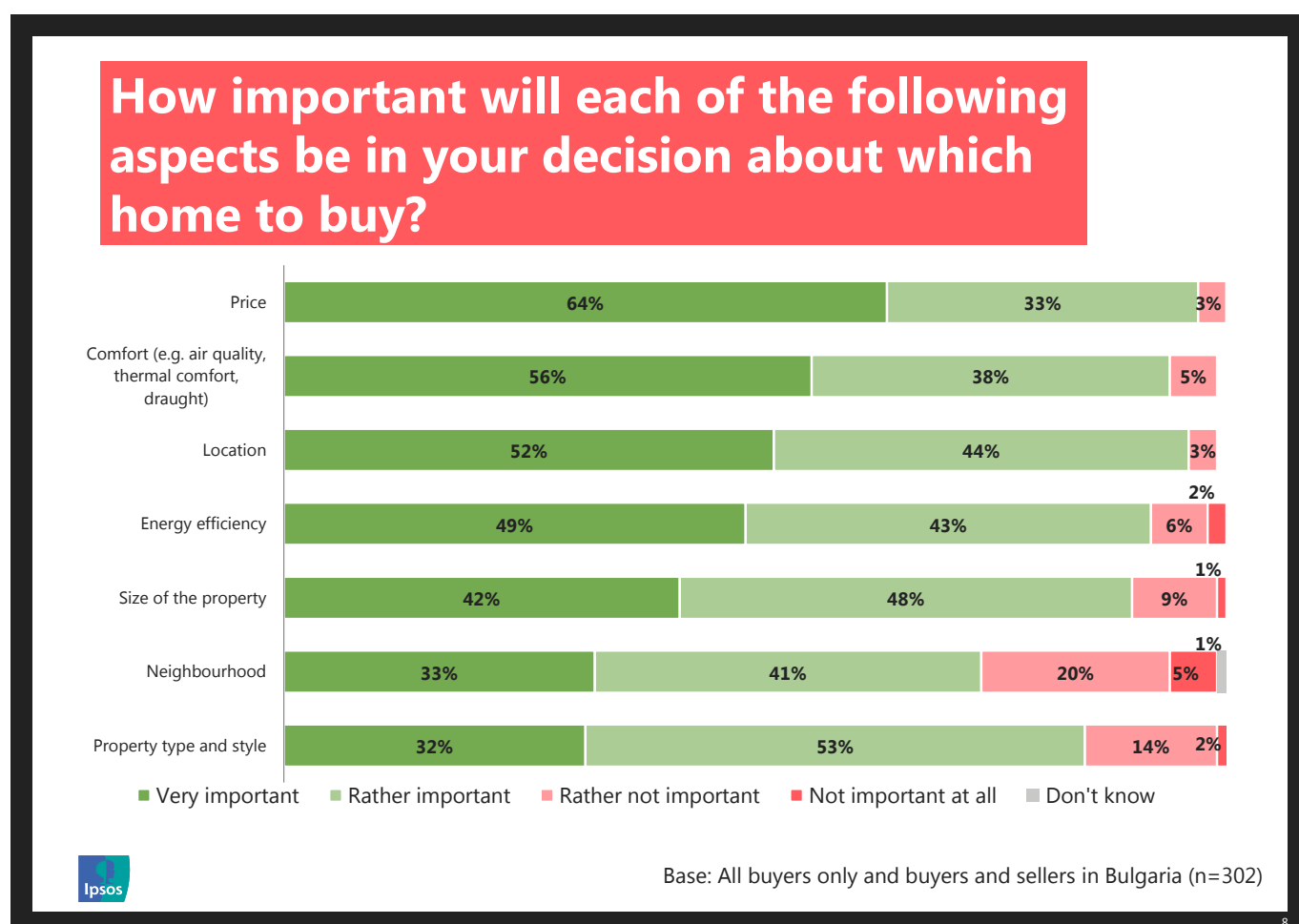
Regarding the location, the majority of these respondents are attempting to buy or looking to buy a home in a large city (43%). Around a quarter are attempting to buy in the suburbs or outskirts of a large city (29%) and around one in ten are attempting to buy or thinking about buying in a rural area, or in a town or small city (11% and 10% respectively). Almost one in ten of these respondents either don't know or have no specific preference about the location of the home they are attempting to buy or thinking about buying (8%).

In terms of size, over half are attempting or looking to buy a home with two bedrooms (52%). Three in ten respondents are attempting to buy or looking to buy a home with three bedrooms (30%) and around one in ten are attempting to buy or looking to buy a home with one bedroom (11%). Just over one in twenty respondents think the home should have more than three bedrooms (6%) and a small minority either don't know or have no specific preference (2%).

Of those respondents who are looking to buy, the majority are looking to buy a newly built home, or planning to build the home themselves (35%). Almost one in three are looking to buy a home that is ready to move in to (27%). One in ten buyers are looking to either renovate a home or buy a recently renovated home (10% and 9% respectively).

When asked about the importance of certain aspects in their decision regarding which home to buy, "energy efficiency" was the fourth most selected aspect out of seven aspects. Figure 1.3 shows that over nine in ten respondents think that energy efficiency will be an important aspect in their purchasing decision, with almost half of respondents stating that energy efficiency will be "very important" and over four in ten stated that it will be "rather important" in their decision about which home to buy (49% and 43%).

Figure 1.3: Importance of particular aspects when buying a home



Buyers attitudes towards energy efficiency

Buyers and those who were looking to buy a house were asked a series of questions about energy efficiency and their purchasing decisions.

Figure 1.4 below shows what information about energy efficiency will be important to respondents who answered that energy efficiency will be an important aspect in their decision about which home to buy. Respondents are most likely to reply that information about energy renovations completed in the past, heating system and other equipment, and the specifications of the building construction will be important in their decision (73%, 64% and 62% respectively). Furthermore, around half of respondents think that information on the comfort conditions e.g. air quality, thermal comfort, draught and the building's features e.g. stability, humidity, executed maintenance will be important (all 53%). In contrast, around one in three think that results from an energy audit or an energy performance certificate will be important (32% and 30% respectively).

Figure 1.4: Energy efficiency information that is important in decision making

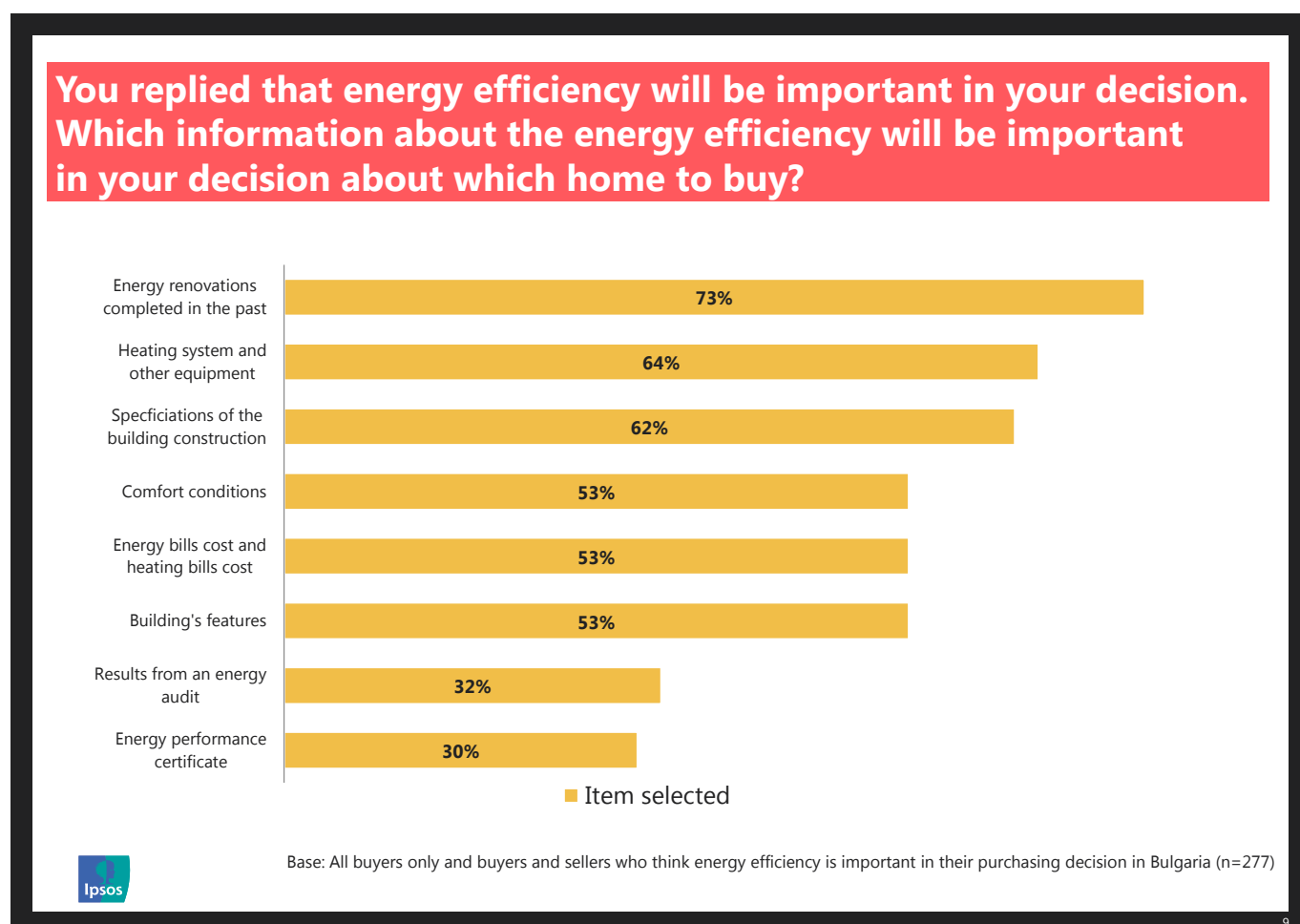
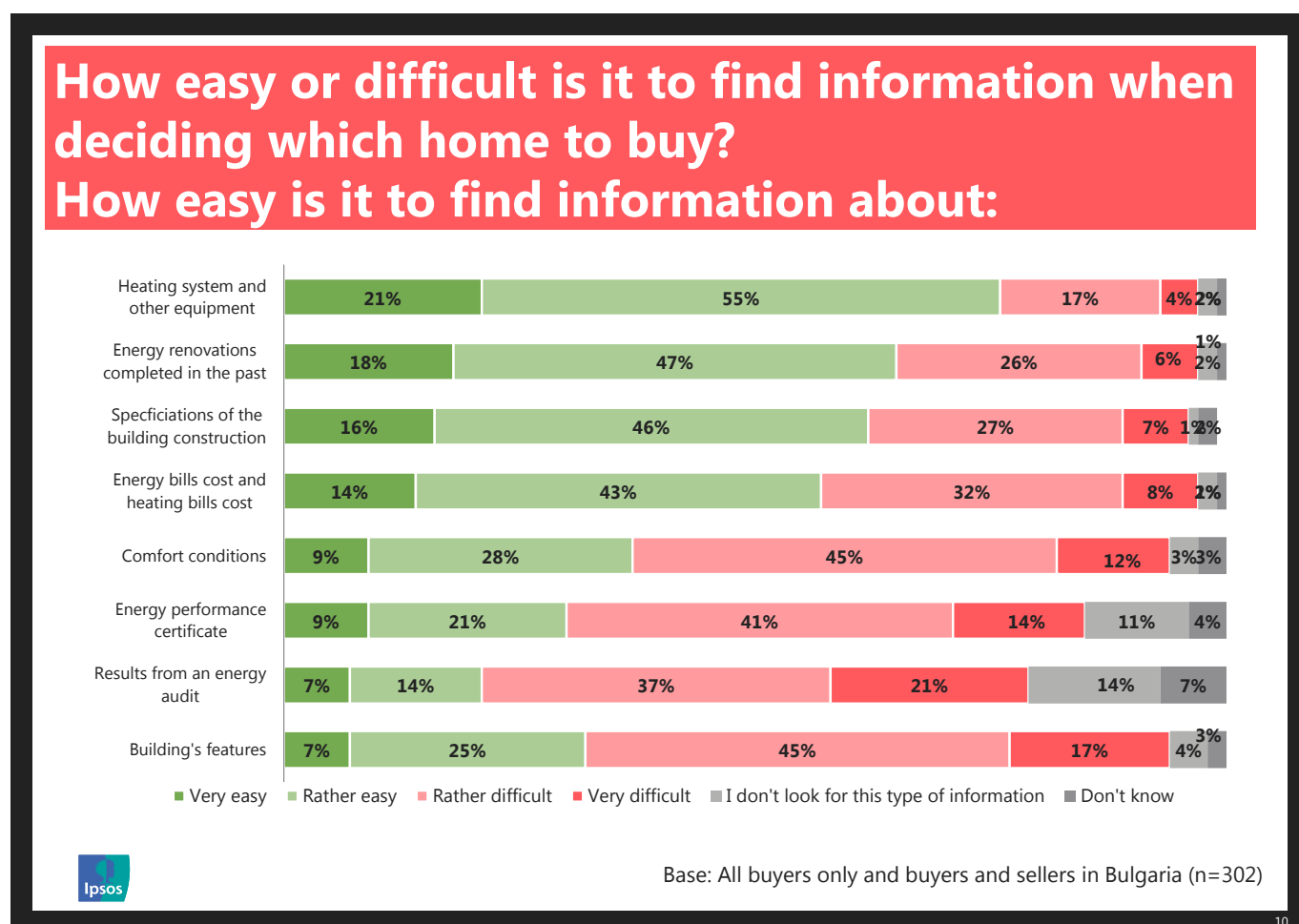


Figure 1.5 shows that the top three pieces of information that respondents who consider energy efficiency important are also the top three pieces of information that buyers find easiest to find information about. Buyers find it easiest to find information about the heating system and other equipment, energy renovations completed in the past and the specifications of the building construction (76%, 65% and 62% respectively) when deciding to buy a home. In contrast, over half of buyers find it difficult to get information on the energy performance certificate (55%), with more than one in

ten finding it very difficult (14%). Over half of buyers' state that it is difficult to find information on results from an energy audit (58%), with around one in five finding it very difficult (21%). Around one in ten respondents stated that they don't look for either of these types of information (11% "energy performance certificate" and 14% "results from an energy audit").

Figure 1.5: Ease of finding information about energy efficiency



Building the renovation roadmap

When asked about whether they would consider having an energy audit of the house/apartment they are about to buy, around two thirds said that they would consider it (64%). In contrast only a small minority of homeowners said that they had had an energy audit completed for their home (3%). Of those who had not considered having an energy audit, the main reason was that they had not thought about it (43%). Around one in five respondents did not know who would conduct the audit or thought it would be too costly (22% and 18% respectively).

1.3 Summary of results for homeowners

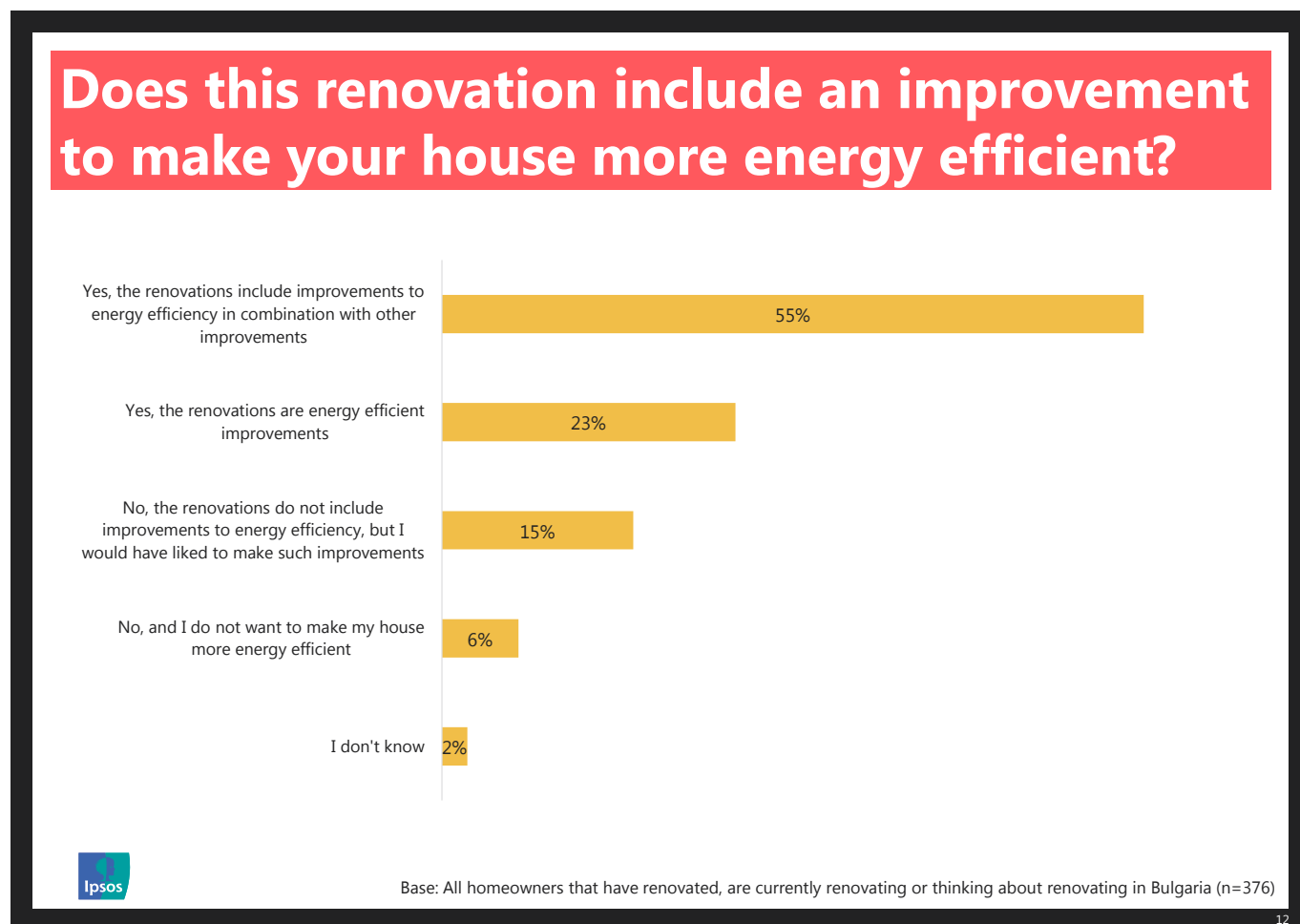
Homeowners were asked whether or not they had completed a renovation project in the past five years. Renovating is described as major changes to the physical properties of the home. This includes fitting a new bathroom, adding an extra room, fixing the roof, replacing the heating or the cooling system, or installing insulation. The term does not include DIY, redecorating, or changing appliances e.g. new kitchen stove, air-condition unit, although these may be done alongside

more major renovations. In Bulgaria, 456 respondents are homeowners. Of these homeowners, more than eight in ten have completed a renovation in the past five years (82%).

Homeowners who have completed, are currently completing or thinking about completing a renovation

Figure 1.6 shows how energy efficient homeowners think their renovation is or will be. Over half of respondents think that the renovations do or will include improvements to energy efficiency in combination with other improvements (55%) and almost a quarter think that the renovations are energy efficient (23%). Of those who do not think that their renovations are or will be energy efficient, 15% would like to make such improvements and a small minority (6%) do not want to make their house more energy efficient.

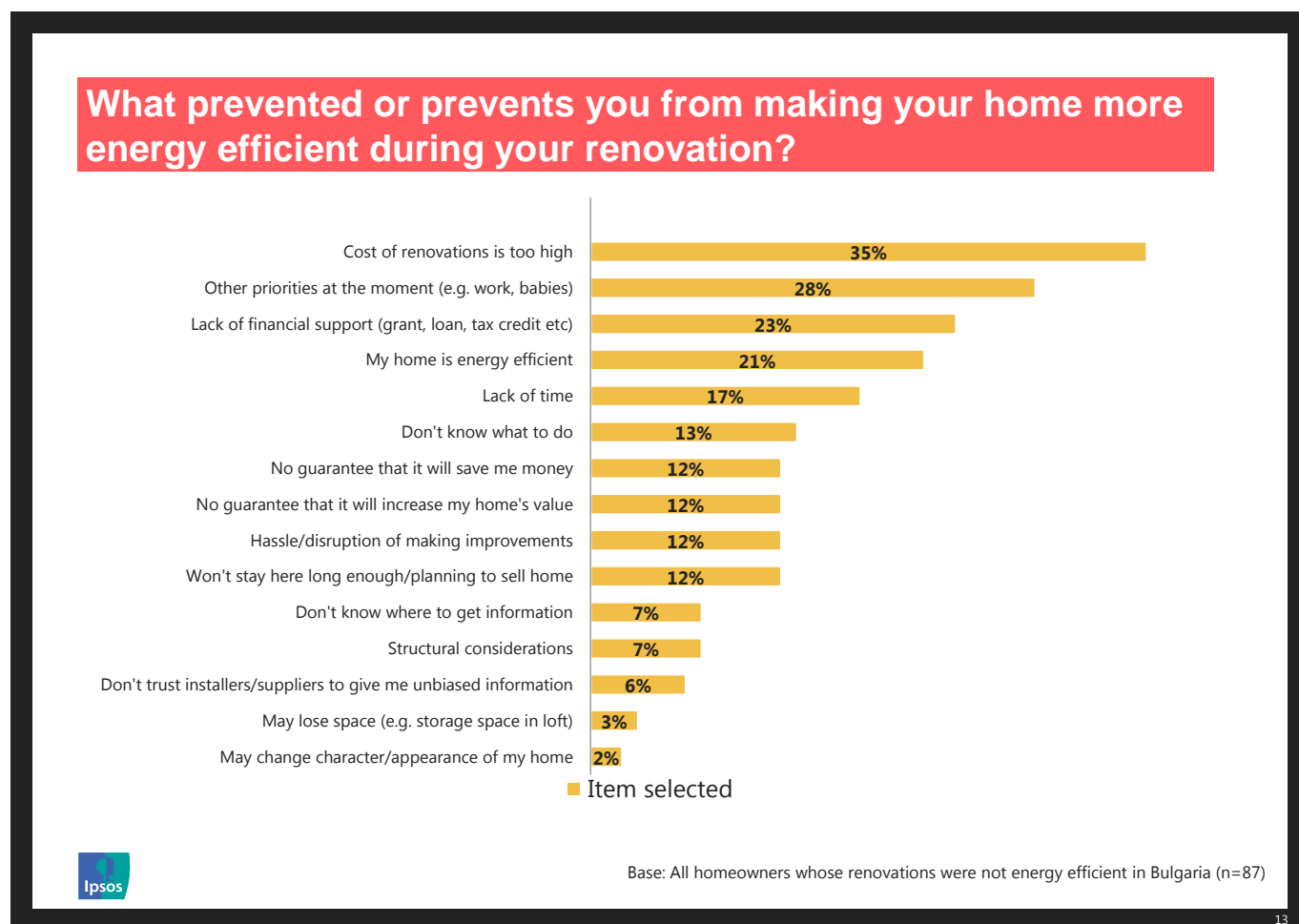
Figure 1.6: Energy efficient renovations



Barriers to energy efficient renovations

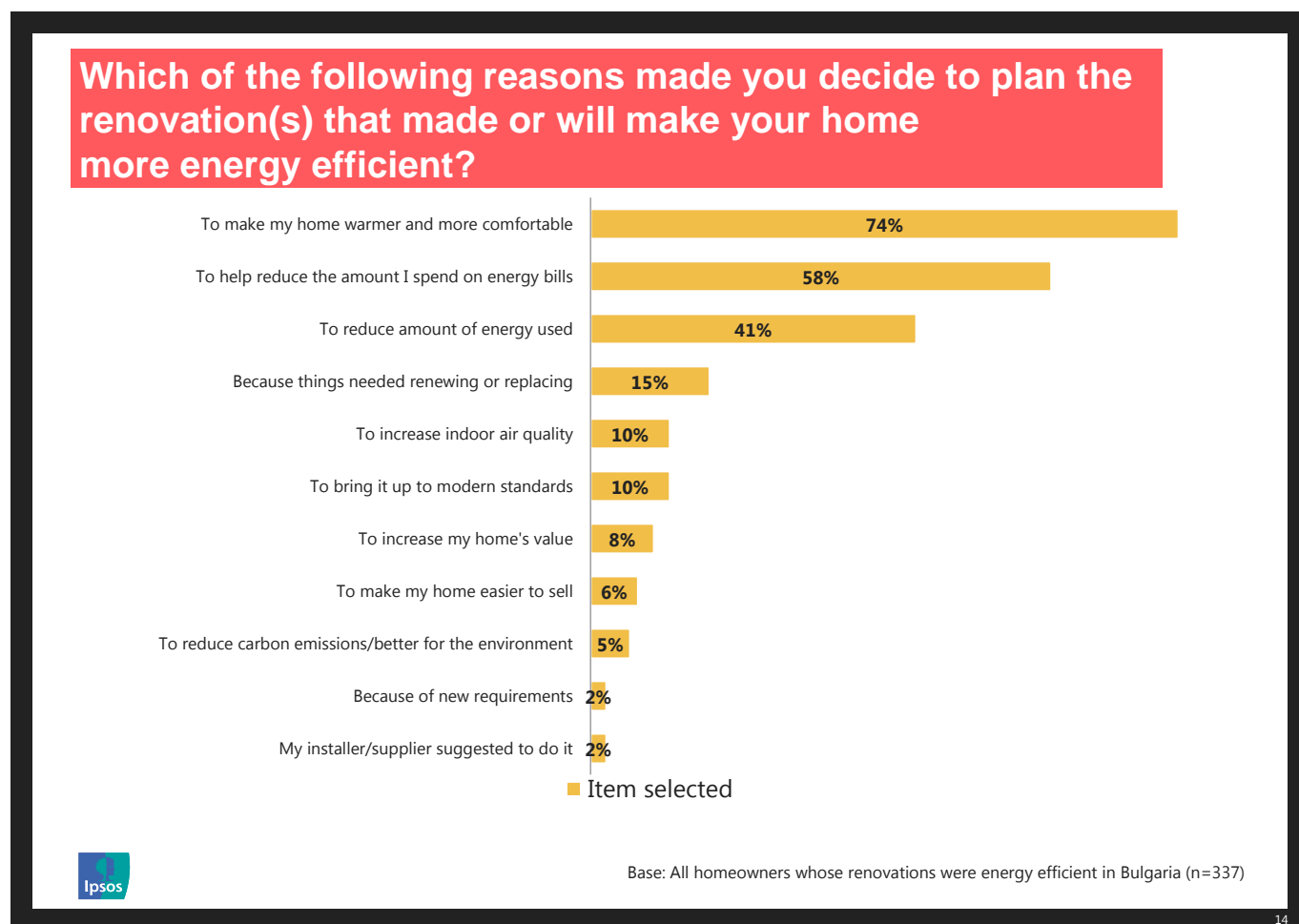
Figure 1.7 shows the reasons that prevented or prevent individuals, who are or have renovated their homes, from making the renovations energy efficient. In Bulgaria, the top three reasons cited are that the cost of renovations is too high (35%), that they have other priorities at the moment e.g. work, childcare (28%) and that there is a lack of financial support e.g. grants, loans or tax credits (23%).

Figure 1.7: Barriers to energy efficient renovations



Reasons for making energy efficient renovations

Figure 1.8 shows the reasons homeowners decided to plan the renovation(s) that made or will make their homes more energy efficient. Almost three quarters of respondents stated that they took this decision to make their home warmer and more comfortable (74%). The next most cited reasons are to help reduce the amount they spend on energy bills (58%) and to reduce the amount of energy used (41%).

Figure 1.8: Reasons for making energy efficient renovations

Types of renovations

Homeowners who had completed a renovation in the past five years, were currently completing a renovation or thinking about completing a renovation were asked about the types of renovation they plan to complete or had completed. The findings are summarised below.

- **Thermal insulation (roof/wall)** The majority of respondents had completed this type of renovation (44%) or were thinking about doing this (29%). Around one in ten respondents were in the process of installing thermal insulation or would like to do so at some point in time (11% and 12% respectively).
- **Changing glazing type (double/triple)** Over half of respondents had completed this type of renovation (57%) and one in ten are in the process of changing the glazing type of their home (9%). One in five are thinking about doing this (19%) and one in ten would like to do this, but not at this stage (10%).
- **Passive measure (e.g. solar shading, cool roof)** Three in ten respondents have installed a passive measure during a past renovation (31%) and almost one in ten are in the process of doing this (7%). A further one in five are either thinking about doing this or would like to do this, but not at this stage in their renovation (19% and 22% respectively).

- **Replacing an old boiler with a more efficient condensing boiler** One in ten respondents have done this in the past (10%), with a further 7% who are in the process of doing this. Slightly over a quarter of respondents don't think it is possible to replace an older boiler with a more efficient condensing boiler (27%) and more than one in ten don't want to do this or won't do this during their renovation (13%).
- **Renewable heating system (e.g. biomass boiler, heat pump or solar thermal system)** A quarter of respondents would like to install a renewable heating system, but not at this stage in their renovation (26%) and a further one in five are thinking about doing this (22%). Around one in ten respondents have done this in the past and a further one in twenty are in the process of doing this (12% and 7% respectively). Almost one in five respondents don't consider it to be possible in their home and around one in ten do not want to or won't install a renewable heating system during their renovation (18% and 13% respectively).
- **Installing technology for renewable electricity supply (e.g. solar panels, micro-winder turbine)** Installing technology for a renewable electricity supply is the type of renovation that is least likely to have been completed (6%) and a small proportion of respondents are in the process of doing this (7% and 5% respectively). However, almost one in five respondents are thinking about doing this during their renovation and almost four in ten respondents would like to do this but not at this stage (18% and 38% respectively).

Approach to completing renovations

Homeowners who are planning to or have completed renovations were asked a series of questions about their plans for renovation. This included questions about how they planned the work, who will complete the work, how the work will be financed and the length of time they think will be required to complete the renovations.

Of those homeowners who are planning to complete more than one type of change to their home during their renovation, the majority plan to take a staged approach to their renovation: 43% planned for all of their renovations at the same time and will then complete them step-by-step and 43% planned to complete one renovation, but only later, start thinking about the next renovation.

Those who had completed their renovations tended to hire one or more contractors to do the renovation(s) (56%), around a quarter did some parts of the renovation(s) themselves (26%) and almost one in five undertook the renovations themselves (18%). Similarly, over half of respondents who are planning to undertake renovations will hire one or more contractors to do the renovation(s) (61%) and around one in five will do some parts of the renovation(s) themselves (22%). One in ten of these respondents will undertake the renovation(s) themselves and a similar amount have not yet decided (10% and 7% respectively).

To finance the renovations, around three-quarters of respondents either used or plan to use money that they had or have saved up (76%). The next most likely type of financing was to take a loan from their bank (37%). Very few respondents stated that the use or plan to use a grant from the government or a subsidised programme (2%).

1.4 Asking for advice about energy efficiency and renovation measures

All respondents in Bulgaria were asked about who they would consult with or trust for advice about renovation measures and energy efficiency.

In Bulgaria, respondents are most likely to trust their friends, family or colleagues when asking for advice about **renovation measures** (67%). After this, respondents are most likely to trust an internet search (37%), a builder or contractor (29%) or a bank (18%). Almost one in ten would trust the energy performance certificate for advice about renovation measures (9%).

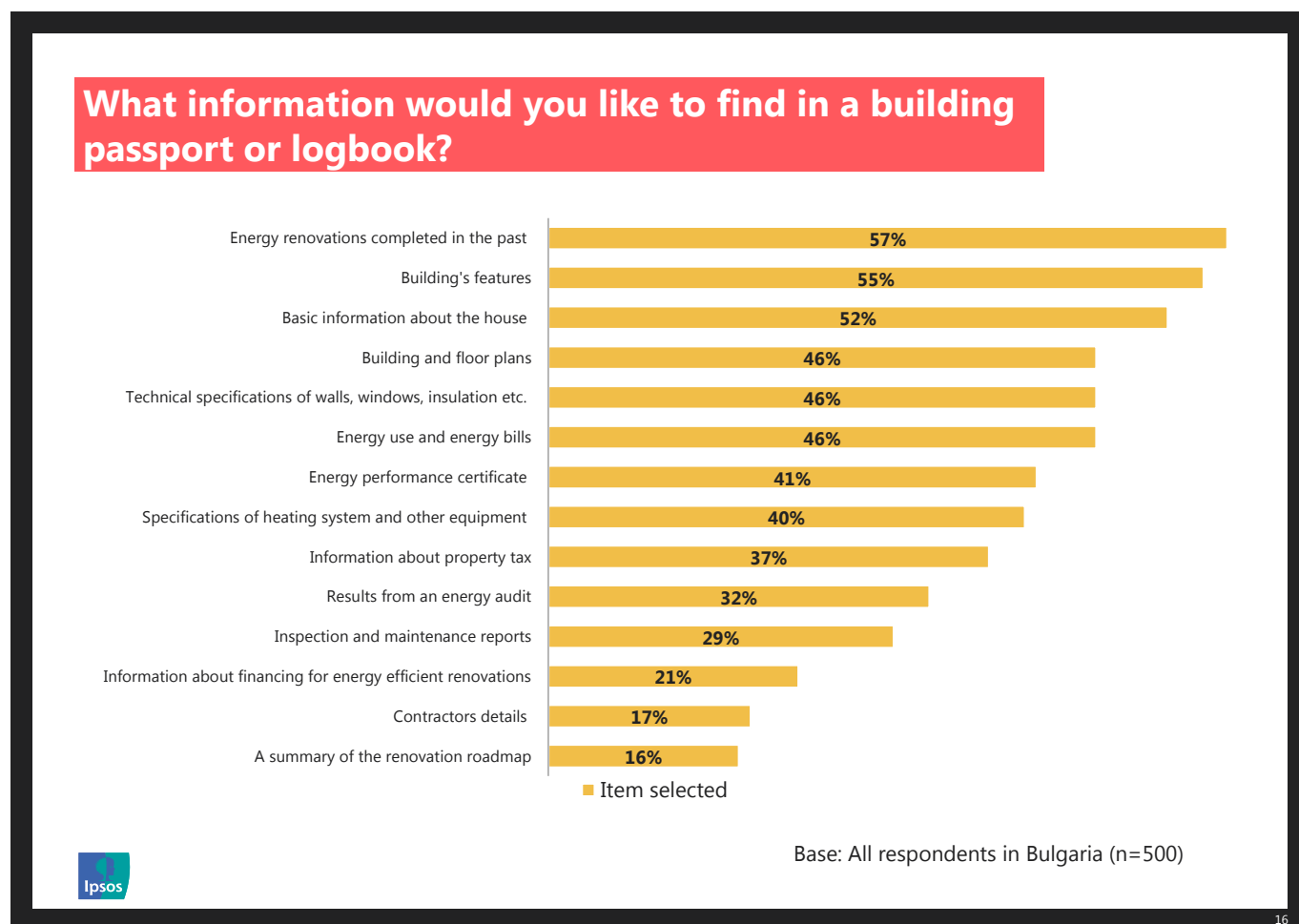
When asked about who they would consult for information on **energy performance**, the most common response was to use a general internet search (36%) followed by consulting with the builder or contractor (26%), or the previous owner or occupier (20%). Almost one in five respondents said they would consult the energy performance certificate (18%).

Turning to **financial advice**, respondents are most likely to trust their friends, family or colleagues when asking for financial advice about renovation measures (61%). After this, respondents are most likely to trust an internet search (30%), a builder or contractor (20%) or a bank (18%). One in ten respondents would not trust anyone and would be the sole person involved in the decision (10%).

1.5 The building passport or logbook

All respondents were asked to imagine that each home has a building passport or logbook, i.e. a document or register that brings together information about the home. They were informed that current legislation specifies that for each building that is put up for sale an Energy Performance Certificate must be available, but that there might be other information that would be worth adding in the building passport or logbook for each home. Following this, respondents were asked a series of questions about the building passport or logbook.

Figure 1.9 shows the information that respondents in Bulgaria would like to find in a building passport or logbook. The top three pieces of information that respondents would like to find are information on energy renovations, the building's features and basic information about the house (57%, 55% and 52% respectively). Around one in three would like to find information that shows results from an energy audit (32%) and around one in five would like information about financing for energy efficient renovations (21%). More than one in ten said that they would like to find a summary of the renovation roadmap or a guide about energy efficient measures (16%). Generally, there was little observable difference in the results between respondents with different types of homeownership. However, there are a couple of notable difference. Homeowners were more likely to want to find information on the building's features e.g. stability, humidity, executed maintenance etc. than buyers only, or sellers and buyers (60% versus 54% and 49% respectively). On the other hand, sellers and buyers, and buyers only are more likely to want to find results from an energy audit in the building passport or logbook than homeowners (40% and 31% versus 25% respectively).

Figure 1.9: Information in a building passport or logbook

When asked who should be responsible for keeping the logbook with all relevant information about the house up-to-date the responses were fairly evenly spread across the three main response options. Respondents were slightly more likely to say that the logbook could be passed on from owner to owner and that new owners would be responsible for keeping it up-to-date (36%) rather than that each owner would be responsible for creating their own logbook or that the municipality would be responsible, with information being kept in a building registry (30% and 29% respectively).

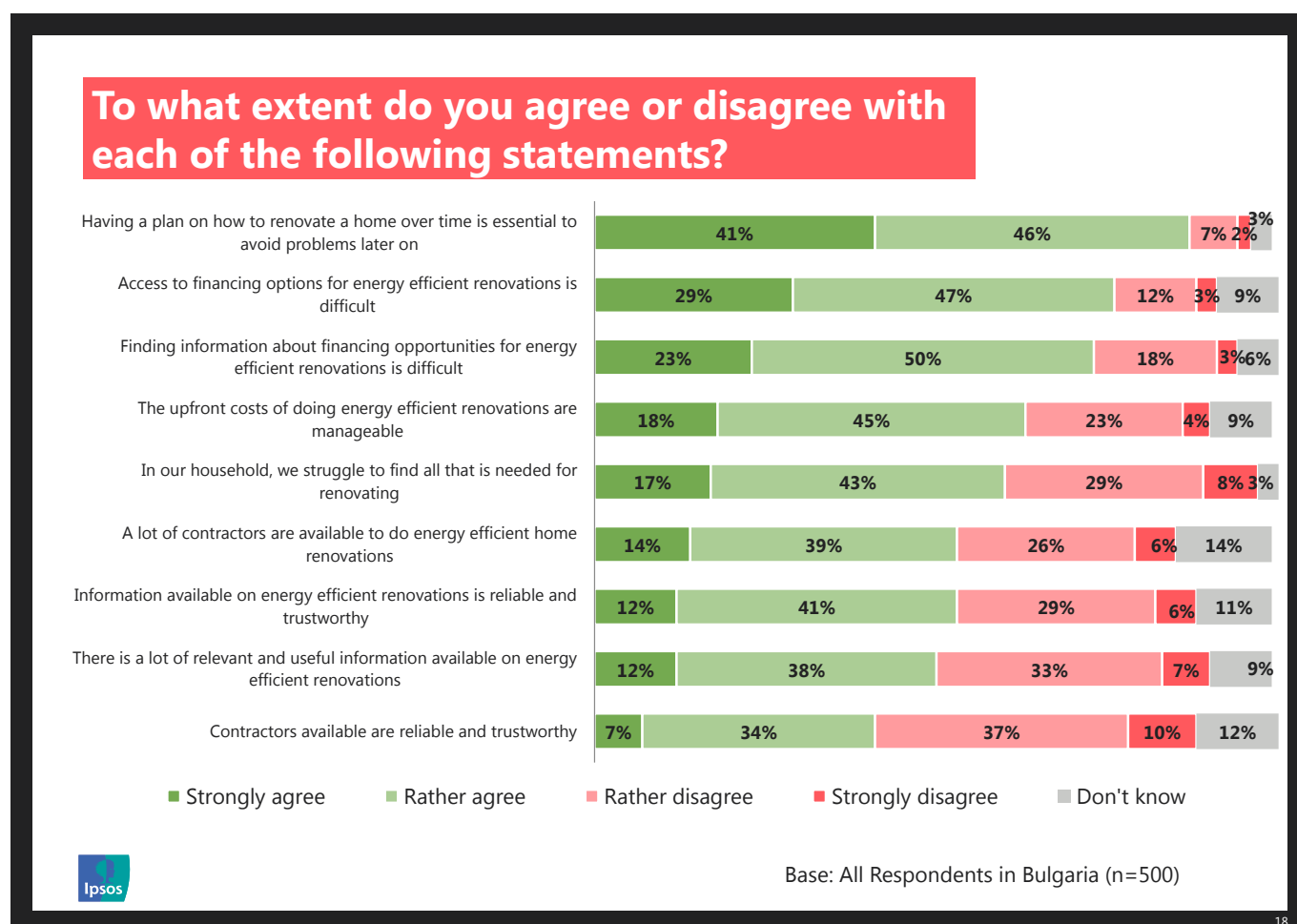
Apart from the homeowner, the top three persons that respondents in Bulgaria think should have access to the logbook with all relevant information about the house are the municipality (40%), potential buyers (39%) and the land/building registry agency (26%). As might be expected, sellers and buyers, and buyers only are more likely than homeowners to state that potential buyers should have access to the building passport or logbook (44% and 41% versus 31% respectively). In addition, around a quarter of sellers and buyers think that energy advisors (energy auditor, qualified experts) should have access to the building passport or logbook, compared to less than one fifth of either buyer(s) only, or home owners (26% versus 18% and 14% respectively).

When asked about their interest in the logbook, half of respondents said that they are interested, but would not be willing to pay for it (52%) and around a third said that they are interested and would be willing to pay for it (35%). A small proportion said that they are not interested in the building passport or logbook (6%) and almost one in ten said that they do not know (7%).

1.6 The renovation roadmap

Before asking about the renovation roadmap itself, respondents were asked about their general attitudes towards renovation and energy efficient renovations. Although the majority of respondents said that they would consider having an energy audit of the house/apartment they are thinking about buying, the majority have never had an energy audit completed for their home (64% versus 97%). Figure 1.10 below shows that the majority of respondents agree that having a plan on how to renovate a home over time is essential to avoid problems later on (87%). However, around three quarters of respondents agree that access to financing options for energy efficient renovations is difficult and one in four disagree that there is a lot of relevant and useful information available on energy efficient renovations (76% and 40% respectively). Again, the results by type of building ownership were broadly the same. However, sellers and buyers, and buyers only are more likely than homeowners to agree that information available on energy efficient renovations is reliable and trustworthy (42% and 41% versus 27%).

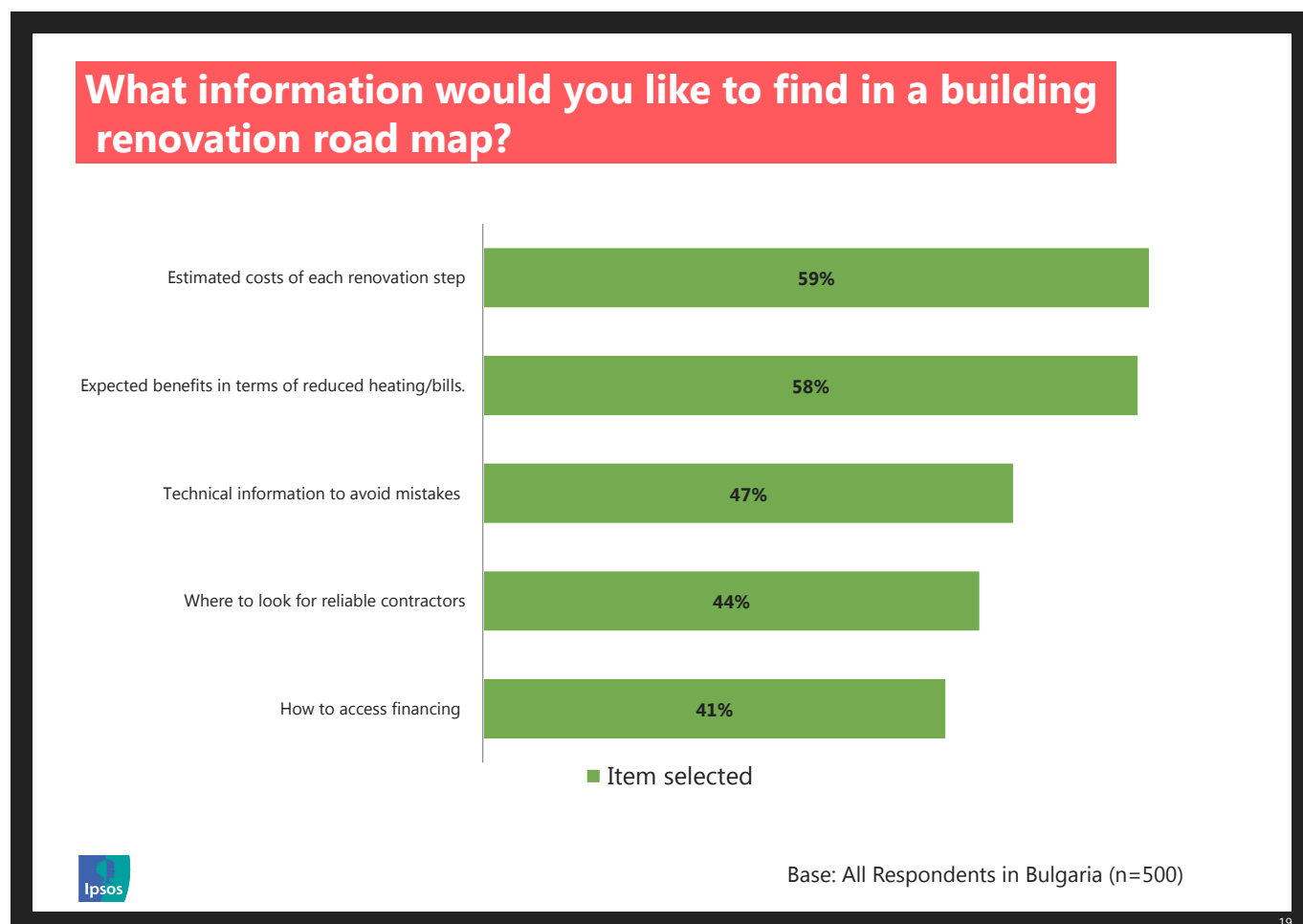
Figure 1.10: Attitudes towards energy efficiency and renovations



Respondents were asked to imagine that they could have a building renovation roadmap i.e. a document (in electronic or paper format) outlining a long-term step-by-step renovation plan or “roadmap” for their home. The roadmap would show which step to take, when and what to consider when implementing each step. It would give individuals personalised advice about renovation measures, specific to their situation and their home, based on an on-site energy audit. Figure 1.11 shows the items that respondents would most like to find in a building renovation road map. The most cited items are the estimated costs of each renovation step and the expected benefits in terms of reduced heating/bills (59% and 58%).

respectively). Around half of respondents would also like to find technical information to help them avoid mistakes (47%). By type of building ownership, homeowners are more likely to want to find information on how to access financing in a renovation roadmap than either buyers only or sellers and buyers (48% versus 41% and 34% respectively).

Figure 1.11: Information in a renovation roadmap



Around half of respondents think that a plan to complete a renovation over the next 5 years would be the ideal time-frame for such a road map (53%). Almost a quarter think that a plan to complete a renovation over the next 10 years would be the ideal time-frame (24%) and around one in ten think that a plan to complete the renovation over the next 20 years would be the ideal timeframe. A small proportion think that a plan to complete the renovation over the next 15 years would be the ideal timeframe (6%). Those who are only looking to buy, were more likely than homeowners or those looking to buy and sell to state that a plan to complete the renovation over the next 15 years would be the ideal timeframe for the renovation roadmap (11% versus 4%).

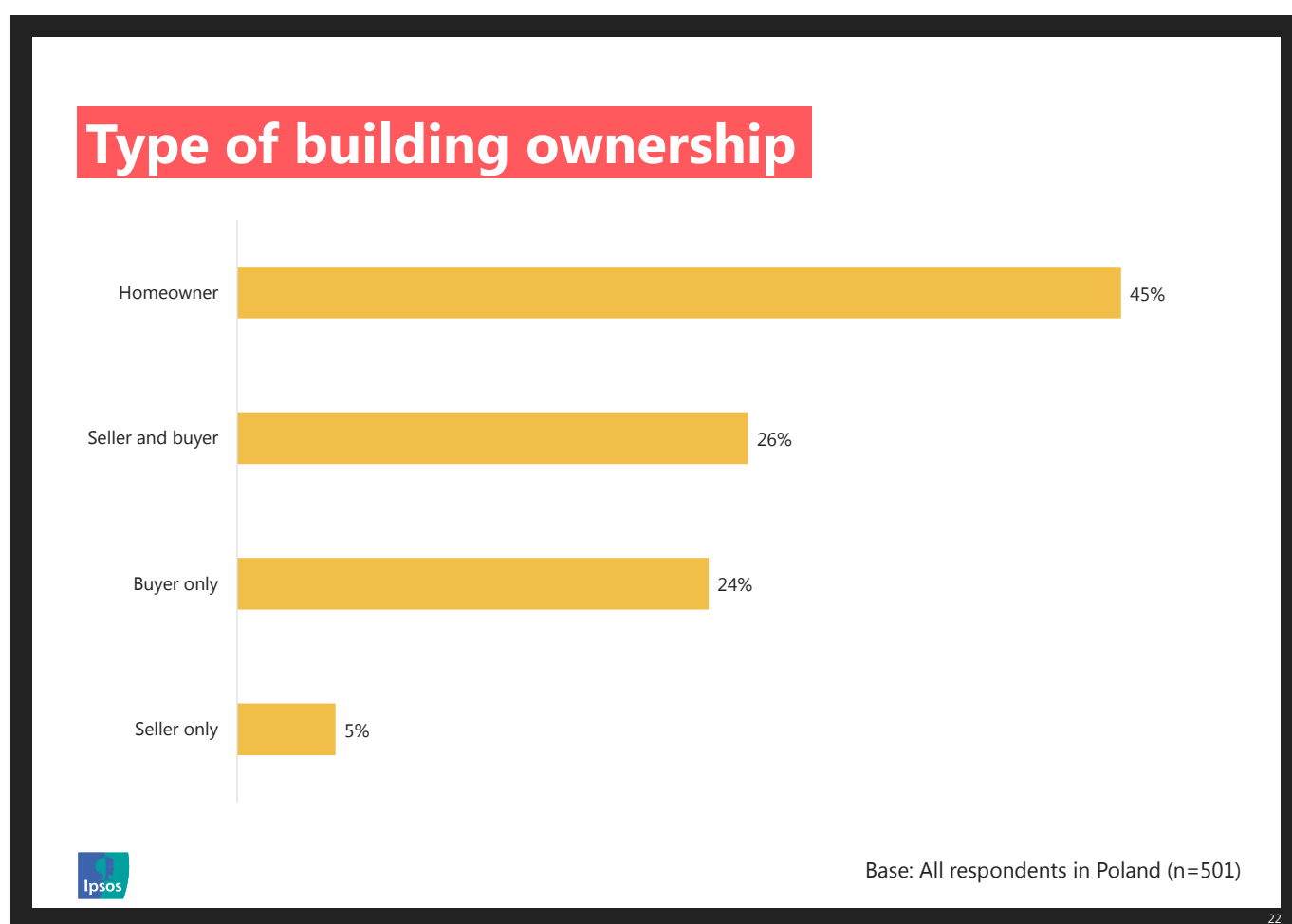
When asked about who, apart from the homeowner, could be allowed to access the building renovation roadmap, respondents were most likely to cite potential buyers, the municipality and contractors (58%, 38% and 27% respectively).

Thinking about the level of interest in the building renovation roadmap, around half of respondents would be interested, but would not be willing to pay (54%) and almost a third would be interested, and would be willing to pay for the roadmap (32%). A small proportion would not be interested in a road map (7%). By type of building ownership, buyers and sellers are more likely than homeowners to be willing to pay for the roadmap (37% versus 25% respectively).

2 Poland

In Poland, a total of 501 respondents completed the survey. During survey implementation quotas were set to ensure a representative sample was achieved and that a good mix of different types of building owners was reached. For a breakdown of the sample achieved by demographics please refer to the appendix. Figure 2.1 below shows the breakdown of the sample achieved by building ownership. Almost half of respondents are homeowners (45%) and around a quarter are either sellers and buyers or buyers only (26% and 24% respectively). A small proportion of respondents are sellers only (5%).

Figure 2.1: Type of building ownership

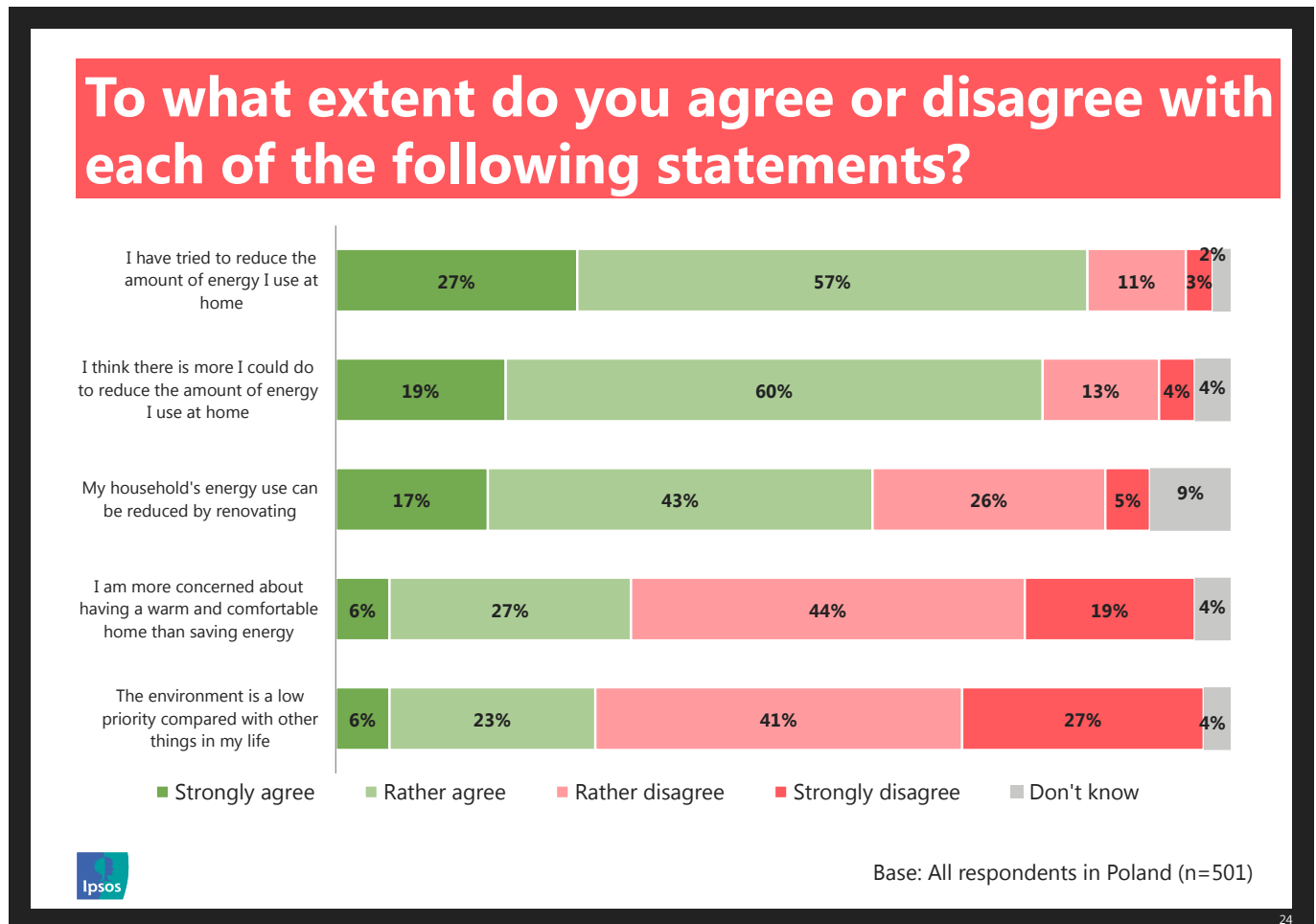


General attitudes to energy efficiency in Poland

Figure 2.2 below shows respondents' attitudes towards energy use and their concerns for the environment. In Poland, the majority of respondents have tried to reduce the amount of energy they use at home and a similar proportion think that there is more they could do to reduce the amount of energy they use at home (84% and 79% respectively). Whilst almost three fifths of respondents think that their household's energy use can be reduced by renovating (60%), around three in ten respondents disagree with this statement (31%). Around one in ten respondents don't know if their household energy

usage could be reduced by renovating (9%). Thinking about the environment in general, more than two thirds of respondents disagree that the environment is a low priority compared with other things in their life (68%).

Figure 2.2: General attitudes to energy use/concerns for the environment



24

Summary of results for buyers and buyers/sellers

In Poland, the majority of buyers and those who are looking to buy and sell their home, have bought or are thinking about buying a separate house (60%). Around a quarter have bought or are thinking about buying a flat or apartment (27%). A smaller proportion are thinking about buying or have bought a semi-detached house or row/terraced house (both 6%).

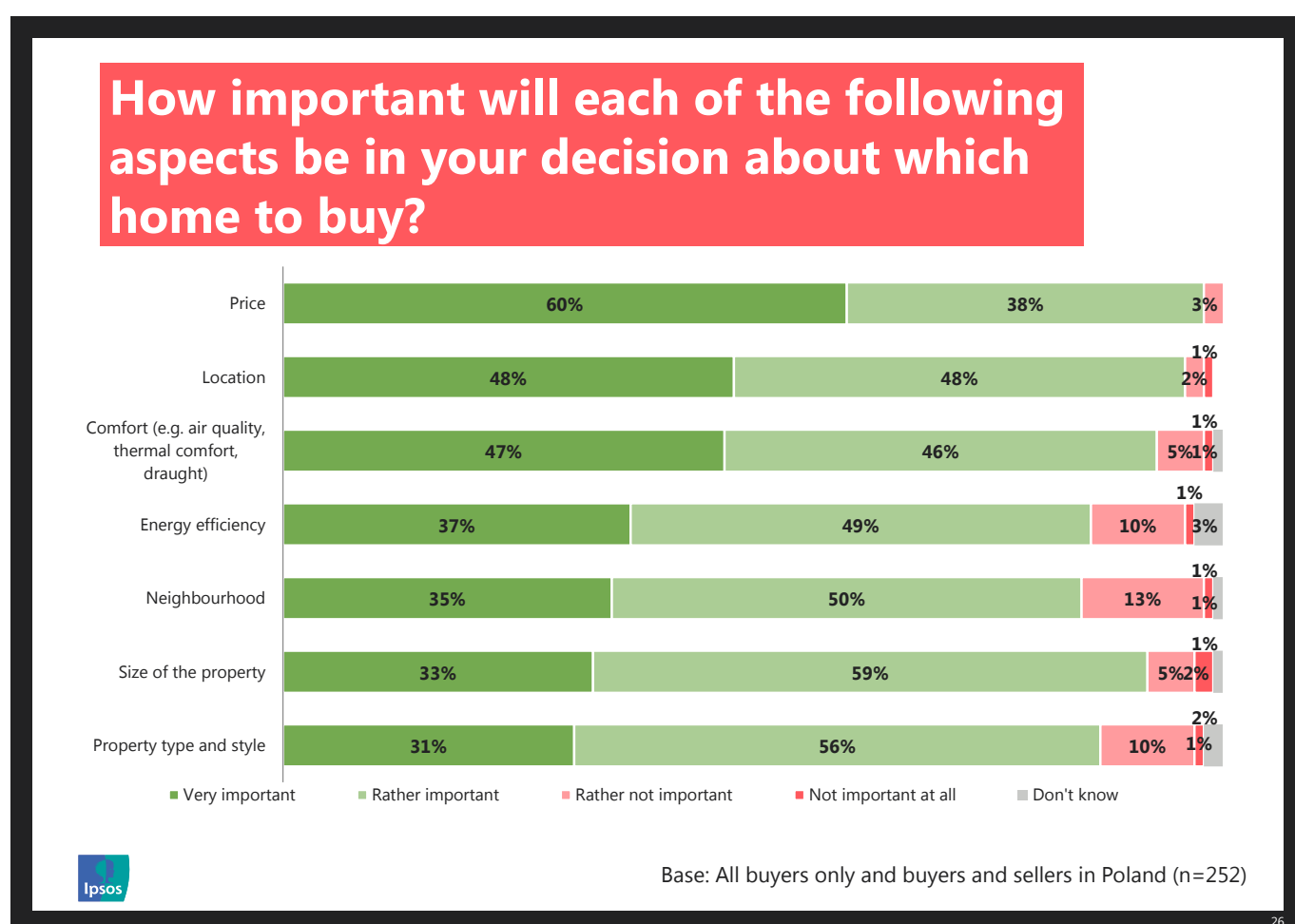
Regarding the location, the majority of respondents are thinking about buying or have bought in the suburbs or outskirts of a large city (41%). Around one in five respondents have bought or are thinking about buying in a town or small city, or in a large city (20% and 18% respectively). A similar proportion of respondents are attempting or looking to buy a home in a rural area (16%).

In terms of the size of the property, the majority of respondents are attempting or looking to buy a home with two or three bedrooms (38% and 33% respectively). A smaller proportion think that the home should have one bedroom (16%) and around one in ten think the home should three bedrooms (8%).

When asked about the type of home they are thinking about buying or have bought, the majority of respondents are looking for either a newly built home or a home that is ready to move in to (40% and 27%). One in ten are looking for a home to renovate and a similar proportion are looking for a recently renovated home (10% and 8%).

Buyers and those who are thinking about buying were asked about different aspects that are or were important in their decision to buy a home. Figure 2.3 shows what aspects are important in buyers and buyers/sellers decision to purchase a home. As might be expected, the most important aspects when deciding to buy a home are price (98%) and location (96%). Although slightly more than one in ten respondents don't think that energy efficiency will be important in their decision to buy a home (11%), the majority think that it will be important (86%) with almost four in ten saying that it will be very important (37%).

Figure 2.3: Importance of particular aspects when buying a home

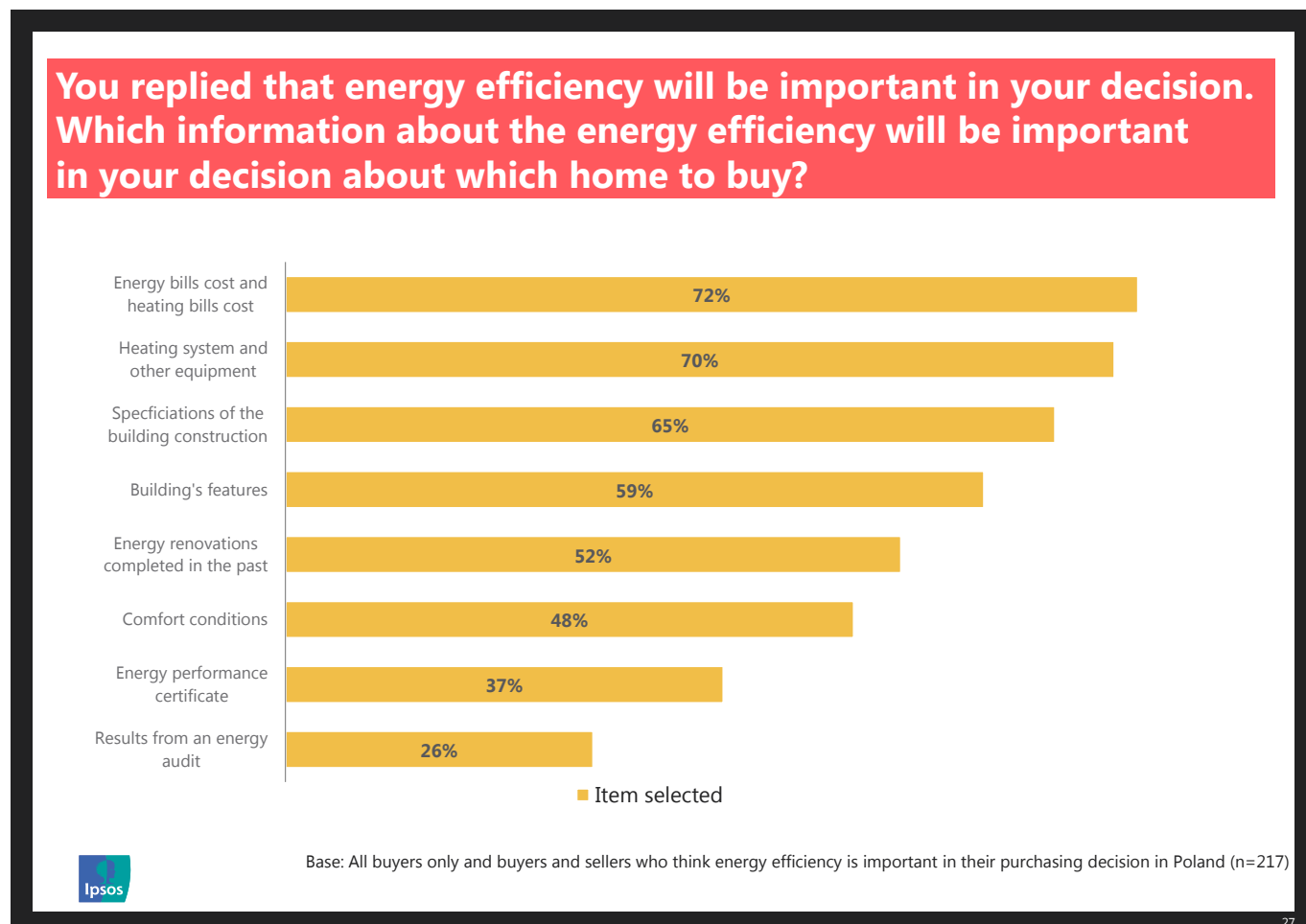


Buyers attitudes towards energy efficiency

Buyers and those who are looking to buy a were asked a series of questions about energy efficiency and their purchasing decisions. Respondents who think that energy efficiency will be important in their decision to buy a home were asked about the information they would need. Figure 2.4 shows that in Poland, the majority of respondents think that it will be important to have information on energy and heating bills cost and the heating system and other equipment in the home (72% and 70% respectively). Around half of respondents think it will be important to have information on energy

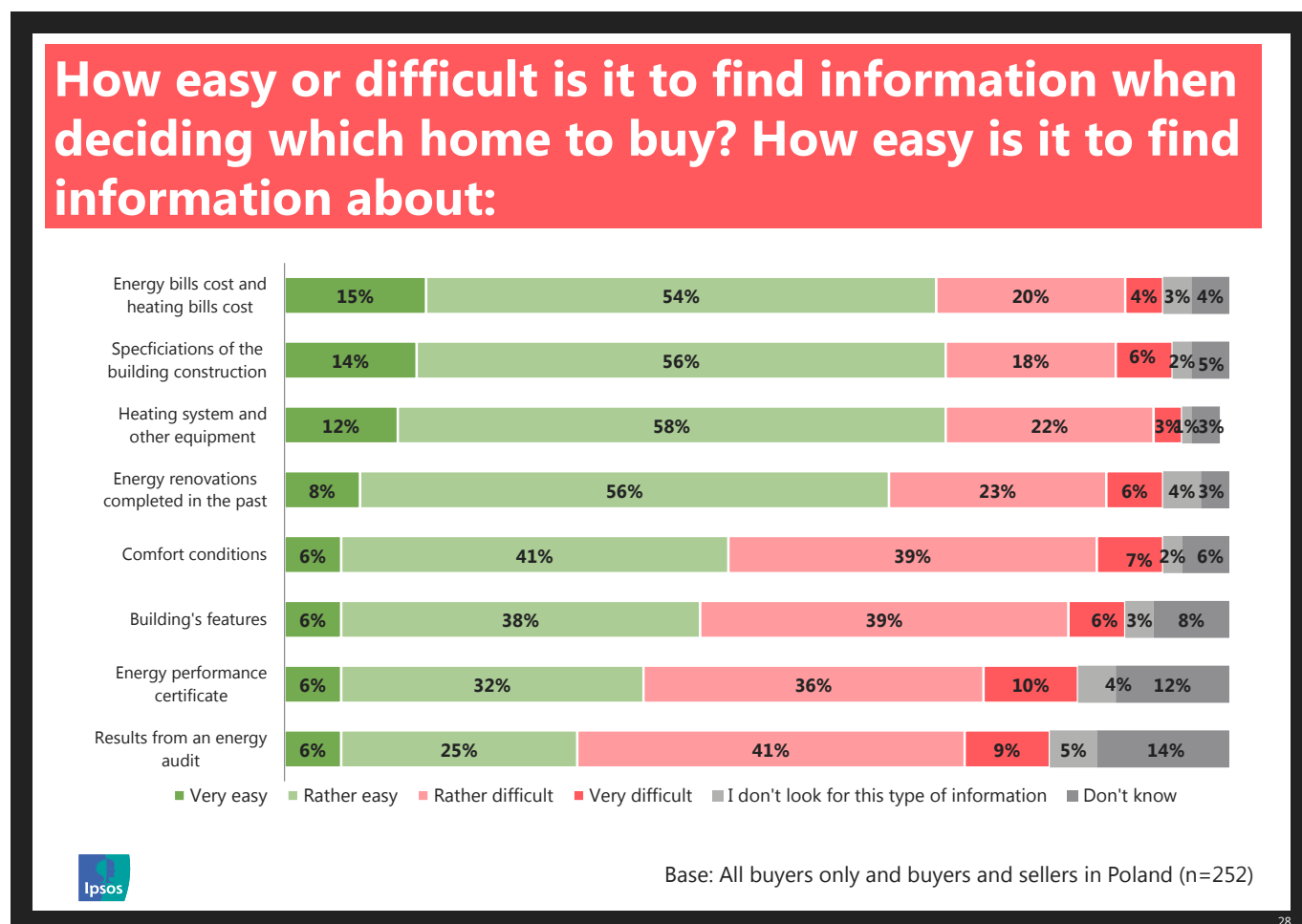
renovations completed in the past (52%). Information such as an energy performance certificate or results from an energy audit will also be important to some buyers (37% and 26%).

Figure 2.4: Energy efficiency information that is important in decision making



All respondents who are thinking about buying or have bought a home were asked how easy it is to find information on energy efficiency when they are or were deciding on buying a home. Figure 2.5 shows how easy or difficult respondents think it is to find certain types of information. Buyers and those who are looking to buy and sell find it easy to source information about energy bills and heating costs, specifications of the building construction and the heating system and other equipment (69%, 70% and 70% respectively). In contrast, around half of respondents think it is difficult to find the energy performance certificate or results from an energy audit (46% and 50% respectively). A small proportion of respondents said that they did not look for either of these types of information (4% and 5% respectively).

Figure 2.5: Ease of finding information about energy efficiency



Summary of results for homeowners

Homeowners were asked whether or not they had completed a renovation in the past five years. Renovating is described as major changes to the physical properties of the home. This includes fitting a new bathroom, adding an extra room, fixing the roof, replacing the heating or the cooling system, or installing insulation. The term does not include DIY, redecorating, or changing appliances e.g. new kitchen stove, air-condition unit, although these may be done alongside more major renovations. In Poland, 457 respondents are homeowners. Of these homeowners, around seven in ten have completed a renovation in the past five years (71%).

Homeowners who have completed, are currently completing or thinking about completing a renovation

Homeowners who have renovated their home in the past five years or are thinking about renovating were asked whether the renovation included an improvement to make their house more energy efficient. In Poland, the majority of respondents in this category are interested in energy efficient renovations. Around four in ten respondents' renovations have or will have energy efficient improvements in combination with other improvements, such as making their home look better and one fifth of respondents' renovations have or will only have energy efficient renovations (42% and 20%).

Around a quarter of respondents' renovations did not or will not include energy efficient renovations but they would like to make such improvements (24%).

Respondents were asked about their decisions regarding energy efficient renovations. Figure 2.4 shows the reasons that prevented or prevent respondents from making their home more energy efficient during the renovation. The main reasons for not making energy efficient renovations in Poland are financial. The majority of respondents are or were prevented from making their home more energy efficient because the cost of renovations is too high (34%), there is no guarantee that it will save them money (25%) and there is a lack of financial support (grants, loans, tax credits etc) (23%). Around a quarter of respondents think that their home is already energy efficient (23%).

Figure 2.6: Barriers to energy efficient renovations

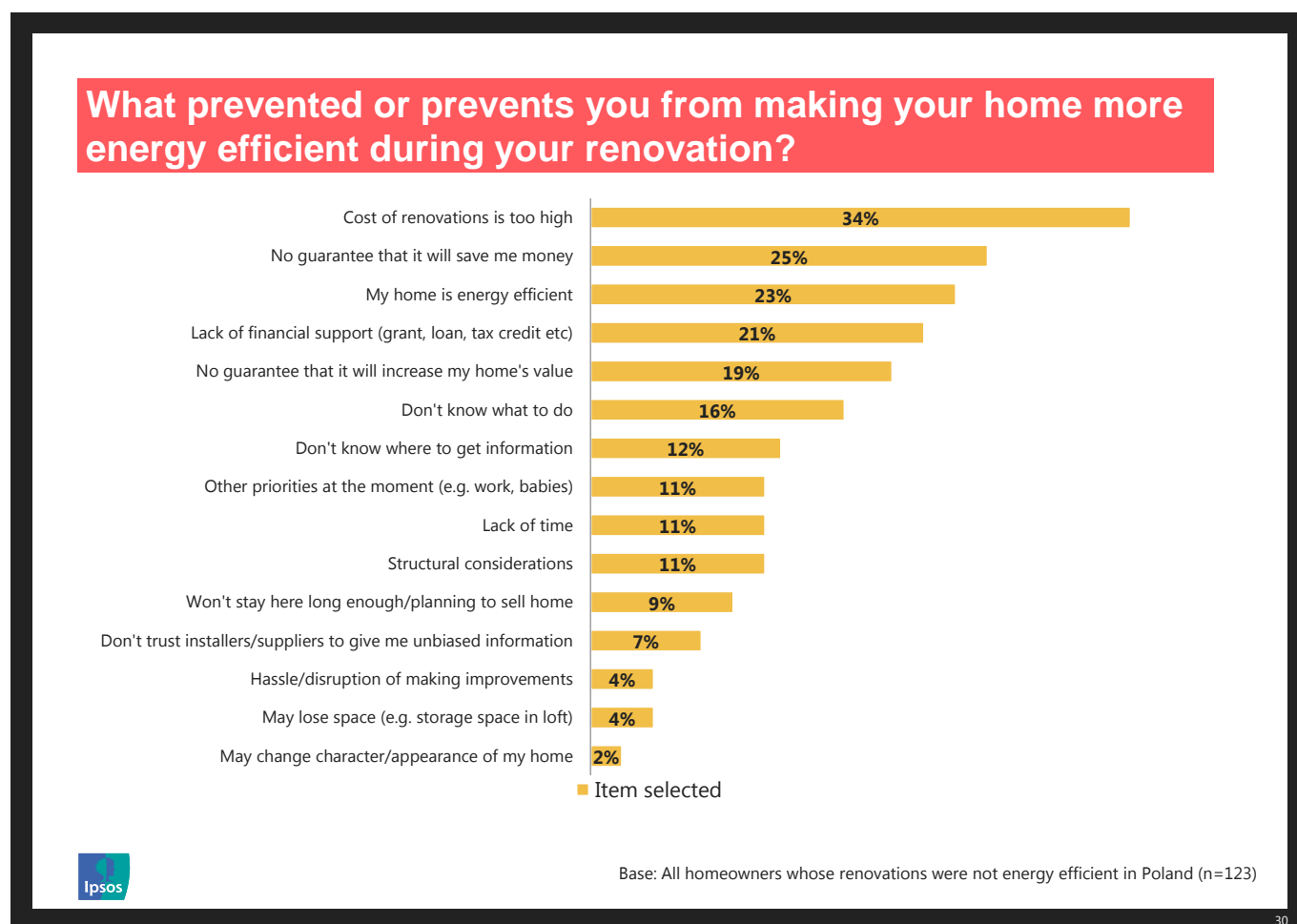
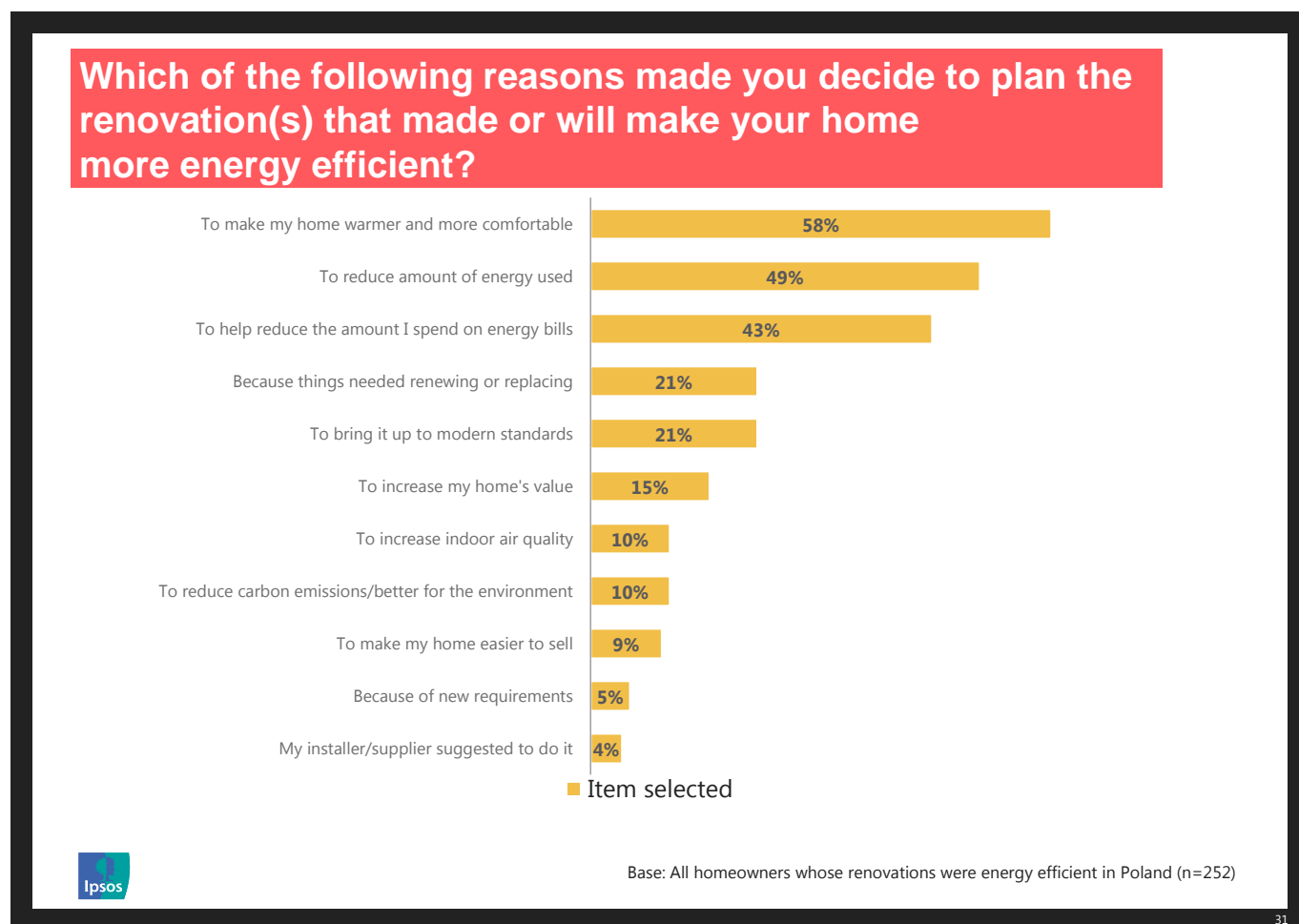


Figure 2.7 shows the reasons why respondents decided to make or plan to undertake renovations that will make their home more energy efficient. The majority of respondents decided the plan their renovation in this way to make their home more comfortable and to reduce the amount of energy used (58% and 49% respectively). Around one fifth of respondents decided to make or plan to undertake renovations either because things needed renewing or replacing or to bring their home up to modern standards (both 21%).

Figure 2.7: Reasons for making energy efficient renovations



Types of renovations

Homeowners who had completed a renovation in the past five years, were currently completing a renovation or thinking about completing a renovation were asked about the types of renovation they had completed. The findings are summarised below.

- **Thermal insulation (roof/wall)** Around a quarter of respondents have done this in the past or are thinking about doing this (27% and 23% respectively). Almost one in ten are in the process of doing this (9%). In contrast, around one in ten respondents either don't want to do this or don't consider it possible in their home (8% and 11% respectively).
- **Changing glazing type (double/triple)** Almost four in ten respondents have done this in the past and a small proportion are in the process of doing this (39% and 6% respectively). Around one fifth of respondents are thinking about doing this and others would like to do this but not at this stage of their renovation (22% and 17% respectively).
- **Passive measure (e.g. solar shading, cool roof)** Very few respondents have done this or are in the process of doing this (5% and 4% respectively). Around a fifth of respondents are thinking about doing this, or would like to do this but not at this stage (20% and 21% respectively).

- **Replacing an old boiler with a more efficient condensing boiler** Around one fifth of respondents have done this in the past and a small proportion are in the process of doing this (18% and 5% respectively). A quarter of respondents are thinking about doing this but around a fifth don't consider it possible in their home (25% and 19% respectively).
- **Renewable heating system (e.g. biomass boiler, heat pump or solar thermal system)** Almost one in ten respondents have done this in the past and almost one in twenty are in the process of doing this (8% and 4% respectively). A quarter of respondents would like to do this but not at this stage and a similar proportion are thinking about doing this (25% and 24% respectively).
- **Installing technology for renewable electricity supply (e.g. solar panels, micro-wind turbine)** Very few respondents have done or are in the process of doing this (5% and 3%). However, a quarter of respondents are thinking about doing this and almost three in ten would like to do this, but not at this stage (25% and 29% respectively).

Approach to renovations

Homeowners who are planning or have completed renovations were asked a series of questions about their plans for renovations. This included questions about how they planned the work, who completed or will complete the work, financing of the work and the length of time required to complete the renovation(s).

Of those homeowners who are planning to complete more than one type of change to their home during the renovation, the majority plan to take a staged approach. Around half of respondents will complete renovation, and only later, start thinking about the next renovation (48%). Four in ten plan for all renovations at the same time and then complete them step-by-step (40%). Just over one in ten will complete or have completed all renovations at the same time (11%).

In terms of time to complete the renovation(s), the majority of respondents plan to complete or completed their renovations in less than 10 years. Almost a quarter plan to or completed their renovation(s) in less than six months (24%). Around one in five plan to or completed their renovation(s) in either less than one year, less than two years or less than five years (20%, 22% and 19% respectively).

Regarding the workforce, the majority of respondents who had completed their renovations hired one or more contractors to do the task(s) (59%). Around one in five either did some parts of the work themselves or undertook the renovation(s) themselves (23% and 18% respectively). Similarly, the majority of those who are planning their renovation(s) will hire one or more contractors to complete the renovation(s) (53%). Almost three in ten respondents plan to do some parts of the renovation(s) themselves (28%) and just under one in ten plan to undertake the whole renovation(s) themselves (9%).

The majority of respondents either will or did finance the renovation(s) using money that have or have saved up (84%). Just over a quarter used or will use a loan from the bank (28%) and around one in ten will or did finance the renovation(s) through a subsidised programme (8%).

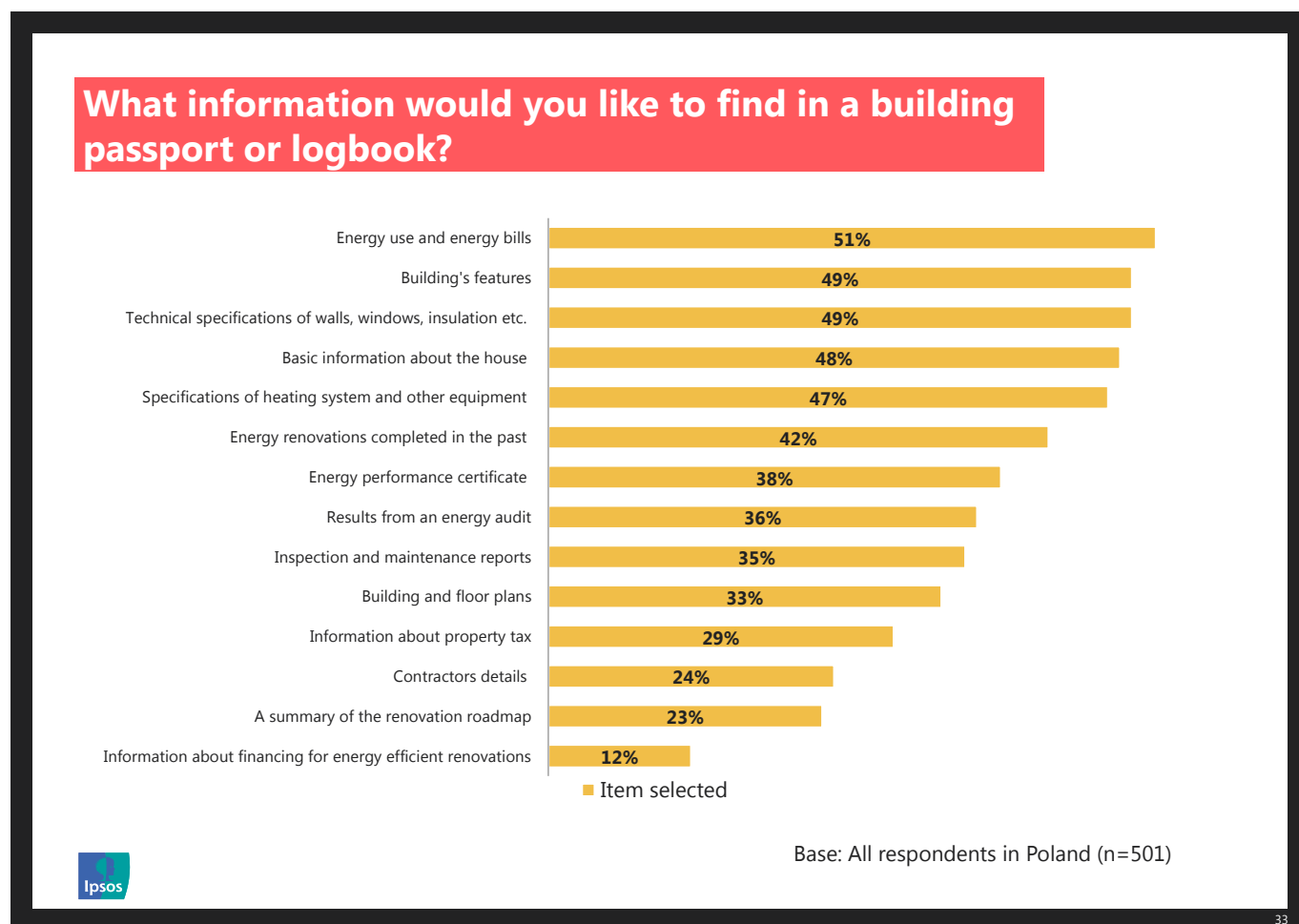
2.2 Asking for advice about energy efficiency and renovation measures

All respondents in Poland were asked who they would consult with or trust for advice about renovation and energy efficiency. In Poland, respondents are most likely to trust their friends, family and colleagues for advice about renovation measures (46%). After this, respondents would trust an architect (25%), a general internet search (15%), an energy auditor (14%) or an energy performance certificate (EPC) (11%). When asking for information on the energy performance of their home or the home they want to buy, respondents are most likely to ask the builder/contractor (31%), an energy auditor (22%) or an architect or the energy supplier (both 18%). Almost one fifth of respondents would consult an energy performance certificate (EPC) (17%). Turning to finances, respondents in Poland were most likely to consult their friends (30%), a builder or contractor (26%) or the bank (22%) for financial advice about renovation measures.

2.3 The building passport or logbook

All respondents were asked to imagine that each home has a building passport or logbook, i.e. a document or register that brings together information about the house. They were informed that current legislation specifies that for each building that is put up for sale an Energy Performance Certificate must be available, but that there might be other information that would be worth adding in the building passport or logbook for each home. Following this, respondents were asked a series of questions about the building passport or logbook.

Figure 2.8 below shows the information that respondents in Poland would like to find in a building passport or logbook. The highest ranking aspects of information the respondents would like to find are information on energy use and energy bills, the buildings' features and the technical specifications (51% and both 49% respectively). Around four in ten would like to find information on the energy renovations completed in the past and energy performance certificate (42% and 36% respectively). As might be expected, buyers only are more likely than respondents with other types of building ownership to be interested in finding information about the technical specifications of walls, windows, insulation etc. (59% versus 49% overall) as well as the outcomes of inspection and maintenance reports (47% versus 35% overall). They are also more likely to want to see information about energy renovations completed in the past and the energy performance certificate (63% and 47% respectively).

Figure 2.8: Information in a building passport or logbook

Thinking about responsibility for the logbook, around four in ten respondents think that the logbook should be passed on from owner to owner and that new owners should be responsible for keeping it up to date (39%). More than three in ten respondents think that each owner would be responsible for creating their own logbook (34%). Over one in ten think that the municipality would be responsible for keeping the logbook up to date with information being kept in a building registry (15%). Sellers and buyers appear to be more likely than buyers only and homeowners to think that the home owner would be responsible for creating their own logbook (45% versus 32% and 28 respectively).

In addition to the homeowner, respondents in Poland think that the top three people who could be allowed access to the logbook with all relevant information about the house are potential buyers (50%), the municipality and contractors (both 24%) and the land/building registry agency and energy advisors (both 24%). Almost a quarter of sellers and buyers think that the logbook should be accessible to other homeowners (24% versus 12% overall).

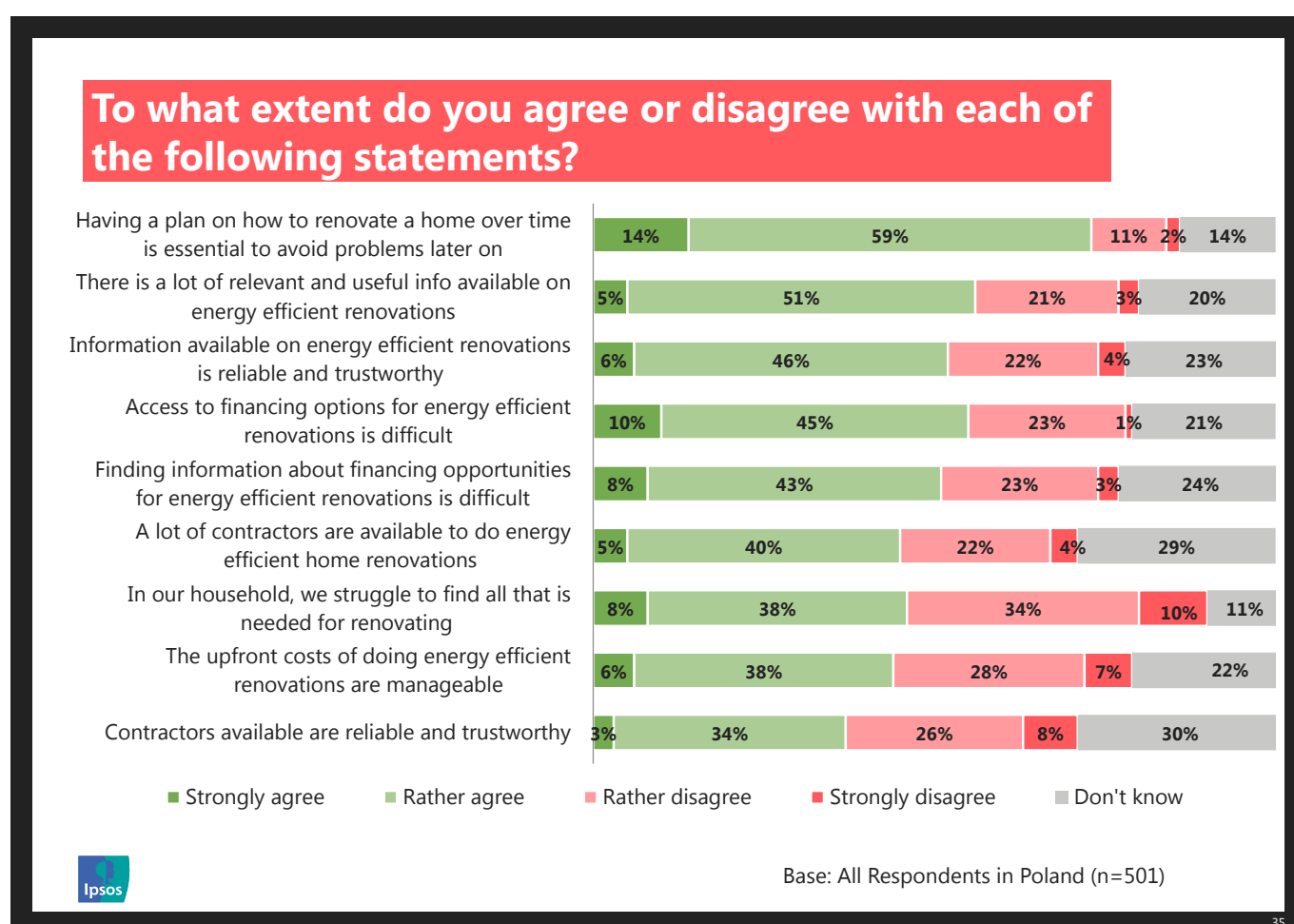
The majority of respondents in Poland are interested in a building passport or logbook for their home or the home they would buy but would not be willing to pay (44%). Around one fifth of respondents are interested, and would be willing to pay for the logbook (23%). Fewer than one in five respondents are uninterested in the logbook (17%).

2.4 The renovation roadmap

Before asking about the renovation roadmap itself, respondents were asked about their general attitudes towards renovation and energy efficient renovations. Although the majority of respondents said that they would consider having an energy audit of the house/apartment that they are about to buy (67%), the majority have never had an energy audit completed for their home (92%).

Figure 2.9 below shows respondents' attitudes towards a series of statements about energy efficiency and renovations. In general, respondents are positive about information on energy efficiency with over half of respondents agreeing that there is a lot of relevant and useful information available on energy efficient renovations and that the information available is reliable and trustworthy (56% and 52% respectively).

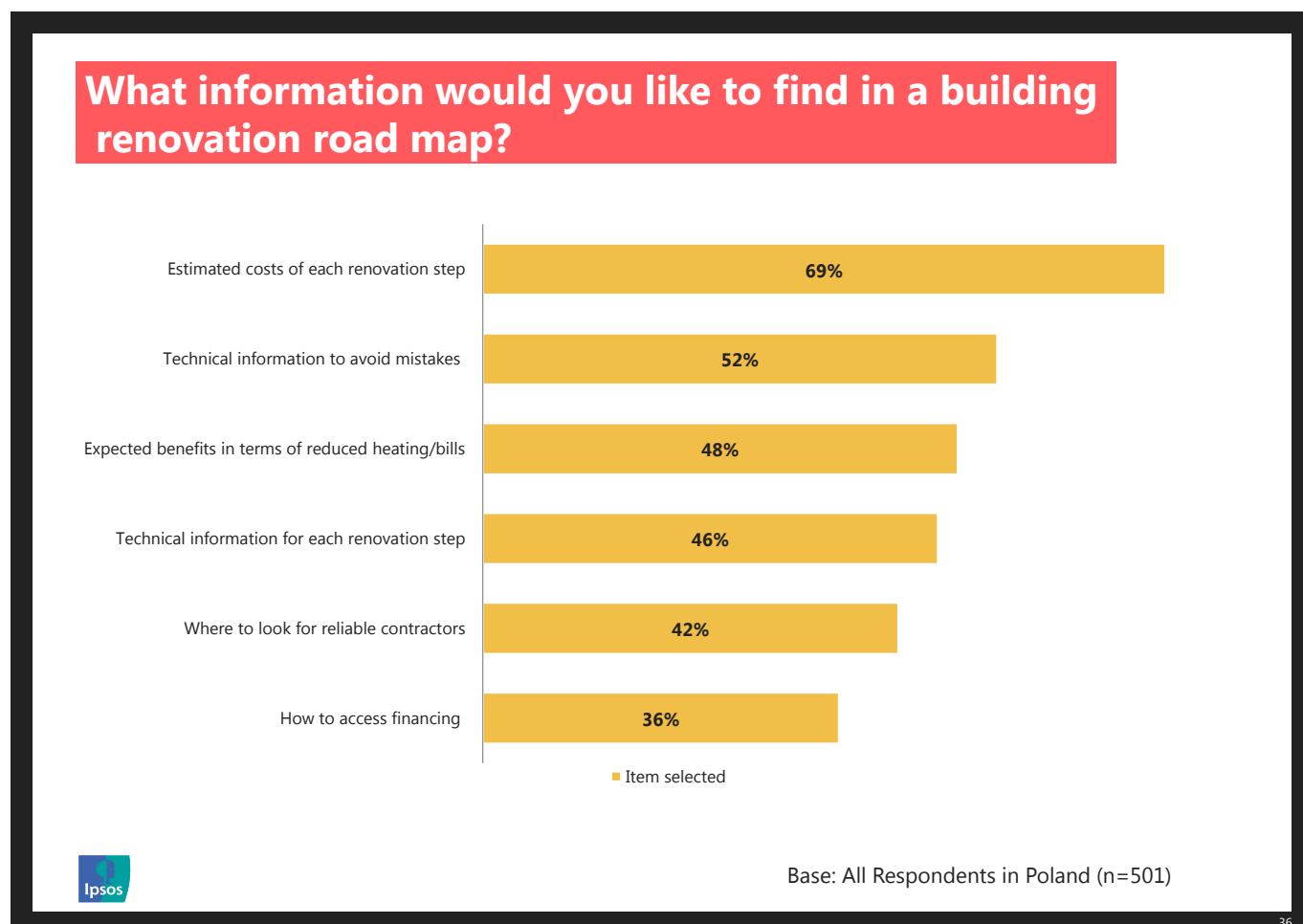
Figure 2.9: Attitudes towards energy efficiency and renovation



Respondents were asked to imagine that they could have a building renovation roadmap i.e. a document (in electronic or paper format) outlining a long-term step-by-step renovation plan or "roadmap" for their home. The roadmap would show which step to take, when and what to consider when implementing each step. It would give individuals personalised advice about renovation measures, specific to their situation and their home, based on an on-site energy audit. Figure 2.10 shows the items that respondents would most like to find in a building renovation road map. Respondents would most like to find information on the estimated costs of each renovation step in a renovation road map (69%). In addition,

they would like find the technical information that would help them to avoid mistakes and information on the expected benefits in terms of reduced heating/bills (52% and 48% respectively).

Figure 2.10: Information in a roadmap



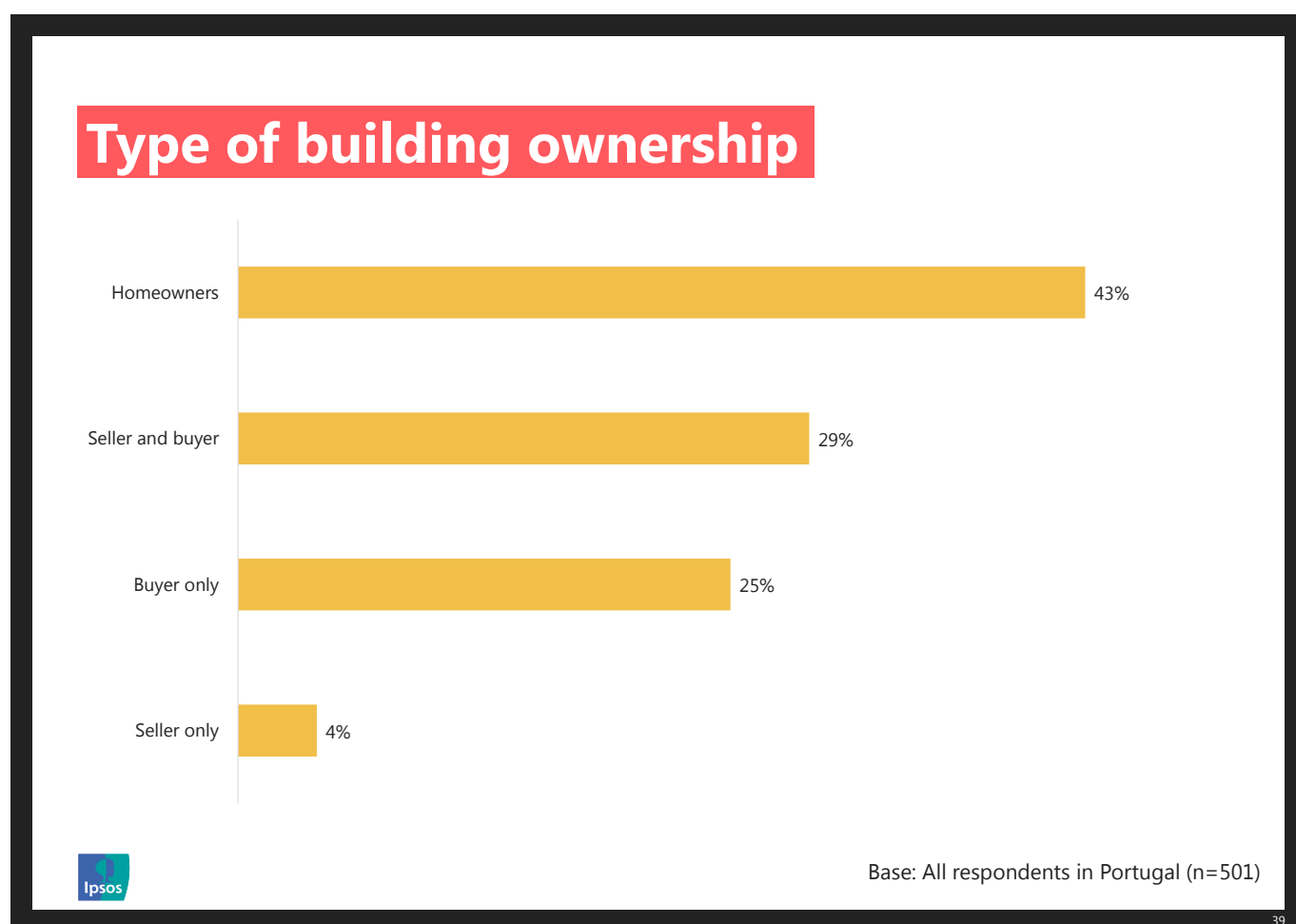
The building renovation roadmap would outline a long-term step-by-step renovation plan. The majority of respondents stated that a plan to complete renovation over the next five years would be the ideal time-frame for such as roadmap (69%). Over one in ten think that a plan to complete renovation over the next ten years is an ideal timeframe (12%). In addition to the homeowner, respondents are most likely to think that the following individuals should have access to the building renovation roadmap; potential buyers (45%), contractors (installers, craftsmen) (41%) and the municipality (20%).

Thinking about the level of interest in the building renovation roadmap, around four in ten respondents would be interested but not willing to pay (43%) and around a fifth would be interested in and willing to pay for the roadmap (23%). However, around one fifth of respondents are not interested in a building renovation roadmap (15%). By type of building ownership, homeowners appear to be the least interested in a roadmap in comparison with sellers and buyers and buyers only (30% versus 10% and 6% respectively).

3 Portugal

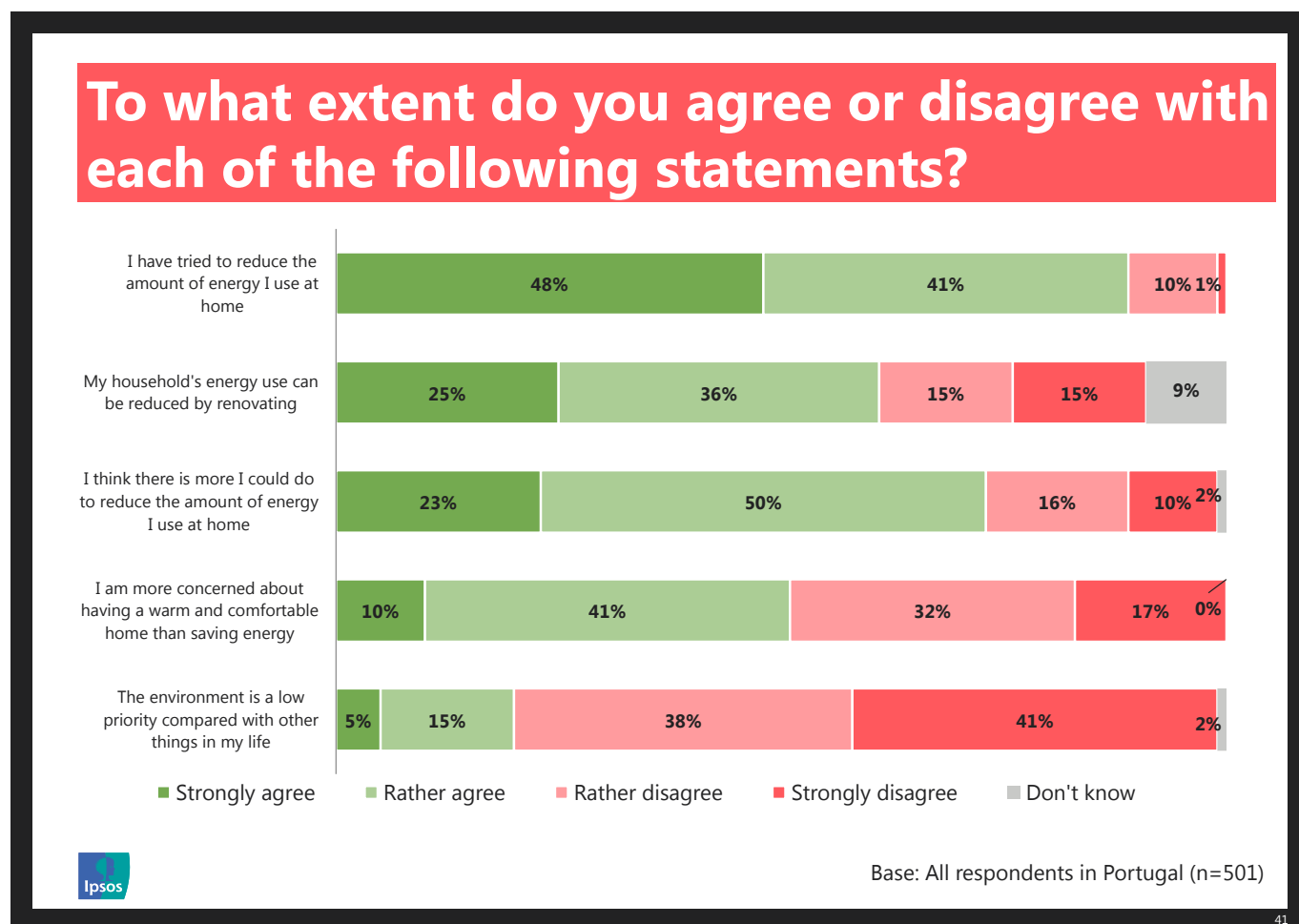
In Portugal, a total of 501 respondents completed the survey. During survey implementation quotas were set to ensure a representative sample was achieved and that a good mix of different types of building owners were surveyed. For a breakdown of the sample achieved by demographics please refer to the appendix. Figure 3.1 below shows the breakdown of sample achieved by building ownership. Around four in ten respondents are homeowners (43%). Around three in ten respondents are sellers and buyers (29%). A quarter of respondents are buyers only and a small proportion are only sellers (25% and 4% respectively).

Figure 3.1: Type of building ownership



General attitudes to energy efficiency

Figure 3.2 overleaf shows respondents' attitudes towards energy use and their concerns for the environment. In Portugal, almost three quarters of respondents think that there is more they could do to reduce the amount of energy they use at home (73%). Over half of respondents agree that their household's energy use can be reduced by renovating (61%). Whilst around half of respondents agree that they are more concerned about having a warm and comfortable home than saving energy, more than three quarters disagree that the environment is a low priority compared with other things in their lives (51% agree, 79% disagree).

Figure 3.2: General attitudes to energy use/concerns for the environment

Summary of results for buyers and buyers/sellers

In Portugal, almost half of buyers and those who are looking to buy, have bought or are thinking about buying a separate house (47%). Around four in ten respondents are looking to buy or have bought a flat or apartment (41%). A small proportion are looking to buy or have bought either a semi-detached house, a row or terraced house, or a different type of home (5%, 4% and 3% respectively).

Regarding the location, around a quarter of respondents are looking to buy a home either in a town or small city, or in the suburbs or outskirts of a large city (26% and 25% respectively). Over one fifth of respondents are looking to buy a home in a large city (23%). Around one in ten respondents are looking to buy a home in a rural area (11%). More than one in ten respondents either don't know yet or have no specific preference about the location of their home (15%).

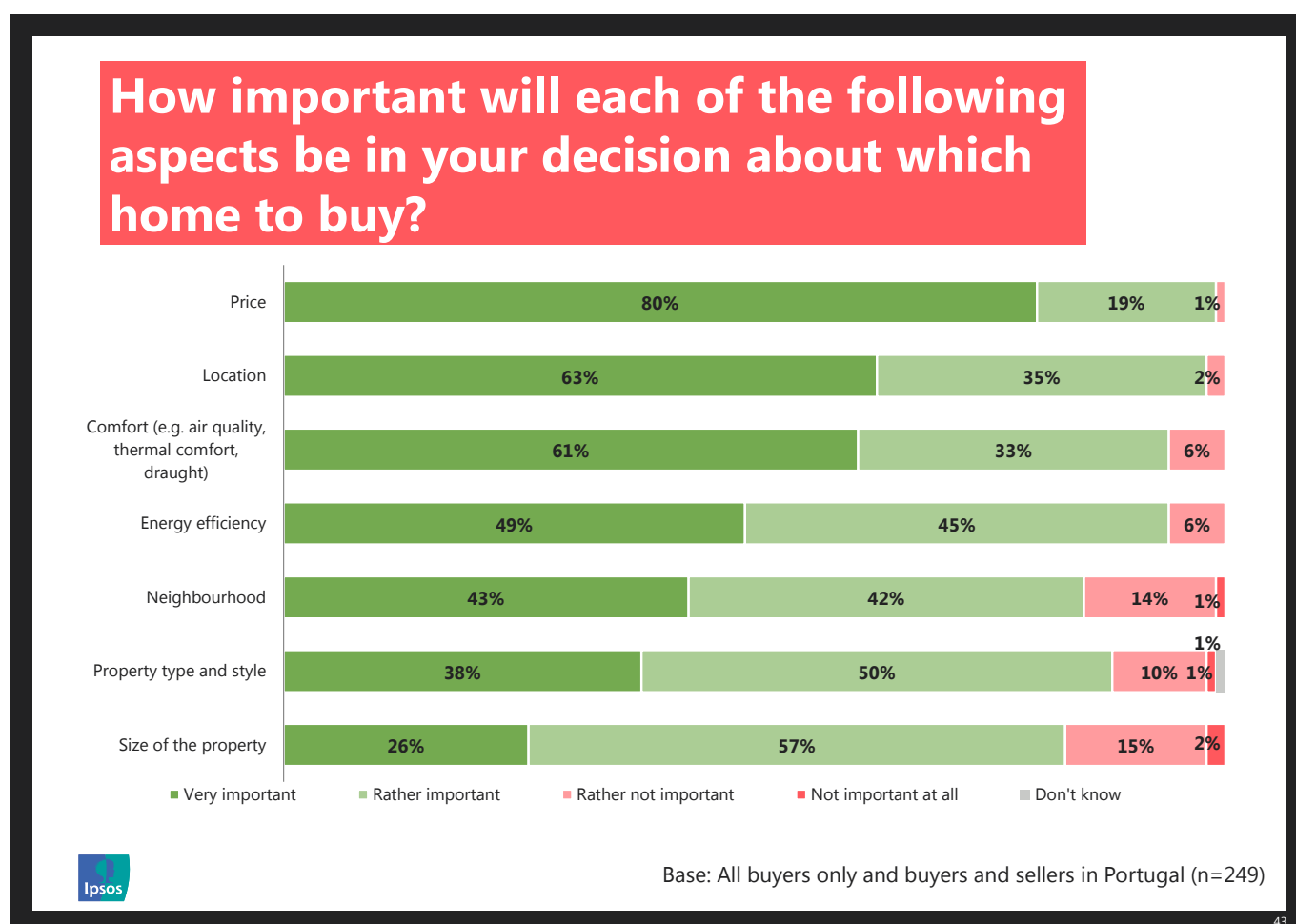
In terms of size, over half of respondents think that the home should have three bedrooms and almost a quarter of respondents think that the home should have two bedrooms (55% and 24% respectively). More than one in ten respondents think that the home should have more than three bedrooms (15%). A small proportion of respondents are looking to purchase a home with one bedroom (4%).

When asked about the type of home they are looking to buy, respondents are most likely to be looking for a home that is ready to move in to (38%). Around one in ten respondents are looking for either a home that has been recently renovated

or a home that they can renovate (8% and 12% respectively). Around one fifth of respondents are looking to buy a newly built home or are planning to build the home themselves (23%).

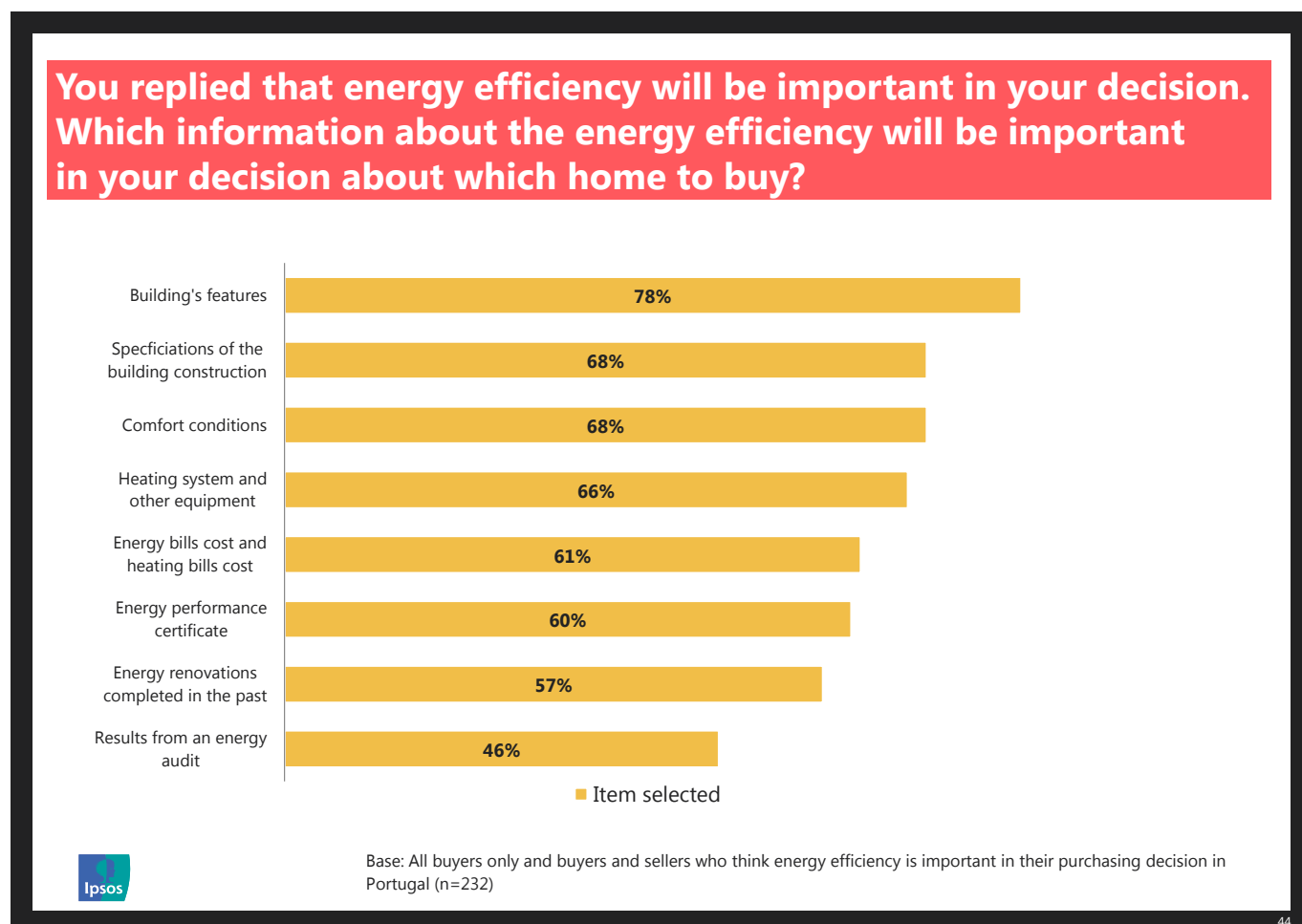
Buyers and those who are thinking about buying were asked about different aspects that are or were important in their decision to buy a home. Figure 3.3 shows what aspects are important in buyers' and buyers/sellers' decision to purchase a home. As might be expected the two most important aspects are price and location (99% and 98% respectively). For the majority of respondents, energy efficiency was or will be important in their decision to buy a home, with almost half of respondents saying it will be very important (94% say important and 49% very important).

Figure 3.3: Importance of particular aspects when buying a home



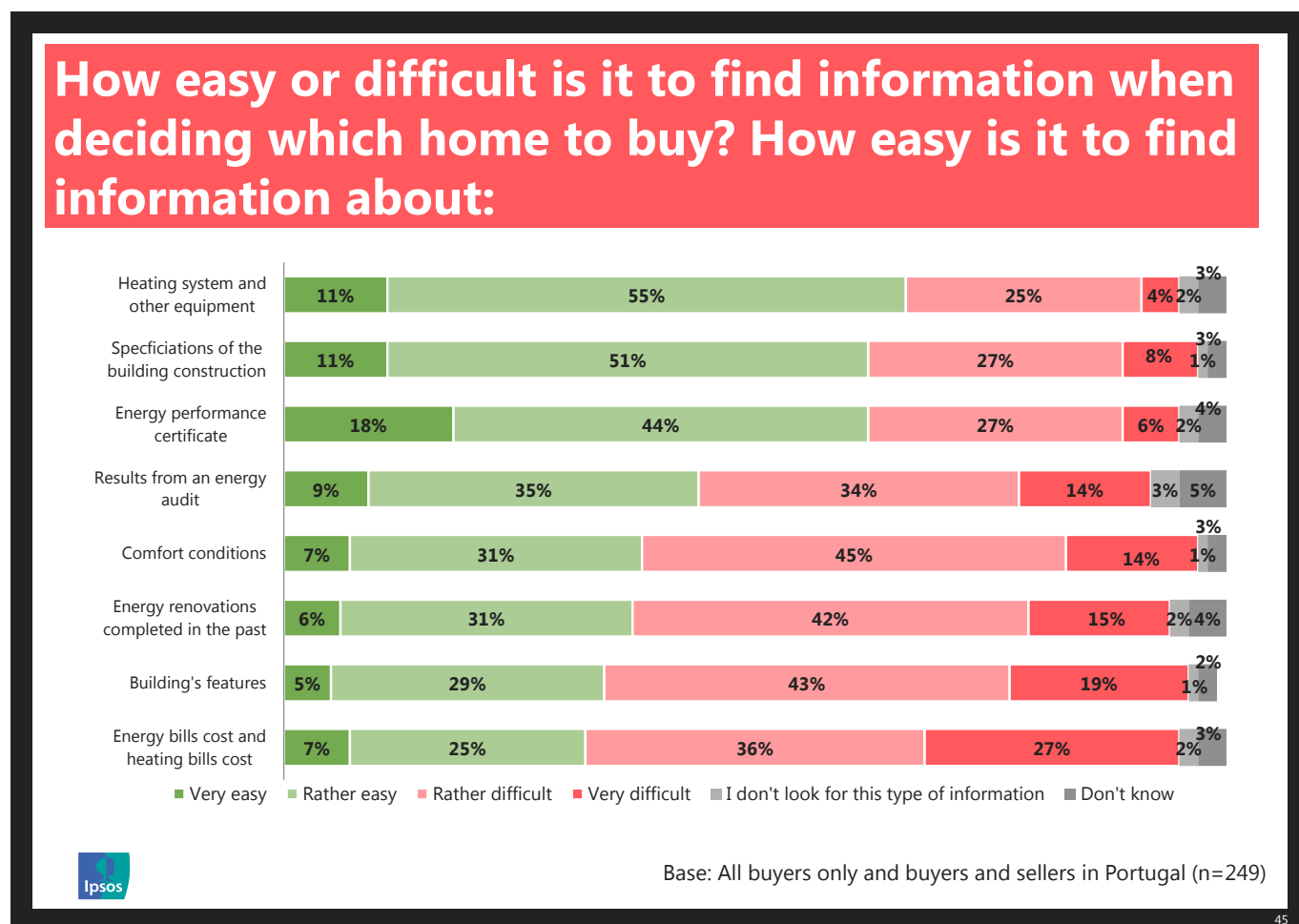
Buyers attitudes towards energy efficiency

Respondents who think that energy efficiency will be important in their decision to buy a home were asked about the information they would need to inform their decision. Figure 3.4 shows that respondents are most likely to think that information on the building's features e.g. stability, humidity, executed maintenance etc. will be important (78%). Six in ten respondents think that an energy performance certificate will be important and a similar proportion think it will be important to have information on energy renovations (60% and 57% respectively). Almost half of respondents think that results from an energy audit will be important in their decision about which home to buy (46%).

Figure 3.4: Importance of particular aspects when buying a home

All respondents who are thinking about buying or have bought a home were asked how easy it is to find information on energy efficiency when they are or were deciding to buy a home. Figure 3.5 shows how easy or difficult respondents think it is to find certain types of information. The top three pieces of information that respondents think is easy to find are; information on the heating system and other equipment, the specifications of the building construction and the energy performance certificate (66%, 66% and 62% respectively). Notably, almost one fifth of respondents find it very easy to find information on the energy performance certificate (18%). However, more than half of respondents find it difficult to find information on energy renovations completed in the past (57%).

Figure 3.5: Ease of finding information about energy efficiency



Summary of results for homeowners

Homeowners were asked whether or not they had completed a renovation in the past five years. Renovating is described as major changes to the physical properties of the home. This includes fitting a new bathroom, adding an extra room, fixing the roof, replacing the heating or the cooling system, or installing insulation. The term does not include DIY, redecorating, or changing appliances e.g. new kitchen stove, air-condition unit, although these may be done alongside more major renovations. In Portugal, 437 respondents are homeowners. Of these homeowners, around three in ten have completed a renovation project in the past five years (34%).

Homeowners who have completed, are currently completing or thinking about completing a renovation

Homeowners who have renovated their home in the past five years or are thinking about renovating were asked whether the renovation included an improvement to make their house more energy efficient. In Portugal, respondents are most likely to be completing or thinking about completing renovations that include improvements to energy efficiency in combination with other improvements (41%). One fifth of respondents are making only energy efficient renovations (20%). A quarter of respondents' renovations do not include improvements to energy efficiency, but they would have liked to implement such improvements (25%). Almost one in ten of these respondents do not want to make their house more

energy efficient (9%). Of those who are planning or thinking about renovating their home, the majority would like to make renovations that include improvements to energy efficiency in combination with other improvements (62%) and around a fifth would like to make only energy efficient renovations (18%). Almost one in ten are not planning or thinking about renovations that include improvements to energy efficiency, but they would like to make such improvements (9%).

Respondents were asked about their decisions regarding energy efficient renovations. Figure 3.6 shows the reasons that prevented or prevent respondents from making their home more energy efficient during the renovation. The main barriers to making energy efficient home improvements during renovations are financial. Almost half of respondents who have not or do not plan to make energy efficient renovations stated that the cost of such renovations is too high (47%). Over a quarter said that there is a lack of financial support (27%). However, around a fifth of respondents say that their home is already energy efficient (23%).

Figure 3.6: Barrier to energy efficient renovations

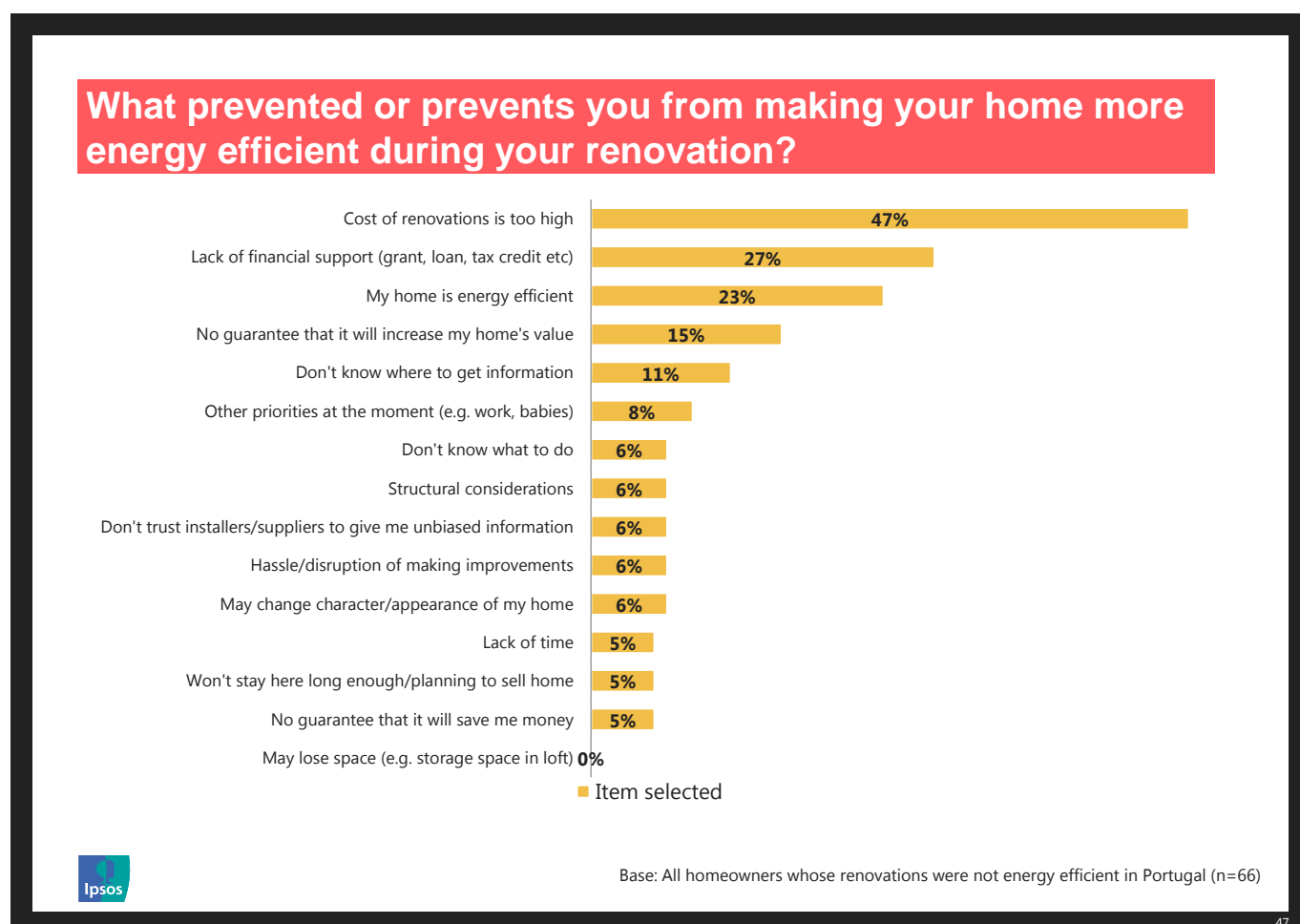
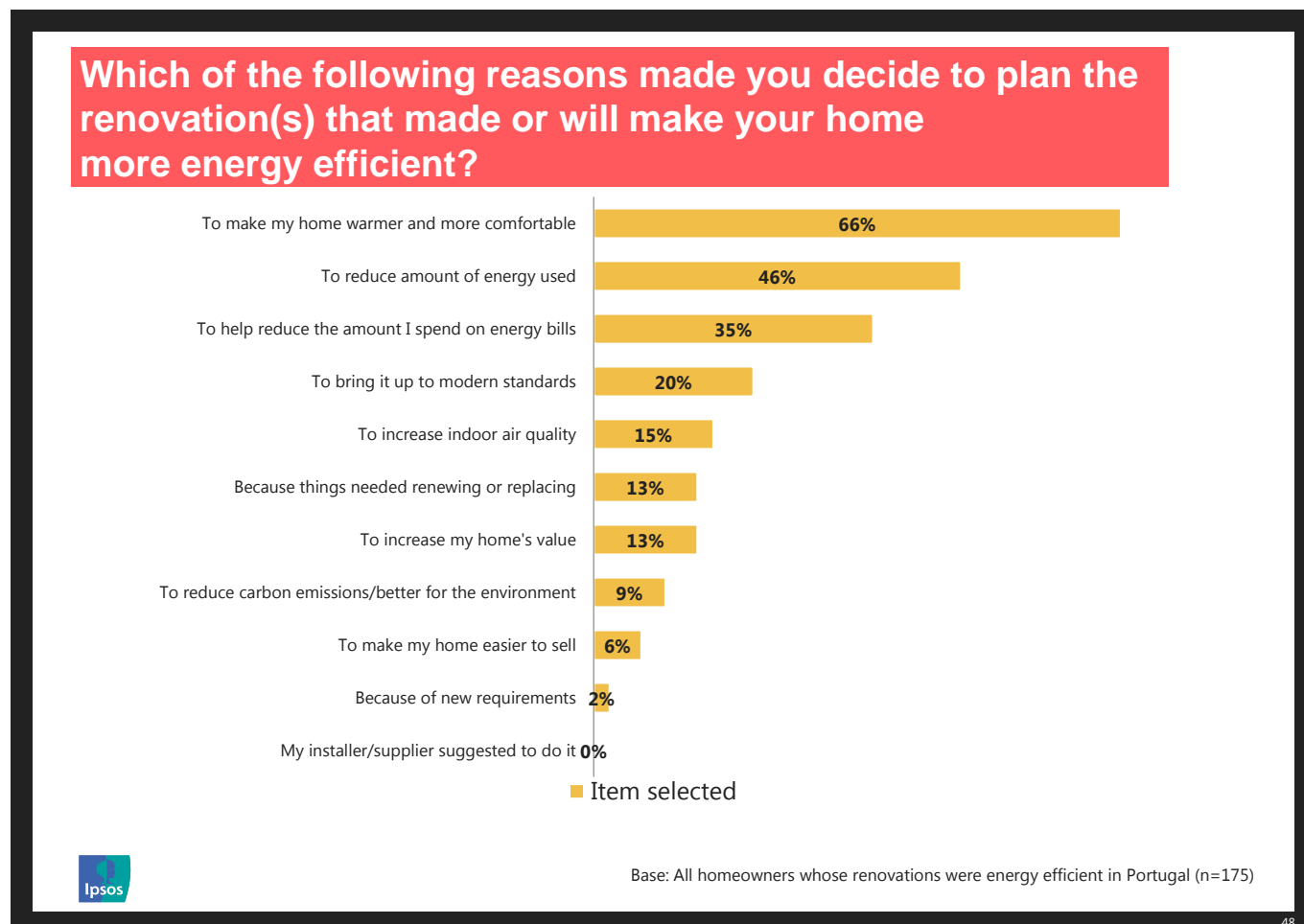


Figure 3.7 overleaf shows the reasons why respondents decided to make, or plan to undertake renovations that will make their home more energy efficient. The majority of respondents did this to make their home warmer and more comfortable (66%). Almost half of respondents did this to reduce the amount of energy used (46%). A sizeable proportion did this to

¹ Please note that the sample size for this question is small (n=66).

reduce the amount they spend on energy bills (35%). Almost one in ten respondents did this to reduce carbon emissions or to make their home better for the environment (9%).

Figure 3.7: Reasons for making energy efficient improvements



Types of renovations

Homeowners who had completed a renovation in the past five years, were currently completing a renovation or thinking about completing a renovation were asked about the types of renovation they plan to complete or had completed. The findings are summarised below.

- **Thermal insulation (roof/wall)** Around a quarter of respondents have done this in past and a small proportion are in the process of doing this (26% and 4% respectively). Around three in ten respondents would like to do this, but not at this stage and a fifth of respondents are thinking about doing this (28% and 19% respectively).
- **Changing glazing type (double/triple)** More than three in ten respondents have done this and a small proportion are in the process of doing this (35% and 5% respectively). Between a quarter and a fifth of respondents are either thinking about changing their glazing type or would like to do so, but not at this stage (24% and 22% respectively).
- **Passive measure (e.g. solar shading, cool roof)** Very few respondents have undertaken this type of renovation in the past, or are in the process of doing this (6% and 1% respectively). However, three in ten respondents would like to do this, but not at this stage and around one in ten respondents are thinking about doing this (33% and 12% respectively).

respectively). However, a quarter of respondents don't think it is possible in their home and one fifth of respondents don't want to do this type of renovation (25% and 18% respectively).

- **Replacing an old boiler with a more efficient condensing boiler** Around one in ten respondents have done this in the past and a similar proportion are thinking about doing this (both 11%). Whilst a fifth of respondents would like to do this, but not at this stage, a similar proportion don't consider it possible in their home (both 22%).
- **Renewable heating system** Around one in ten respondents installed a renewable heating system in the past (13%) and a similar proportion are thinking about doing this (12%). Three in ten respondents would like to do this, but not at this stage (31%).
- **Installing technology for renewable electricity supply e.g. solar panels, micro-wind turbine** Almost one in ten respondents have done this in the past (8%). More than one in ten are thinking about doing this (15%). The majority of respondents would like to do this, but not at this stage in their renovation (41%). Around a fifth of respondents don't consider this type of renovation to be possible in their home (22%).

Approach to renovations

Homeowners who are planning to or have completed renovations were asked a series of questions about their renovation plans. This included questions about how they planned the work, who will complete the work, financing the work and the length of time required to complete the renovation(s).

Of those homeowners who are planning to complete more than one type of renovation, almost four in ten respondents plan to complete one renovation, and only later, start thinking about the next renovation (39%). Around three in ten respondents plan to either complete all renovations at the same time or to plan for all renovations at the same and then complete them step-by-step (33% and 28% respectively).

In terms of time to complete the renovation(s), the majority of respondents plan to or completed their renovation in less than six months (32%). Around a quarter of respondents plan or completed the renovation within at least six months but less than one year (24%). Respondents were then most likely to plan for renovations to occur in less than two years, less than five years and less than ten years (14%, 12% and 7% respectively).

Regarding the workforce, the majority of respondents who had completed their renovations hired one or more contractors to do the renovation(s) (71%). Around a quarter of respondents undertook the renovations themselves (24%). A small proportion did some parts of the renovations themselves (6%). Similarly, those who are planning their renovations, plan to hire one or more contractors to do the renovation(s) (60%). Around one in ten of these respondents plan to either do some parts of the renovation(s) themselves, or to undertake the renovation(s) themselves (both 10%). One fifth of these respondents are undecided about who will do the work (21%).

To finance the renovations, the majority of respondents will use or did use money they had, or money they had saved up (81%). A smaller proportion will use or did use a loan from their bank (16%) and very few will use or did use either a grant from the government or a subsidised programme (both 1%).

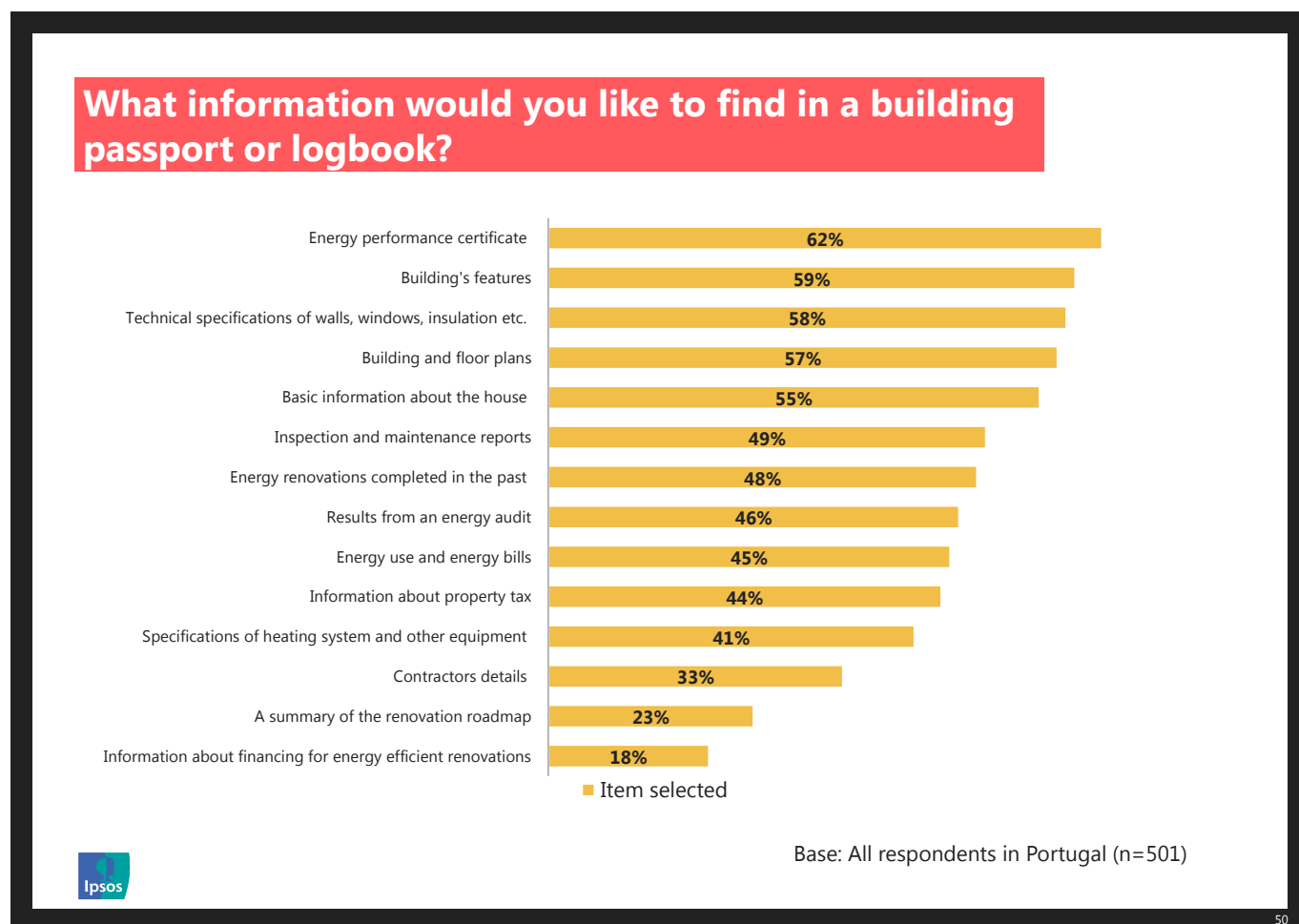
3.2 Asking for advice about energy efficiency and renovation measures

All respondents in Portugal were asked who they would consult with or trust for advice about renovations and energy efficiency. In Portugal, respondents are most likely to trust their friends, family and colleagues, an architect or a builder/contractor for advice about renovation measures (50%, 40% and 40% respectively). When looking for information about the energy performance of their home or the home they want to buy, almost half of respondents would look at the energy performance certificate (47%) and around a fifth of respondents would consult an energy auditor or an architect (22% and 21% respectively). With regards to finances, respondents are most likely to trust their bank or friends, family and colleagues for financial advice about renovation measures (36% and 35% respectively). After this, respondents would trust either a builder or an architect (18% and 15% respectively).

3.3 The building passport or logbook

All respondents were asked to imagine that each home has a building passport or logbook, i.e. a document or register that brings together information about the house. They were informed that current legislation specifies that for each building that is put up for sale an Energy Performance Certificate must be available, but that there might be other information that would be worth adding in the building passport or logbook for each home. Following this, respondents were asked a series of questions about the building passport or logbook.

Figure 3.8 shows the information that respondents in Portugal would like to find in a building passport or logbook. The highest ranking items are information about the energy performance certificate, the building's features, the technical specifications and the building and floor plans (62%, 59%, 58% and 57% respectively). Almost a fifth of respondents would like to find information about financing for energy efficient renovations (18%).

Figure 3.8: Information in a building passport or logbook

Thinking about responsibility for the logbook, almost half of respondents think that the logbook should be passed on from owner to owner and new owners would be responsible for keeping it up-to-date (44%). Around three in ten respondents think the municipality should be responsible and that the information should be kept in a building registry (29%). Less than one fifth of respondents think that each owner should be responsible for creating their own logbook (16%).

In addition to the homeowner, almost half of respondents think that potential buyers could be allowed to access the logbook with all relevant information about the house (49%). Around a fifth of respondents think that the logbook could also be accessed by the land/building registry agency, contractors (installers, craftsmen) and energy advisors (energy auditor, qualified experts) (all 22%).

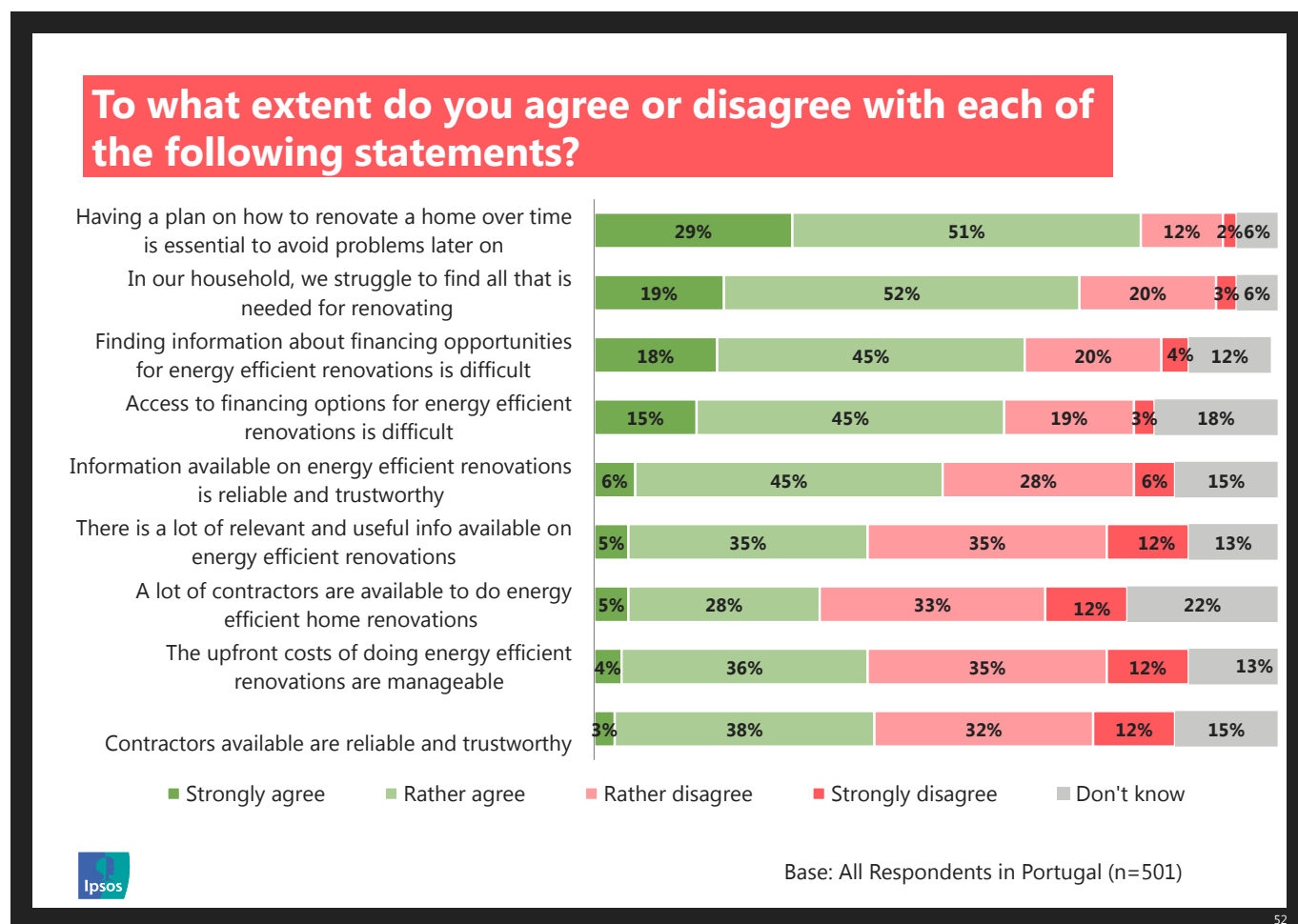
In terms of interest in the logbook, the majority of respondents in Portugal would be interested in the logbook but are not willing to pay for it and around a fifth of respondents are interested and would be willing to pay for it (58% and 19% respectively). Over one in ten respondents are not interested in the logbook (12%).

3.4 The renovation roadmap

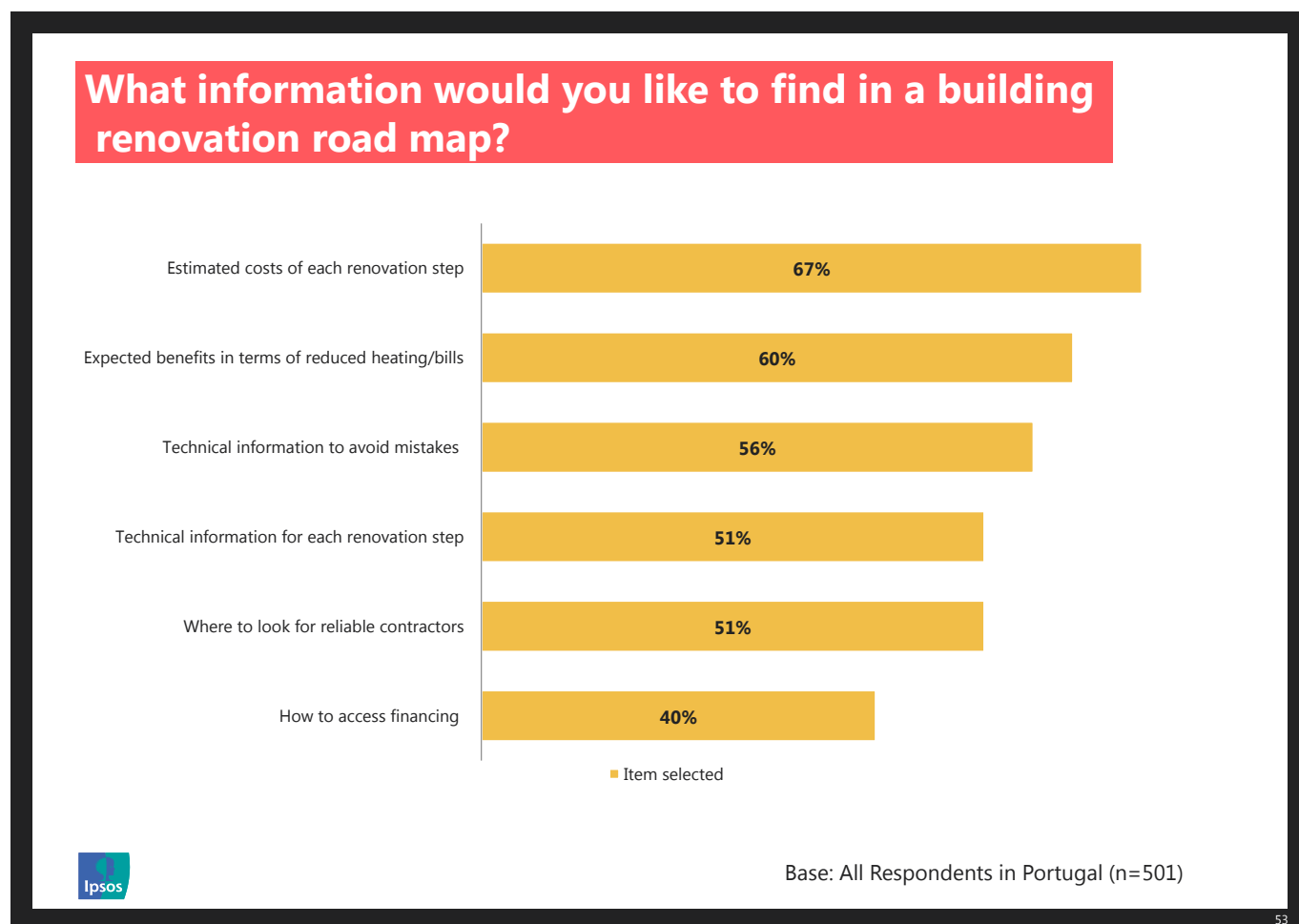
Before asking about the renovation roadmap itself, respondents were asked about their general attitudes towards renovations and energy efficiency. Just over three quarters of respondents would consider having an energy audit of the house/apartment they are about to buy but only one fifth of respondents have done this (78% versus 20%). This was

mainly because respondents have either not thought about it or think it is too costly (40% and 32% respectively). In Portugal, figure 3.9 shows that respondents have mixed opinions about energy efficient renovations. Whilst four in ten respondents agree that there is a lot of relevant and useful information available on energy efficient renovations, almost half of respondents disagree with this statement (40% versus 47%). However, respondents are slightly more positive about the reliability of information on energy efficient renovations with over half agreeing that the information available is reliable and trustworthy (51% agree versus 34% who disagree).

Figure 3.9: Attitudes towards energy efficiency and renovation



Respondents were asked to imagine that they could have a building renovation roadmap i.e. a document (in electronic or paper format) outlining a long-term step-by-step renovation plan or “roadmap” for their home. The roadmap would show which step to take, when and what to consider when implementing each step. It would give individuals personalised advice about renovation measures, specific to their situation and their home, based on an on-site energy audit. Figure 3.10 shows the items that respondents would most like to find in a building renovation roadmap. Respondents would most like to find the estimated costs of each renovation step in a renovation road map, followed by the expected benefits in terms of reduced heating costs and bills (67% and 60%). Around half of respondents would also like to find technical information to avoid mistakes and technical information for each stage of the renovation (both 51%).

Figure 3.10: Information in a renovation roadmap

The building renovation roadmap would outline a long-term step-by-step renovation plan. The majority of respondents stated that the ideal timeframe for completing such a roadmap would be a plan to complete the renovation over the next five years (62%). The next most stated timeframe was a plan to complete the renovation over the next ten years (16%). In addition to the homeowner, respondents are most likely to think that the following individuals should also have access to the building renovation roadmap; potential buyers, the municipality and contractors (installers, craftsmen) (49%, 38% and 35% respectively). Turning to the level of interest in the roadmap, around half of respondents would be interested in a roadmap but would not be willing to pay for it (53%). A fifth of respondents would be interested in a roadmap and would be willing to pay for it (20%). However, more than one in ten respondents are not interested in a roadmap (15%).

Appendices

Bulgaria – Demographic info

Sample size (n=500)

Table 3.1: Gender

	Percentage (%)
Male	48%
Female	52%
Total	100%

Table 3.2: Age

	Percentage (%)
18 – 24 years' old	7%
25 – 34 years' old	32%
35 – 44 years' old	28%
45 – 54 years' old	21%
55 – 64 years' old	11%
65+ years' old	2%
Total	100%

Table 3.3: Level of education

	Percentage (%)
High	60%
Medium	38%
Low	2%
Total	100%

Table 3.4: Working status

	Percentage (%)
In work	81%
In education	3%
Unemployed	4%
Other	12%
Total	100%

Table 3.5: Household composition

	Percentage (%)
Single-person household	9%
Married, cohabiting with no children/no children living at home	25%
Single parent, one or more children living at home	6%
Married or cohabiting couple, with one or more children living at home	51%
Other	9%
Total	100%

Table 3.6: Perceived household financial situation

	Percentage (%)
Very easy	5%
Fairly easy	32%
Not easy	35%
Not easy at all	22%
Impossible	3%
Don't know/refused	2%
Total	100%

Table 3.7: Breakdown of sample by target group

	Percentage (%)
Homeowners	37%
Sellers and Buyers	34%
Buyer only	26%
Seller Only	3%
Total	100%

Poland – demographic info

Sample size (n=501)

Table 3.8: Gender

	Percentage (%)
Male	48%
Female	52%
Total	100%

Table 3.9: Age

	Percentage (%)
18 – 24 years' old	6%
25 – 34 years' old	20%
35 – 44 years' old	18%
45 – 54 years' old	19%
55 – 64 years' old	24%
65+ years' old	13%
Total	100%

Table 3.10: Level of education

	Percentage (%)
High	47%
Medium	52%
Low	1%
Total	100%

Table 3.11: Working status

	Percentage (%)
In work	70%
In education	2%
Unemployed	3%

Other	25%
Total	100%

Table 3.12: Household composition

	Percentage (%)
Single-person household	13%
Married, cohabiting with no children/no children living at home	39%
Single parent, one or more children living at home	6 %
Married or cohabiting couple, with one or more children living at home	37%
Other	5%
Total	100%

Table 3.13: Perceived household financial situation

	Percentage (%)
Very easy	10%
Fairly easy	43%
Not easy	35%
Not easy at all	7%
Impossible	0%
Don't know/refused	5%
Total	100%

Table 3.14: Breakdown of sample by target group

	Percentage (%)
Homeowners	45%
Sellers and Buyers	26%
Buyer only	24%
Seller Only	5%
Total	100%

Portugal: Demographic info

Sample size (n=501)

Table 3.15: Gender

	Percentage (%)
Male	48%
Female	52%
Total	100%

Table 3.16: Age

	Percentage (%)
18 – 24 years' old	11%
25 – 34 years' old	16%
35 – 44 years' old	22%
45 – 54 years' old	24%
55 – 64 years' old	20%
65+ years' old	7%
Total	100%

Table 3.17: Level of education

	Percentage (%)
High	54%
Medium	34%
Low	12%
Total	100%

Table 3.18: Working status

	Percentage (%)
In work	71%
In education	6%
Unemployed	9%
Other	14%
Total	100%

Table 3.19: Household composition

	Percentage (%)
Single-person household	15%
Married, cohabiting with no children/no children living at home	22%
Single parent, one or more children living at home	11%
Married or cohabiting couple, with one or more children living at home	46%
Other	6%
Total	100%

Table 3.20: Perceived household financial situation

	Percentage (%)
Very easy	6%
Fairly easy	39%
Not easy	32%
Not easy at all	12%
Impossible	3%
Don't know/refused	8%
Total	100%

Table 3.21: Breakdown of sample by target group

	Percentage (%)
Homeowners	48%
Sellers and Buyers	26%
Buyer only	24%
Seller Only	3%
Total	100%

About Ipsos MORI's Social Research Institute

The Social Research Institute works closely with national governments, local public services and the not-for-profit sector. Its c.200 research staff focus on public service and policy issues. Each has expertise in a particular part of the public sector, ensuring we have a detailed understanding of specific sectors and policy challenges. This, combined with our methods and communications expertise, helps ensure that our research makes a difference for decision makers and communities.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 754045

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