



EeMAP

Energy efficient
Mortgages
Action Plan



Creating an Energy Efficient Mortgage for Europe

CONSUMER RESEARCH INSIGHTS



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APPENDICES:

The following appendices can be accessed by visiting <http://energyefficientmortgages.eu/04-downloads/>

- **Appendix 1** – Green Mortgage Focus Group Stimulus Material
- **Appendix 2** – Green Mortgage Focus Group Discussion Guide
- **Appendix 3** – Focus Group – Market Deep Dives
- **Appendix 4** – Breakdown by geography of respondents to quantitative research online questionnaire
- **Appendix 5** – Quantitative research online questionnaire

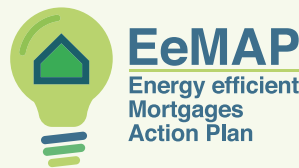
PROJECT CONTEXT

Buildings account for 40% of EU energy use, and it is estimated that the EU needs to invest around €100 billion annually in building renovations to meet its energy and climate goals. The EU has increased the amount of public funds available for energy efficiency, but the European Commission has indicated that there is a need to boost private energy investments – the EeMAP project is intended to deliver a concrete, market-led finance solution to help bridge the gap.

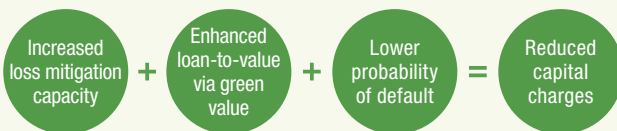
Mortgage lenders have a clear interest in the state of the EU building stock. Mortgage loans are estimated to account for around a third of the total assets of the European banking sector. Investments in building performance improvements can help to free-up disposable income for

borrowers through lower utility bills and can enhance property value. As a result, they can reduce credit risk, so they are a win-win for lenders, investors, consumers and climate.

***Our Vision:** The EeMAP project (www.energyefficientmortgages.eu) aims to create a European Energy Efficient Mortgage (EEM), to incentivise borrowers to improve the energy efficiency of their buildings or acquire highly energy-efficient properties. The incentives the EEM will offer borrowers (e.g. reduced interest rates and/or increased loan amount) aim to reflect the reduced credit risk of these loans.*



The EeMAP project aims to demonstrate that energy efficiency has a risk mitigation effect for mortgage lenders.



Lower risks deliver a strong incentive for lenders and investors to enter the market and play a central role in driving climate action across Europe's building sector.

This report in particular is also aimed at all stakeholders, but particularly mortgage lenders in that it focuses on uncovering the customer's

perspective on an Energy Efficient Mortgage (EEM) concept. In this report the appeal of an Energy Efficient Mortgage product to customers in Germany, Italy, Sweden and the UK is evaluated and is built on a robust programme of qualitative and quantitative consumer research.

Both new build and existing residential and non-residential buildings are within the scope of the work EeMAP is doing to establish an EEM, but the project's central focus is how we create the biggest impact on Europe's climate goals by driving renovation across the residential building stock.

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 746205.

See: <http://energyefficientmortgages.eu/>

REPORT GLOSSARY

EEM	Energy Efficient Mortgage	Bottom 2 Box (B2B)	Where the respondent responds to a research question by ticking the lowest (bottom box) and or the second lowest (bottom 2 box) response option on a five point scale.
EEIL	Energy Efficiency Improvement Loan	LTV	Loan to Value
BEP	Building Energy Passport		
GHD	Green Home Discount		
Top 2 Box (T2B)	Where the respondent responds to a research question by ticking the highest (top box) and or the second highest (top 2 box) response option on a five point scale.		

EXECUTIVE SUMMARY

Developing a new market across Europe for Energy Efficient Mortgages (EEM) can only happen if customers are willing to buy into and take up this innovative new product. If they are to do this they must believe that it offers them real benefits. Therefore, a critical step in the market development process is to ensure a deep understanding of what will move customers towards engaging with the benefits of EEM versus a conventional mortgage product.

As such, the consumer research programme of the EeMAP project has the fundamental objective of evaluating the overall appeal among core customer groups for an EEM. Therefore, an initial concept with likely features of future EEM concepts was developed to probe what features drive customer appeal the most. The crucial findings presented in this report can be used to guide the future development of an EEM concept and its market launch.

The initial concept and features (see **Section 1**) have been rigorously researched over two phases in four countries during the autumn of 2017 (see page 7 for details on methodology).

In the first qualitative research phase the initial concept was presented to focus groups within the four countries of interest, namely UK, Italy, Sweden and Germany. The rationale for the country selection is two-fold: 1) Countries act as proxies for wider European regions, e.g. for the Nordic, the Central and Mediterranean regions and certain findings from this research could potentially be applied to countries showing similar market characteristics and dynamics 2) Availability of customer insights and customer panels due to one of the consortium partners (E.ON) operating in these markets. Key learnings from this phase offered a firm foundation from which to adapt, improve and tailor the concept to improve clarity and simplification in how the product works (see **Section 3**).

In the second quantitative research phase the adapted concepts were tested within wider populations of respondents within UK, Italy and Sweden. Germany was excluded as the qualitative research showed a less pressing need as described further below.

KEY RESULTS QUALITATIVE RESEARCH

- The core elements of the initial EEM concept (see **Figure 12**) received a very positive reception in UK, Italy and Sweden. The appeal of the concept was limited in Germany due to the existence of a government backed competing product.

From all elements, the Energy Efficiency Improvement Loan (EEIL) comes out as the most attractive element. The Building Energy Passport (BEP) is considered a useful addition, but no huge selling point in itself. The Green Home Discount (GHD) received positive responses, but the choice on future homes is driven by other factors (see **Figure 23**).

KEY RESULTS QUANTITATIVE RESEARCH

- The adapted EEM concept and features (see **Section 3**) as tested within a wider population of UK, Italy and Sweden have been found easy to understand and to be especially appealing to respondents in UK and Italy. The concept was also well received in Sweden but current mortgage market conditions in that country limit its relevance to respondents. This may be due to the Loan-to-Value (LTV) restrictions which limit a Swedish borrower's ability to borrow additional funds to undertake an energy efficient refurbishment without incurring financial penalties.
- The drivers of appeal of the adapted concept are now well understood for the study countries and fall into five consumer benefit themes: "better financial management", "better energy management", "better property value management", "home improvement" and "being green". The financial management theme is the key theme, as the financial advantages the EEM would bring, were considered the most important reason to find it appealing (see **Figures 40 & 41**).
- The primary and secondary barriers to appeal are also now understood (see **Figures 38 & 39**). Across all studied countries respondents that do not find the concept appealing are already planning on buying an energy efficient home, or do not want to take out an additional loan.
- There are clearly two acceptable routes to energy efficiency improvement installation, discussed in this report as option A (a fully managed project) and B (a do-it-yourself project). Both have equal appeal to respondents and even with the added requirement for the customer to take out a performance guarantee under option B, the results suggest that appeal is still likely to be high.
- Testing the BEP and the GHD with a wider audience confirms that both elements have a limited appeal in their own right and from this research would not be expected to strongly influence a decision to purchase such a product. The cost and complexity of providing them may not be justified. However, this is not to say that lenders would not value some form of harmonised digital document which contained key attributes of the home to be purchased.
- On the other hand, some of the additional features and Government incentives tested have a strong appeal, for instance property transaction tax rebates, fee-free mortgage application and a 'zero percent borrowing rate' on the EEIL. These features would add to customers' interest in taking an EEM.
- There is good evidence that a partnership involving banks and energy companies working together to deliver the EEM would provide customer reassurance.

GUIDANCE FOR DEVELOPING AN ENERGY EFFICIENT MORTGAGE (EEM) PROPOSITION (see section 5)

- EEM propositions are likely to be well received by British and Italian consumers and other markets which share similar characteristics
- Offering a mix of additional features will add to the appeal of an EEM proposition
- European Union (EU) Member State Governments have a key role to play in helping to stimulate demand for EEMs
- An EEM proposition should offer customers the choice of installation options – as a fully managed service and as a do it yourself option.
- The BEP as a concept makes sense when incorporated as part of an EEM, however it should be offered in a limited format in the initial launch of an EEM proposition
- Inclusion of a GHD is not recommended in initial proposition testing. There is a need to build the credibility of an EEM product for retro-fitting energy efficiency measures on existing homes first. However, once the EEM market has been established the GHD product may represent an aspirational second generation mortgage product.
- The EEM could be marketed as a bank / energy company partnership from day one. However, other innovative partnerships between other market actors may also be effective in engaging consumers, although these were not tested in this study.



INTRODUCTION

CONSUMER RESEARCH PROJECT BACKGROUND

The consumer research programme of the EeMAP project had the fundamental objective of evaluating the overall appeal among core customer groups for an Energy Efficient Mortgage (EEM), and was based upon two core research objectives:

1. To understand the needs, wants, triggers and barriers to mortgage adoption and energy efficiency measures by core customer groups in the study countries and from this to create a set of energy efficient mortgage concepts. This objective essentially allows the market participants to design the concept of an energy efficient mortgage product with key features that are informed by customer opinion and are therefore more likely to be appealing to them.
2. To test the resulting concepts among core customer groups in the study countries to understand which features most strongly drive appeal and to derive an indication of the proportion of respondents who might be likely to buy the product based on its overall appeal.

This objective allows the market participants to estimate the likely success of the energy efficient mortgage ideas and could provide an important performance indicator for market participants. It will also point towards a possible marketing strategy for launching the mortgage concepts (e.g. launch the most appealing and simplest concept first and then in further launches layer in other appealing features).

The research methodology applied to fulfil the objectives set out above is detailed in the next section.

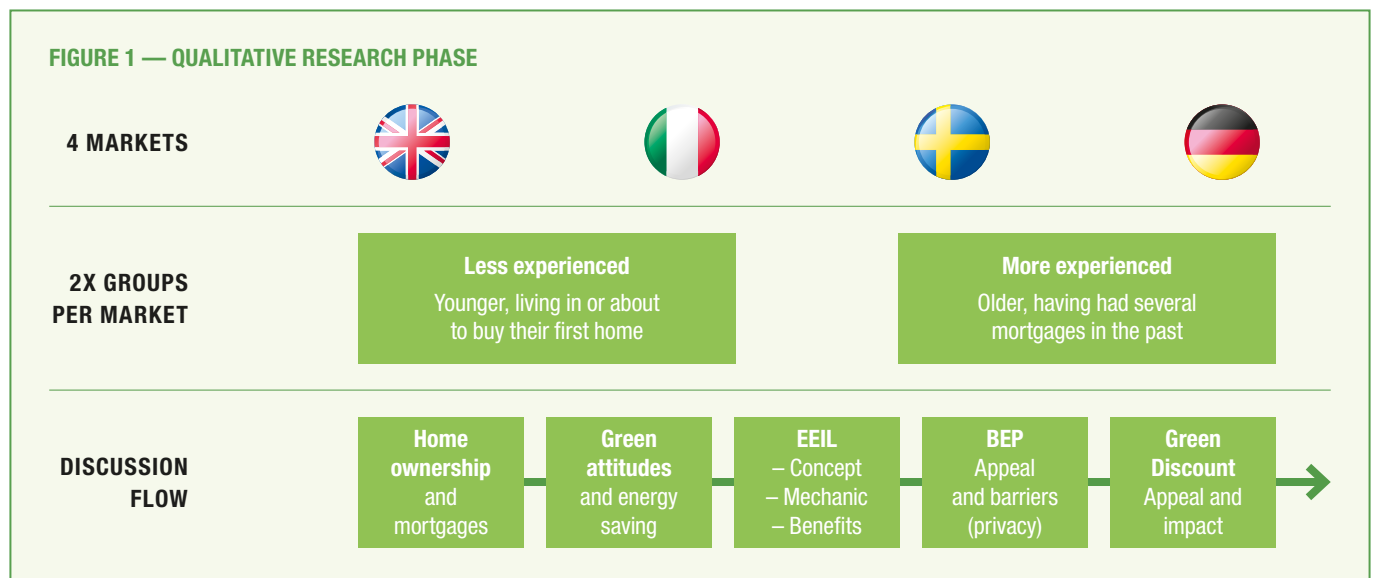
This consumer research represents an extremely valuable resource for the EEM initiative and for the wider market. In developing a deep and clear understanding of customer needs, desires and fears in relation to an EEM concept, market actors can begin to understand how they can position themselves to serve this new market. Indeed the results can offer guidance and understanding to both existing and new market actors as to the roles, responsibilities and relationships that need to be occupied in order to make this product work.

METHODOLOGY

In order to understand target consumer reactions to the product concept a two phase research plan has been followed. The first phase was qualitative research in the form of eight focus groups in four countries. The second phase was a quantitative survey in three countries. Figure 1 below, presents the qualitative phase. For both research phases early test concepts were developed and used as stimulus to elicit responses. All test concepts used can be found in the appendices which support this report.

Qualitative research is often used to explore consumers' reactions to early stage product ideas which can then be further developed before going forward to quantitative research. Qualitative research tends to be based on relatively small numbers of respondents in discussive / participatory sessions such as focus groups or in-depth interviews. The participant sample recruited is not designed to be statistically representative of the population under investigation. Instead it is able to give voice to the issues, concerns, questions, opinions of that population regarding the subject of study.

FIGURE 1 — QUALITATIVE RESEARCH PHASE



In this case a focus group methodology was adopted with two focus groups taking place in each of the selected countries; Sweden (Stockholm), UK (Nottingham), Germany (Munich) and Italy (Milan). The focus groups were conducted early in September 2017. Focus groups comprise of typically six to eight participants who are recruited to take part, often on the basis that their demographic characteristics or their behaviours match those of the target consumer for the product idea under discussion. The focus groups are moderated by a trained market researcher and follow a discussion guide, essentially a focused discussion, designed to encourage debate about the research topics over typically a 90 minute to two hour period. While following the discussion guide, the moderator is trained to ask additional questions and probe more deeply into participant's responses to ensure a depth of understanding. The discussion guides and stimulus material for this research can be found in the appendices.

Once initial reactions to the topics under discussion were uncovered through qualitative research, the ideas and concepts were developed further before the second phase quantitative research was carried out.

Quantitative research usually takes the form of a statistically valid online or interviewer administered survey. A sample of respondents that is representative of the target market population is recruited to answer questions about the product under development. That sample needs to be large enough to allow for meaningful statistical analysis to be carried out on the resulting data, either at the total sample or sub group level.

For this research respondents were recruited from commercially available market research panels in the UK, Italy and Sweden. The panel was a 'general' consumer panel, in other words, not a specialist mortgage or energy consumer panel. These panels are made up of large numbers of people from each country, fitting the required profile and expressing an interest in taking part in online surveys, for which they received compensation in the form of entry to a prize draw. The questionnaire used in this survey can be found in the appendices. Respondents were recruited from the general panel to take part in this survey based on certain criteria that are described in the screening section of the questionnaire. Broadly they were either active participants in the mortgage market, i.e. currently looking for a mortgage, or they had recently taken out a mortgage. The survey was sent out to panel members nationally within each country in order to achieve a geographic spread of respondents. The survey design followed was a fairly typical product concept test, whereby respondents' likes and

dislikes about the product idea are questioned along with other attributes including their stated intention to buy. The survey was designed to require around 20 minutes to complete.

Both phases of this research were carried out by a market research agency (Basis Research Ltd) with expertise in carrying out international research assignments in the financial services and energy sectors.

REPORT STRUCTURE

This report is structured across five separate sections.

It is worth noting that the EEM concept developed for the purposes of this consumer study should not be interpreted to pre-suppose the shape that EEM products must take in order to be successful. The concepts were developed pragmatically and primarily as stimulus and to help uncover the key features that an EEM product could be built upon. Importantly the concepts were designed to help sign post the features and benefits most attractive to consumers and therefore most likely to drive product appeal. However, in reality mortgage lenders who choose to innovate with EEM will find their own ways in structuring and presenting a product to their customers.

Section 1 sets out the initial EEM product concept developed for the purposes of stimulating discussion during the focus group stage of the research process (qualitative research). In this section the basic initial concept and features of an EEM are revealed as well as two variations of the product. **Section 2** summarises reactions from respondents during the multi-country focus groups, covering general perceptions as well as a deep dive into regional differences. **Section 3** covers the adaptation of the initial EEM concept tested through focus groups and sets out how the concept was modified taking on respondent feedback. The adapted concept was then carried into the online survey stage of the process (quantitative research). **Section 4** summarises the key insights arising from the quantitative research stage of the process and discusses the relative appeal of the concept across inexperienced first time home buyers as well as experienced and multiple mortgage holders. Finally, **Section 5** reflects on all of the insights generated through this consumer research and provides guidance on how the EEM concept can now be moved from concept to a commercial proposition.

SECTION 1 – INITIAL CONCEPT DEVELOPMENT

In order to stimulate discussion during the focus group phase of the process, and also to provide a foundation to build on and adapt, an initial EEM concept was developed. The initial concept was further expanded upon by introducing new elements and optionality with the envisaged customer journey. In the following sections the initial EEM concept presented at the various national focus groups is set out. The stimulus material developed to support the focus group discussion and the discussion guide used by facilitators in each of the focus groups can be found in **Appendix 1** and **Appendix 2**, respectively.

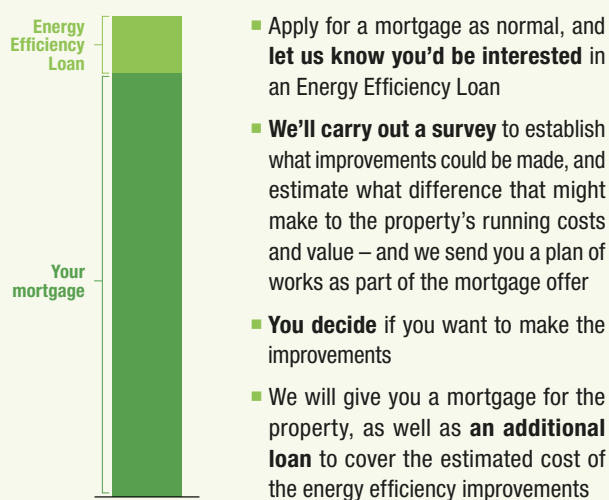
1.1 – INTRODUCTION TO INITIAL EEM CONCEPT & FEATURES

The initial EEM concept used to stimulate the focus group discussions was anchored around the following potential customer offer, and presented as a packaged solution (i.e. a bundled customer offer):

- *“If you have an EEM, (available when you buy a home, or re-mortgage your own home) we can also offer you an additional loan to make energy efficiency improvements to your home*
- *This could be used to install upgrades such as double glazing, insulation or even solar panels.*
- *This Energy Efficiency Improvement Loan becomes part of your main mortgage, but will be charged at a lower interest rate.”*

FIGURE 2 — THE BASIC EEM CONCEPT

With an EEM, we can also offer you an additional loan to make energy efficiency improvements to your home.



Essentially customers have the opportunity to access a lower interest rate by linking the Energy Efficiency Improvement Loan (EEIL) to their mortgage. This will enable them to fund an energy efficient upgrade to the home. Therefore, as **Figure 2** illustrates below, the customer buys into one single mortgage product made up of two loan elements; the main purchase mortgage and the EEIL. Rather, than being priced at the level of a consumer loan, the EEIL is priced at an interest rate comparable to or lower than the interest rate of the mortgage. This can offer significant savings compared to other home improvement loans as we shall discuss later.

(NB: It is important to state that the EEM concepts shared with customers in this research were intended to stimulate and test reactions. Therefore, the interest rates indicated are illustrative and not necessarily representative of how a mortgage lender may choose to price either loan element.)

1.2 – OVERVIEW OF ENERGY EFFICIENCY IMPROVEMENT LOAN

Once presented with the general idea of the EEM as a 'package solution', focus group facilitators then explained the key features of the concept, starting first with the EEIL. Focus group attendees were presented with the following explanation of a high-level EEIL application process and were invited to feedback on this.

“EEIL Application Process:

- *We will provide an initial indication of what works can be done, and what impact that might have on a property's value and running costs (in person, on the phone, or online)*
- *You then apply for an Energy Efficiency Improvement Loan as part of an EEM*
- *Our Energy Efficiency Survey on the property will assess in detail what improvements can be made to the property, and how much that could impact monthly running costs which will be shared with a professional property valuation expert who would consider the impact on property value*
- *We will provide a choice of Energy Efficiency Improvement packages, complete with cost estimates*
- *You decide which (if any) of these packages of work you'd like to undertake, and apply for a loan to cover these costs based on our estimates”*

The purpose of the EEIL is to provide funding for energy efficiency improvement measures. In order to provide focus group attendees with some context, facilitators presented the idea of structured packages of energy efficient home upgrades increasing in the depth and complexity of measures under an illustrative 'bronze, silver, gold' approach.

Also discussed in the sessions was the process of managing the installation of the energy efficiency improvements. As such, focus group attendees were presented with the idea of two routes through which they can carry out the energy efficiency upgrade measures.

The first installation option presented (Option A) centred on the customer opting to have works undertaken by an accredited installer or ‘preferred partner’ to the mortgage lender. Under this option the accredited and/or qualified installer would be directly paid the funds designated under the EEIL to fund the agreed energy efficiency upgrades against specific milestones. The works would then automatically be accredited on completion and the lender informed.

The lender would be provided with a full itemised invoice for the works and a new energy performance certificate to certify that the refurbished property had attained a higher energy efficiency standard.

The second option (Option B), presented consisted of the customer organising all of the works themselves, the so-called ‘do-it-yourself approach’. Under this route the customer would be able to select from a list of accredited installers and would be responsible for managing the works themselves. This would include the customer having to ensure that 12 months after the EEM and EEIL funds were distributed, evidence was submitted to the lender in the form of a final invoice from the accredited installers and a new EPC generated. Failure to provide this evidence would risk the customer losing the preferential interest rate carried under the EEM product. **Figure 3** below summarises the key aspects of two installation routes.

FIGURE 3 — INSTALLATION OPTIONS

OPTION A

- You have the option to use our accredited installers to complete the works
- The loan will be held on your behalf and paid directly to the installers at key milestones of the project
- The works are automatically accredited on completion

OPTION B

- You may prefer to manage the installation yourself, in which case the loan will be paid directly to you
- You will choose subcontractors from our list of accredited partners, and you will be responsible for the project management yourself
- After 12 months you will need to provide evidence that you have completed the work (e.g. final invoice from subcontractor and a new EPC)
- If the works have not been completed you may need to provide evidence of works ongoing or risk losing your preferential interest rate – or even be asked to repay the loan

Finally, in order to help focus group attendees to get a sense of the potential financial benefit of opting for an EEM product, a hypothetical worked example was shared. Table 1 illustrates the financial benefits of an EEM product’s Energy Efficiency Improvement Loan element vs. a regular mortgage combined with a personal loan priced at a typical consumer loan market rate.

(NB: The examples in Table 1 are based on typical rates in the UK market. The figures were adjusted to reflect the housing and mortgage market of each study market. The two types of mortgage in the table can’t be compared directly because they run for different terms. They are meant to offer hypothetical examples of products for research purposes only. The main message here is that the EEIL offers customers lower monthly repayments, which would mean that they not only benefit from lower energy bills due to the refurbishment, but also lower monthly repayments due and a longer term over which to repay the EEIL vs conventional personal loan. However, depending on the payback period for the package of energy efficiency measures installed, the customer may be in a position to pay off the loan earlier through energy cost savings and therefore would incur lower interest charges on the EEIL.)

1.3 – OVERVIEW OF GREEN HOME DISCOUNT

Having introduced the EEM concept as a conventional mortgage product paired with a low cost EEIL, a further EEM product variant was introduced,

TABLE 1 — EXAMPLE OF THE FINANCIAL BENEFITS OF EEIL VS TYPICAL MORTGAGE AND PERSONAL LOAN

	Energy Efficiency Improvement Loan	Regular mortgage + personal loan
Property Value	£300,000	£300,000
Deposit	£90,000	£90,000
Mortgage amount	£210,000	£210,000
Mortgage terms	2% fixed for 2 years; (then 4% for 23 years)	2% fixed for 2 years; (then 4% for 23 years)
Monthly repayments	£890 per month (first 2 years)	£890 per month (first 2 years)
Energy Efficiency Loan amount	£10,000	—
EEL terms	1.5% fixed for 2 years; (then 3.5% for 23 years)	—
EEL monthly repayments	£40 per month (for the first 2 years)	—
Personal Loan amount	—	£10,000
Loan terms	—	5.9% over 5 years
Monthly repayments	—	£193 per month
Total borrowed	£220,000	£220,000
Total monthly repayments (first 2 years)	£930 per month	£1083 per month (£153 more)
Total cost of loan	£331,248	£328,068 (£3,180 cheaper)

described as a ‘Green Home Discount’ (GHD). This would essentially apply to new build energy efficient homes or older homes that had already been upgraded to a high standard of energy efficiency. The green home discount concept was explained as follows:

“When you take a mortgage to buy a home with a top energy rating, we will give you a discount on your mortgage interest rate.

We’ll give you a discounted rate on homes that score an A or a B on their Energy Performance Certificate (EPC)

This typically includes eco-friendly new builds, or some older homes that have had substantial energy efficiency improvements made.”

Figures 4 and 5 below were used as a visual cue to further explain how the green home discount mortgage would function.

The key benefits of the green home discount mortgage shared with focus group participants centred around:

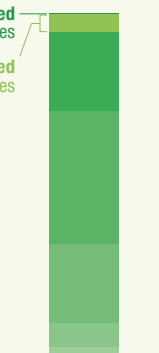
- **A reduced interest rate**, combined with the lower energy usage that an energy efficient home brings, means that your household running costs could be substantially cheaper;
- **And the customer being able to borrow more to buy a more expensive home.** i.e. – A lower mortgage rate and running costs would have a positive impact on your mortgage affordability. This means that banks could be willing to lend you more on an energy-efficient home, potentially giving you a larger budget for your next home purchase.

FIGURE 4 — BASIC GREEN HOME DISCOUNT CONCEPT

When you take a mortgage to buy a home with a top energy rating, we will give you a discount on your mortgage interest rate.

A-rated
0.04% of homes

B-rated
5.16% of homes



- Apply for a mortgage as normal, and let us know you’d be interested in an Energy Efficient Mortgage
- If the home you’re purchasing is B-rated, we’ll give you a discount of 0.2% off your mortgage interest rate
- If your new home is A-rated, we’ll give you a discount of 0.35% off your mortgage interest rate

1.4 – OVERVIEW OF BUILDING ENERGY PASSPORT

It has been proposed that the EEM customer would receive a Building Energy Passport (BEP). A BEP would essentially record the energy efficiency history of a property by recognising improvements made over time. It would also include recommendations and advice for making future energy efficiency improvements in a rational way that ensures the maximum potential for the property can be reached in a cost effective way.

Such a passport would aim to create a track record of energy efficiency improvements which will be useful for the financial industry, valuers and the building sector, and valuable for mortgages, covered bonds and securitisation. The BEP would also help the valuation profession in recognising the “green value” of energy renovation given the access to validated information documenting the interventions carried out on the property, and the improvement to energy efficiency afforded by these.

The BEP was introduced to the focus groups as the final stage of the discussion and was explained as a potential feature of the EEM product and explained in simple terms using Figure 7 as a guide.

FIGURE 5 — GREEN HOME DISCOUNT DETAIL

When you take a mortgage to buy a home with a top energy rating, we will give you a discount on your mortgage interest rate.

B-rated home

Typically a new-build home built to very high energy efficiency standards

OR an older property with multiple improvements including renewable energy generation

A-rated home

Either a specially built eco-home
OR an already high-efficiency home with considerable renewable energy generation capacity

TABLE 2 — WORKED EXAMPLE OF A GREEN HOME DISCOUNT MORTGAGE PACKAGE

	C-RATED HOME	B-RATED HOME	A-RATED HOME
Property Value	£400,000	£400,000	£400,000
Deposit	£100,000	£100,000	£100,000
Mortgage amount	£300,000	£300,000	£300,000
Mortgage terms	3.5% fixed for 5 years	3.3% fixed for 5 years	3.15% fixed for 5 years
Monthly repayments	£1501 per month	£1469 /mth (save £32)	£1446 /mth (save £55)
Estimated monthly energy bill	£60 per month	£50 /mth (save £10)	£30 /mth (save £30)
Estimated monthly running costs	£1561 per month	£1519 /mth (save £42)	£1476 /mth (save £85)
Year 1 total Estimated running costs	£18,732	£18,228 (save £504)	£17,352 (save £1380)

It is important to state that it is not foreseen that a BEP will be a mandatory component of an EEM, however, lenders may seek a fairly harmonised document which refers to the characteristics and energy efficiency

features of a home for comparison purposes. The BEP concept presented to participants of the focus groups is an example of one such harmonised document format or approach.

FIGURE 6 — BASIC BUILDING ENERGY PASSPORT CONCEPT

A smart digital document that tracks your homes energy efficiency, and helps you make energy efficiency improvements.

WHAT DOES IT DO FOR ME?

1 – Store the info from your energy survey

2 – Record all the work you've done to your house – guarantees, receipts etc.

3 – Track and manage your energy usage

4 – A detailed, personalised roadmap of energy efficiency improvements you could make to your property

5 – Advice, support, and further finance if you want to carry out any of the improvements, or reduce your energy consumption generally



SECTION 2 – QUALITATIVE TESTING IN FOCUS GROUPS

2.1 – MORTGAGE MARKET CONTEXT AND CONSUMER EXPECTATIONS

The focus groups held across the four countries in this study yielded some interesting cultural, housing market and mortgage market differences which are useful to consider when reviewing and weighing the insights which follow. These are summarised below.

2.2 – GERMAN MORTGAGE MARKET OVERVIEW

The property buying process in Germany involves a number of steps for the borrower. First of all the borrower has to work out a realistic budget. The amount that lenders will be willing to lend varies as lenders will base their calculation on a series of parameters such as consumer income and financial commitments (loans, credit cards and child maintenance costs), essential expenditures and spending on quality of living/ lifestyle (such as clothing, toiletries and recreation). Mortgage advisers have a duty to take reasonable steps to ensure a borrower can afford a mortgage that they recommend. Whether or not the borrower gets advice, lenders are required to lend responsibly and will try to make sure borrowers do not overstretch their finances. Once a budget has been defined the borrower needs to apply for a mortgage loan via an application form in which the borrower will be asked a series of fairly detailed questions to help the lender decide whether, and how much, to offer to lend. Generally a range of personal information is requested including proof of identity, proof of salary, any expenditure commitments, essential expenditure and 'quality of life' expenditure.

Before approving an application, the lender will want to assess the property's value. German law gives detailed requirements on the valuation of real estate for lending purposes. This applies to security rights and loans that a lender with a 'Pfandbrief' (covered bond) license may want to use as cover assets for covered bonds; they may be used up to 60% of the mortgage lending value (a sustainable value on strict requirements from a bank's perspective); the option to use a loan as a cover asset for covered bonds will make it possible to give better terms to the borrower and has to be considered by the bank in the decision process. But also for the capital-asset ratio, the valuation is important.

The lender will usually arrange for a qualified valuer to give a valuation report and to inspect the property. Every lender will have its own lending policies that will set out the restrictions on lending. Lenders will also have different policies in relation to the amount they are prepared to lend (minimum and maximum), credit risk policy (minimum and maximum), they may also have a maximum loan to value e.g. 95% and the pricing of the loan will depend on the LTV rate. Once the lender is happy with the value of the property and the ability of the buyer to afford the property, it will draft a contract between the lender and borrower and send it to the borrower, which the borrower will need to accept. This draft may contain some conditions precedent for the disbursement of the loan, the most important of them being the creation of a security right over immovable property.

For a mortgage loan, a security right over immovable property is necessary. This is created by a notarial authentication from a civil law notary with the presence of the borrower (owner of the property) at the notary's office. The borrower may choose a notary. The lender will create a mandate to the notary and a form for the mortgage creation and send it directly to the notary or give it to the borrower who will hand it over to the notary. The notary will bring it in a notarial form and send this draft to the borrower

FIGURE 7 — GERMAN MORTGAGE MARKET – QUALITATIVE OVERVIEW

CULTURAL

Practical, private and responsible, owning a home offers freedom/independence from landlords and a solid investment

But wariness around debt, mortgages and lenders

Wait until mid/late-thirties to buy first home

HOUSING MARKET

Strong rights for tenants have traditionally made Germany a rental rather than home owning market

However demand for homes has been consistently strong – prices are high and growing steadily in big cities

New builds are highly regarded

MORTGAGE MARKET

Lenders are naturally cautious and so affordability checks can be strict

But lending terms are favourable and balanced, often with long-term fixes of 10 years or more

Prudent and cautious, Germans invest in property only when they can afford to, and take their responsibilities seriously.



(owner), giving him a week's time to consider it and to ask questions. Then, in a formal authentication, the notary will read it to the owner, explain it to him, answer his questions and document his approval in the notarial deed. As mandated by the bank and the borrower, the notary typically will take care that the security right over immovable property is registered in the land register. As soon as the registrar has registered it with the correct ranking, the security right is created and the notary will inform the parties, then the bank will disburse the loan. In urgent cases, the notary may give an opinion that the registration will securely be carried out, and the bank may then disburse the loan, before registration.

(Source: Verband deutscher Pfandbriefbanken/Association of German Pfandbriefbanks)

Another important feature of the German market is the existing scheme operated by the German state-owned Bank for Reconstruction KfW (German: Kreditanstalt für Wiederaufbau)¹. As of 1st January 2012, the German Development Bank KfW has introduced two programs, the KfW Energy Efficiency Programme and KfW-Environment Programme. The programmes provide loans for the financing of environment protection and energy saving investments for private property owners and self-employed persons.

FIGURE 8 — KfW ENERGY EFFICIENCY LOANS

KfW, Germany's national development bank, offers low-interest Energy Efficient Refurbishment loans, as well as other incentives, to encourage energy efficient homes in Germany.

- long-term home improvement loans with interest rates as low as 1% or less
- debt relief of up to 27.5% on sums borrowed, if the highest KfW rating is achieved
- debt relief of 7.5% on loans to do individual improvements (regardless of KfW level)
- investment grants of up to €60,000 for those who make refurbishments out of their own pocket

Positively regarded

- good value and generous offers

"They gave me a loan for my windows... it made a huge difference compared to the mortgage."
– Germany, experienced

However the admin can be onerous

- income thresholds
- accreditation
- paying for an energy consultant your self
- organising the works

"There are income limits, age limits, family status, all sorts of things play a role."
– Germany, experienced

"It can be impossible to satisfy their criteria." – Germany, less experienced



2.3 – ITALIAN MORTGAGE MARKET OVERVIEW

Italian consumers are known to value investments in property, hitting a high level of almost 80% of owners but, on average, only about 50% of annual residential transactions are with a mortgage loan.

Usually, Italian consumers apply for mortgages when they already have chosen the house they want to buy. They identify how much they can obtain from the bank to understand what they can offer, considering that generally a deposit of at least 20% is required from their own funds. Loan-to-Value (LTV) ratios of more than 80% are only granted in special cases with specific guarantees (public or private) or insurances.

Banks verifying all the information regarding income and property will also look at precedent financial behaviour.

Specifically the potential borrower will apply for his/her preferred mortgage, presenting the bank with documentation related to family status and identity, income, payments and expenses and property. Family status and identity information will allow the lender to verify if there are any judicial problems regarding the borrower's previous situation and will help the lender understand the household composition.

Regarding income, borrowers must prove the continuity of the income in the previous years, presenting tax declarations (of the previous year) together with last three months' salary packets. Bank statements with detailed credit and debit movements of the previous two quarters are required to understand standard of living and financial movements. To ensure affordability, the loan repayments should not exceed about 35% of monthly net salary.

All the documents must be annexed to the application form of the mortgage loan. Apart from this, the lender will also check specific credit information databases (public and private) for any negative financial record or other loans to be repaid by the borrower.

If the consumer is creditworthy, the bank will check the property through an independent and qualified valuer. The valuer will assess if there is any impediment to the inscription of the mortgage in the public register (and in the property transfer) and the value of the property to calculate the loan to value LTV ratio.

If there is no impediment, the real estate transaction and the contract of mortgage loan will be two different acts signed by the parties (seller and buyer of the house and lender and borrower of the mortgage loan) in the presence of a notary who will register in the public registers.

(Source: Italian Banking Association (ABI))

1 — <https://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilie/>



FIGURE 9 — ITALIAN MORTGAGE MARKET – QUALITATIVE OVERVIEW

CULTURAL

Italians are relaxed; feel less pressure to buy a first home

Long term attitude:

- content to rent long-term
- take time to save to buy their 'dream home'
- intend to stay a long time / forever

HOUSING MARKET

Higher regard for older homes, often in need of renovation

New builds are less attractive and more expensive

Homeowners have often taken loans to fund improvements

- for renovation/extension
- and efficiency

MORTGAGE MARKET

Interest rates at an all time low; mortgages feel fairly accessible

Switching is not common place, consumers fix for even 25 years

Strong level of trust for banks, regarded as stable establishment

Generous borrowing terms and long-term approach to housing means Italians prioritise comfort and lifestyle over value growth and money-making.

2.4 – SWEDISH MORTGAGE MARKET OVERVIEW

The Swedish home-buying process normally starts with an application for a "lånelöfte" – a mortgage loan pledge. Most banks and mortgage institutions offer some form of mortgage loan pledge, which means that the customer after an approved credit application gets a mortgage loan pledge to buy a dwelling under certain conditions. A mortgage loan pledge is valid during a limited number of months. The final terms of the mortgage loan depend among other things on the value of the dwelling and that the economic situation of the customer has not deteriorated.

The financing of a housing purchase normally consists of two parts; a down payment and a mortgage loan. The Loan-to-Value (LTV) limit is regulated to 85% of the market value of the dwelling.

The bank or the mortgage institution will check the property's value on which the mortgage will be secured. The market value of the property is normally the base for the bank's calculation of the size of the mortgage loan that could be offered. The market value of the dwelling is normally the negotiated price of the dwelling. If there is a major difference between the market price of the property and the bank's assessed price, the bank normally hires a property valuer. In some cases, the mortgage applicant must pay for the property valuation.

There are a few transaction costs associated with securing a mortgage:

- Title deed costs – 1.5% tax on the housing purchase price and a fixed fee of SEK 825 (~€84).
- Mortgage deed cost – 2% tax on the mortgage loan and a fixed fee of SEK 375 (~€38).

If you buy a tenant-owned apartment you instead pay a certain fee to the tenant-owners' association.

Mortgages with a LTV above 70% must be amortised by at least two percent of the original loan amount each year. Mortgage loans with a LTV ratio between 50% and 70% must be amortised by a minimum of one percent annually. For borrowers with existing mortgages, additional loans from June 2016 may alternatively be paid over a period of 10 years. From March 2018 stricter amortisation requirements enter into force. The new requirements imply that new borrowers whose loan-to-income (LTI) exceeds 450% (housing loan is above 4.5 times gross income), must amortise at least one percent above prior amortisation requirements. The Bank must also discuss an amortisation plan with the borrower and suggest an individual customised amortisation plan. The individual amortisation plan should be written or in another readable form.

(Source: Swedish Bankers' Association)



FIGURE 10 — SWEDISH MORTGAGE MARKET – QUALITATIVE OVERVIEW

CULTURAL

Generally in no great hurry to buy their own home

Government controls housing quite closely – expectations of red tape, and changing regulations

Hands-on and practical, and quite open to doing work on their homes

HOUSING MARKET

Cities like Stockholm are expensive and oversubscribed

Starter properties are almost always an apartment in a condominium or managed block, with limited scope to make changes

Moving out to a house – with freedom to make changes – happens later in life

MORTGAGE MARKET

Very highly regulated, Swedish mortgages are stable, but stifling

Low interest rates and long terms are common

Difficult to extend your borrowing or refinance mid-term

Sweden's highly bureaucratic administration can be a barrier, making borrowing less flexible and occasionally more of a burden.

2.5 – UNITED KINGDOM (UK) MORTGAGE MARKET OVERVIEW

The home-buying process in the UK involves a number of steps for the borrower. First of all he/she has to work out a realistic budget. The amount that lenders will be willing to lend varies as lenders will base their calculation on a series of parameters such as consumer income and financial commitments (loans, credit cards and child maintenance costs), essential expenditures and spending on quality of living/lifestyle (such as clothing, toiletries and recreation). Mortgage advisers have a duty to take reasonable steps to ensure a borrower can afford a mortgage that they recommend. Whether or not he/she gets advice, lenders are required to lend responsibly and will try to make sure borrowers do not overstretch their finances.

Once a budget has been defined the borrower needs to apply for a mortgage via a mortgage application form in which he/she will be asked for fairly detailed information to help the lender decide whether, and how much, to offer to lend. Generally the following information is asked:

- Proof of identity;
- Proof of salary from an employer or copies of your audited accounts;
- Details of how the borrower kept up any previous mortgage payments, or evidence of regular rent payments;
- Details of wider financial circumstances, including details of:
 - Any expenditure commitments you may have e.g. credit cards, other loans, or HP agreements
 - Essential expenditure/outgoings e.g. utility bills, council tax, insurance, travel costs, fixed childcare costs
 - Spending on ‘quality of life’ items which are non-essential e.g. recreation, leisure etc.
- Borrowers will need to insure the property against fire and other threats – this will be a requirement of mortgage offer.

Before approving a mortgage application, the lender will want to check the property’s value. To do this, the lender will usually arrange for a qualified valuer to inspect it. The mortgage applicant normally has to pay for the lender’s valuation, even if they do not go on to buy the property. Once the lender is happy with the value of the property and the ability of the buyer to afford the property they will make a formal mortgage offer, a contract between the lender and borrower, which the borrower will need to accept.

Conveyancing is the legal process that must be followed to transfer the ownership of the property from the seller to the buyer. The legal aspects of buying a home can be complicated. Although in theory a borrower can do the legal work themselves, in practice most home-buyers appoint a solicitor or a licensed conveyancer to do the legal work involved in buying a property. That person, known as the conveyancer, will be the legal adviser and will act for the borrower. Every lender will have its own lending policies that will set out the restrictions on lending that it will apply e.g.

- Properties of non-traditional construction
- Leasehold properties with short leases
- Properties liable for unknown future costs
- Properties subject to unusual leases (such as solar panel leases)
- Properties containing hazardous materials (such as asbestos)
- Properties close to mineshafts
- Properties where invasive plants (such as Japanese knotweed) are present or close by

Lenders will also have different policies in relation to the amount they are prepared to loan (minimum and maximum), terms of loans (minimum and maximum), they may also have a maximum loan to value e.g. 95% and the pricing of the loan will depend on the LTV rate.

(Source: UK Finance)

FIGURE 11 — ENGLISH MORTGAGE MARKET – QUALITATIVE OVERVIEW



CULTURAL

Home ownership an important rite of passage
British customers worry endlessly about getting ‘on the ladder’:

- buying a small flat young, and trading up often to a family home
- ‘adding value’ is important

HOUSING MARKET

Housing is a national obsession
Prices are high, although huge disparity between London and the provinces
New builds are often affordable, small, starter homes
Renting is expensive & insecure

MORTGAGE MARKET

Flexible and dynamic market

- short-term fixed rates (2-5 years) and frequent switching are commonplace

General mistrust of the world of mortgages:

- inherently complex
- trust damaged by financial crisis

A frothy and dynamic market with homeowners moving and remortgaging frequently, and an obsession with homeownership as a source of financial stability and personal pride.

2.6 – ENERGY EFFICIENCY MORTGAGE REACTIONS AND OPPORTUNITIES

FIGURE 12 — SUMMARY OF THE CORE ELEMENTS OF EEM CONCEPT PRESENTED TO FOCUS GROUPS

ENERGY EFFICIENCY IMPROVEMENT LOAN

a discounted loan for energy efficiency improvements

combined with your mortgage (one monthly repayment)

discount is your mortgage interest rate minus 0.5%

survey is carried out to recommend improvements

12 months to complete works; started when suits you

OPTION A: we manage the project;
OPTION B: you do

BUILDING ENERGY PASSPORT

a smart digital document tracks home's energy efficiency

potentially a condition of taking the EEIL

stores info from your energy survey, records all works done

tracks and helps you manage your energy efficiency

gives detailed roadmap of improvements you could make

provides further advice, support and finance to carry these out

GREEN HOME DISCOUNT

discount on your mortgage interest rate when you buy a home with the highest **energy efficiency rating**

a 0.2% discount for a B-rated home / 0.35% for A-rated

for DE: this is the KfW 55 vs KfW 40

B-rated homes are often new-builds with high EE standards

A-rated are typically specifically built as eco-homes

2.6.1 – Key highlights and general impressions from the focus groups

A very positive reception towards the concepts was seen in the UK, Italy and Sweden.

Respondents from UK, Italy and Sweden expressed a lot of warmth toward the initial concepts. They were perceived as a genuinely helpful and valued support to make positive change to the respondents' homes and lifestyles.

The EEIL surfaced as the most attractive element, encouraging and enabling homeowners to invest in their property. By making these works easier and more affordable, the EEIL brings these improvements within reach of more people, and improves the economic argument for them.

The BEP is perceived as a useful and common-sense addition to the EEIL, enabling homeowners to track and monitor the works, and the energy efficiency improvements that follow. However the BEP is not, by itself, a huge selling point.

The GHD feels like a positive incentive towards greener homes and would feel like a very welcome and meaningful reward for those who do live in a high efficiency home. However house-hunting is driven by other factors such as location, space, features, character and appeal; energy efficiency is very low down this list. A small discount to the mortgage rate is unlikely to drive energy efficiency much higher up this list.

In Germany: less pressing need and stronger cynicism underpin a more lukewarm reception

In Germany, the reception was much more muted. The concept does not offer much that is new, and what benefits it does offer come at a cost which is hard to accept. The incumbent KfW loans product in Germany as described above on page 14 makes funds available in a very similar way to

the EEIL concept, which undermines its uniqueness. While the KfW loans can be complicated to administer and manage, and help and support would be valued, German consumers are very privacy-conscious, and wary of ceding control or sharing personal data with official bodies like banks or utilities. These worries about privacy and control outweigh the potential benefits promised by the concepts.

In summary, the presented concepts represent an intriguing and highly differentiated range of EEM features across UK, Italy and Sweden – of which the EEIL is the most compelling.

2.6.2 – EEIL: General perception across regions

UK, Italian and Swedish consumers perceive the EEIL as a welcome incentive that helps property owners to improve their homes and help the environment at the same time. It meets a latent need and the support in managing the process of home improvements is mostly considered helpful.

Reducing monthly energy bills is the most motivating benefit

Asking respondents across the four markets which potential benefit of the EEIL they value the most shows that lower energy bills come out as the most motivating benefit, followed by an increased property value. However, it is important to note that in reality increased property value will be very situational in its nature and dependent on the measures applied and the interplay of value drivers of which energy efficiency alone may not be the strongest (**Figure 13**). A reduced carbon footprint is perceived as the least tangible benefit to the individual.

An energy survey in the form of a personal consultation is perceived as more valuable across all markets. The idea of an energy survey is very appealing, and a valuable service in itself, but a home is a very personal and precious

thing (Figure 14). It is important that energy improvement recommendations are not based solely on a survey of the property, but include input from the

homeowner. By understanding the homeowners wants, needs and plans for their home, the packages will feel far more personal, relevant and desirable.

FIGURE 13 — EEIL BENEFIT HIERARCHY

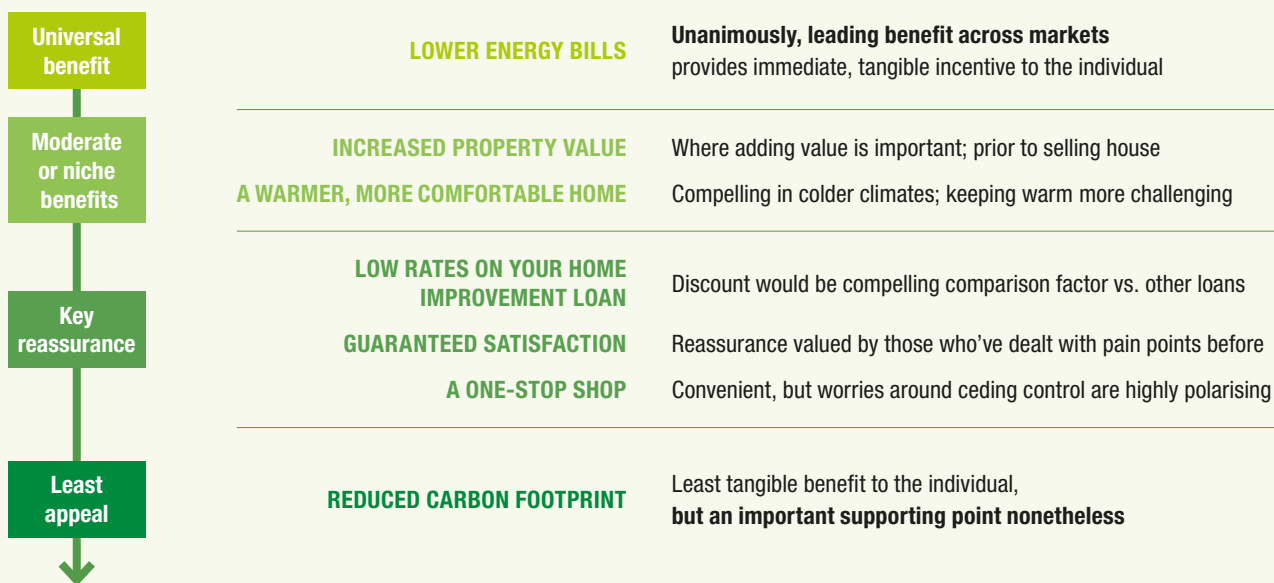
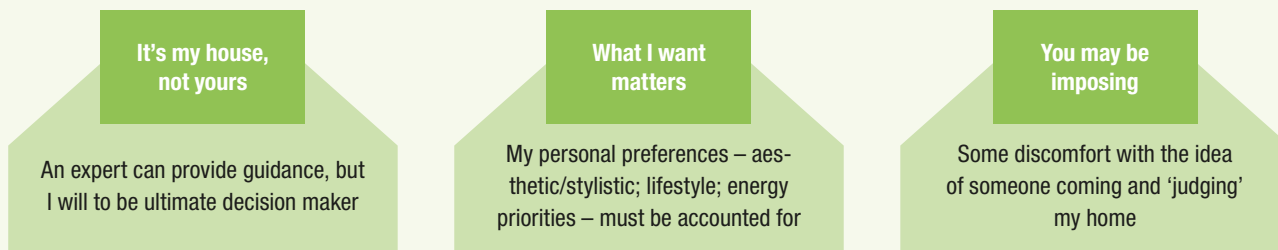


FIGURE 14 — PERCEIVED VALUE OF AN ENERGY EFFICIENCY SURVEY

The idea of an energy efficiency survey is valuable in itself

A accessible route to getting an expert's guidance and cost estimations in your home

But remember:



The recommendations must be built around the homeowner's needs and wants, not just the building.

Tiered packages feel too limiting

There was a lot of unease around the packages themselves, they felt somewhat arbitrary and people weren't sure how they would choose. Also, the tiered structure shown in the stimulus felt limiting. If you want the features in 'GOLD', you can't get them without also taking 'BRONZE' and 'SILVER'.

Packages built around benefits rather than tiers could make them more appealing, help homeowners make sense of them, and give greater flexibility and personalisation, e.g. a 'Warm Home' package focused on insulation and heating; a 'Future Tech' package focused on smart control and electric vehicles, a 'Micro Gen' package focused on renewables, and so on (Figure 15).

FIGURE 15 — INSTALLATION BENEFIT PACKAGES

Thematic packages would help consumers to understand that improvements will be tailored to their needs, for example:



But even so, they would need to be bespoke and consultative, not off-the-shelf.

Flexibility with timing provides breathing space

An obligation to complete the works within a specified timeframe makes sense for the EEIL and people recognise the need for some form of accreditation and proof. However, the idea of completing everything within 12 months of moving house can feel pressured or intimidating. Many would like the flexibility of being able to take the loan and ‘start the clock’ at a time of their choosing, perhaps 6-12 months after moving, once they are a bit more settled into their homes. This would also help mitigate fears that the EEIL could slow down the home purchase process, which is often very time sensitive, especially in the UK and Sweden.

The big debate: installation option A ‘One-Stop-Shop’ vs option B ‘DIY’ is highly polarizing with no clear winner.

Both remaining in control of the process, and having project management support with the implementation of the EEIL are appealing, albeit to different people (Figure 16). This debate has been highly polarizing across all markets in scope. One common aspect towards which respondents showed strong scepticism was having to choose from ‘accredited partners’ due to the underlying fear of being ‘ripped-off’ or being allocated a ‘cheap tradesman’.

Figure 17 summarizes the reaction of people to the perceived benefits of each installation option. In terms of specific improvements that consumers were interested in making to their homes, double / triple glazing, loft and cavity insulation, solar hot water, and other renewables (e.g. solar PV; heat pump) showed the greatest appeal across markets.

FIGURE 16 — INSTALLATION OPTIONS

**OPTION A
DO IT FOR ME**

- Reduces anticipated DIY pain points
- Provides convenience in a stressful process
- Guaranteed budget reduces homeowner risk

**OPTION B
DO IT MYSELF**





- Emphasizes control over *my* home
- Necessary for those burnt by bad tradesmen before
- Provides cost cutting opportunity for the ‘savvy’

**HIGHLY POLARISING, WITH NO CLEAR WINNER
But across both: strong scepticism towards
‘accredited partners’ list to choose from**

Fear of being ripped-off, or allocated ‘cheap tradesman’; those preferring option B are especially strongly motivated by control and want to use their own known, local tradesman

Greater flexibility (accepting third-party accreditations); or pathway to get preferred tradesman accredited would reassure

FIGURE 17 — SUMMARY OF REACTIONS TO INSTALLATION OPTIONS

				
PERCEIVED BENEFITS	Increasing property value motivates in a transient market	Many have managed big works; would’ve valued support during this	An easier pathway to additional financing (extending a mortgage is difficult)	Few perceived benefits beyond KfW, support is a positive, but not compelling
OPTION A VS OPTION B	An even split, passionate on both sides	Most for A: ready to relinquish control	An even split	Most for B: extremely reluctant to
DESIRABLE HOME IMPROVEMENTS	Insulation and double-glazing; solar PV and EV charging also attractive	Loft /cavity insulation; double/triple glazing most compelling	Triple glazing (although most already have it), geothermal	Triple glazing (although most already have it), geothermal

2.6.3 – Building Energy Passport: General perception across regions

Consumers across most markets (except Germany) feel fairly positive about the Building Energy Passport concept (BEP). The BEP is mostly accepted, but was not perceived as a compelling selling point in itself. It seems logical to have a hub consolidating all relevant work records digitally that also include proof of implemented measures. As such it feels like a logical cornerstone to the EEIL.

The aspect of having a tangible record of efficiency was very much welcomed, but various respondents pointed out that constant recommendations on

energy saving behaviours are not welcome. The topic of improving the energy efficiency of their home should not take too much room in their day-to-day life.

Response to the BEP highly dependent on market context

Comparing the perception across the different markets, the reaction by UK respondents is the most positive, followed by Italy. Swedish respondents reacted fairly neutrally, whereas German participants expressed the greatest reservations (Figure 18).

FIGURE 18 — COUNTRY REACTION TO BUILDING ENERGY PASSPORT

POSITIVE



Attractive, up to date alternative to EPC which doesn't get lost/out of date; would add vital usage information



Holds appeal as a history of their homes plus smart monitoring of energy feels novel, future-facing



Neutral response, convenient and enabling oversight but pragmatic attitude: this isn't useful every day



Dislike; don't need help monitoring their usage and not willing to pay the cost of their data

NEGATIVE

"The EPC is just a bit of paper – you lose it, it's gone." – UK, experienced

"I don't know if I'd really need it.. It feels like it's more for them than for me." – Germany, less experienced

FIGURE 19 — COUNTRY WILLINGNESS TO SHARE DATA ABOUT THEIR HOME

WILLING TO SHARE



Trust banks, utilities or government with their data
An open attitude and absence of scandals



Willing to share with banks, utilities or government; few concerns generally around privacy, sharing



Energy company adds expertise in monitoring efficiency - Banks would also be trusted; but governments would not



Privacy conscious, resistant to share data across parties
Actively reduces their interest in the BEP

UNWILLING TO SHARE

"But who would give a damn about your electricity consumption – it's totally boring anyway!" – Sweden, experienced

Looking at the willingness of consumers to share their home data with external parties shows that in Sweden people trust banks, utilities and governments the most, whereas German people show the strongest resistance due to their sensitivity towards data privacy (Figure 19). UK consumers are generally willing to share their data with only a few concerns and in Italy respondents appeared to trust the banks and utilities much more than the government.

Reassuring flexibility on some BEP aspects would be welcomed

Respondents in all relevant markets expressed concerns that the BEP could potentially tie them down to a specific utility or mortgage provider (Figure 20). Furthermore they feel that regularly managing the BEP with document uploads could be a hassle and different engagement opportunities would be appreciated.

FIGURE 20 — BUILDING ENERGY PASSPORT ENGAGEMENT PREFERENCES

Don't tie me down

Some concern this could tie them to mortgage lender or utility provider

Reassure: BEP exists independent of one service provider

Manage yourself

Requirement to regularly upload to and monitor sounds a hassle

Clarify: this can update and manage itself with minimum input

Allow flexible access

Homeowners differ in level of interest to engage with this

Emphasize: access through a range of ways (e.g. portal, app, statement)

2.6.4 – Green Home Discount: General perception across regions

In general the reaction to the GHD was mixed (Figure 21). On the one hand the concept was perceived as a positive incentive for greener homes. On the other hand respondents feel it is more of a niche product that is not relevant for many people, as it is applicable to a relatively small number of homes and might be incompatible with individual plans.

Although appearing to be an interesting offer, it turns out that the energy efficiency ranking of the potential future property is not likely to influence the house choice for many people. Their 'dream home' is much more likely to be determined by location, size, look and feel, layout and other features. As key barriers to GHD, the low availability of eligible homes as well as a limited desire to own a new build home (mainly outside Germany) are mentioned the most (Figure 22).

FIGURE 21 — REACTION TO GREEN HOME DISCOUNT

A rollercoaster reaction:



Progressive offer
Possible 'Halo effect' for brand
'Common sense' and a good deal
Everyone loves a discount

This feels niche
Applicable to too few homes
Incompatible with my plans

"If I could get a discount on my mortgage, yes, why not" – Germany, experienced
"I'm not going to buy a new build instead of my dream home though..."
– UK, experienced

FIGURE 22 — BARRIERS TO ACCEPTABILITY OF THE GREEN HOME DISCOUNT

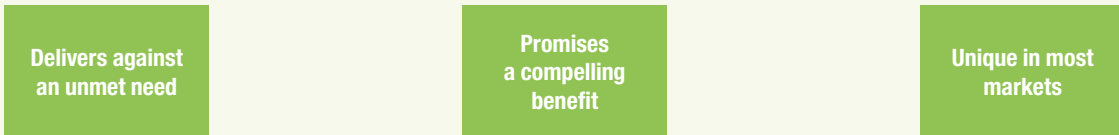
- ➔ Too few homes eligible, approx. 5%
- ➔ New builds less desirable, esp. outside Germany
- ➔ May mean compromise on location or size
- ➔ Rewards the fortunate who already have an energy efficient home

2.7 – KEY INSIGHTS ARISING FROM FOCUS GROUPS

Figures 23 to 26 summarise the key conclusions arising from the focus groups. This is followed by a summary of aspects of the EEM product

that in light of the feedback shared, would serve to enhance the appeal of the product concept if implemented.

FIGURE 23 — POTENTIAL VALUE GROWTH FOR EEIL EXISTS IN MOST MARKETS



Many have looked into these types of improvements previously but haven't been able to make it happen

Cost-saving on energy bills is resonant for everyone
Secondary benefits like value growth and home comfort reinforce this

Few similar schemes available; additional finance is usually a stress and a worry

FIGURE 24 — THE BUILDING ENERGY PASSPORT IS A SUPPORTING FEATURE



Increasingly many homeowners are interested in tracking and measuring their energy usage
A tool that makes this easier and more intuitive, compiling a range of different data sources into one portal, is a useful service

Anyone spending large sums on energy efficiency improvements will be interested to see what difference it has made
Has potential to deepen and extend engagement with energy, and encourage further changes

Current systems like EPC feel low-tech and static – this is clearly an improvement

FIGURE 25 — OPINIONS FOR THE GREEN HOME DISCOUNT

**Symbolises
a positive step**

Homeowners are pleased to hear that this exists, and would always be happy to receive a discount

Reflects positively on an organisation offering this – shows that they take energy efficiency seriously

**Unlikely to
influence choice
of home**

Energy efficiency is a very low priority when it comes to choosing a home

A relatively modest discount on mortgage rates are rarely going to override location, size, price, style, etc.

Many have a strong preference for period rather than new-build homes

**Very compelling
as an earned
bonus**

A strongly motivating goal to strive for
Encourages homeowners to pursue a high standard of refurbishment, rather than minor changes

A great reward that will feel well deserved – intuitive sense of fairness/rightness

FIGURE 26 — PERCEPTIONS OF THE CONCEPT AMONG GERMAN RESPONDENTS

**EEIL needs to
differentiate
itself more
from KfW loans**

KfW loans are well known and widely available, and EEIL duplicates this

However, KfW loans are also known to be complex and arduous to administer – so there is a latent need here for support

Could this offer be recalibrated or positioned better to meet this need?

**BEP clashes
with German
privacy concerns**

Many already keep quite close tabs on their energy usage and home energy performance

Reluctant to share data with any third parties

Some modest appeal, but privacy a real sticking point – investigate workarounds and alternatives

**Green Home
Discount
a nice bonus**

Germans are generally more favourable towards new builds and energy efficiency than some other markets

Those owning or considering new builds would welcome a discount – but it's still unlikely to be a big decision factor

Still compelling as a reward/goal

SECTION 3 – RECOMMENDED IMPROVEMENTS TO INITIAL ENERGY EFFICIENCY MORTGAGE CONCEPT AND KEY ADAPTATIONS MADE AHEAD OF QUANTITATIVE RESEARCH PHASE

The qualitative research phase generated some important key insights from respondents in relation to the attractiveness of an initial EEM concept. However, it was clear that there were some aspects of the concept (as initially presented) that caused confusion or concern for respondents and dampened the appeal of the concept. In this section key recommendations for improving the comprehension and appeal of the EEM concept are discussed. This section concludes with an overview of the adapted EEM concept which was carried forward as the proposition to be tested in the quantitative research phase of this project.

3.1 – RECOMMENDED IMPROVEMENTS TO INITIAL ENERGY EFFICIENCY MORTGAGE CONCEPT

Figure 27 shows an overview of the recommended optimisations to the concept based on the qualitative customer research, which are further elaborated in the following pages.

3.1.1 – Improvements to the idea of an Energy Efficiency Improvement Loan linked to the mortgage

“A personal energy consultation”

- The idea of an energy survey is very appealing, and a valuable service in itself – but a home is a very personal and precious thing, and homeowners are uncomfortable with the idea of ‘packages’ being recommended that may not be appropriate, or what they wanted. It is important that energy improvement recommendations are not based solely on a survey of the property, but include input from the homeowner. By understanding the homeowners wants, needs and plans for their home, the packages will feel far more personal, relevant and desirable.

“Thematic packages”

- There was a lot of uneasiness around the packages themselves – they felt somewhat arbitrary and people weren’t sure how they would choose. Also, the tiered structure shown in the stimulus felt limiting – if you want the features in ‘GOLD’, you can’t get them without also taking ‘BRONZE’ and ‘SILVER’. Packages built around benefits rather than tiers could make them more appealing, help homeowners make sense of them, and give greater flexibility, e.g. a ‘Warm Home’ package focused on insulation and heating; a ‘Future Tech’ package focused on smart control and electric vehicles, a ‘Micro Gen’ package focused on renewables, etc.

“Flexible timings”

- An obligation to complete the works within a specified timeframe makes sense for the EEIL and people recognise the need for some form of accreditation and proof – however, the idea of completing everything within 12 months of moving house can feel pressured or intimidating. Many would like the flexibility of being able to take the loan at the point of purchase, but then ‘start the clock’ at a time of their choosing – perhaps 6-12 months after moving, once they are a bit settled already. This would also help mitigate fears that the EEIL could slow down the home purchase process, which is often very time-sensitive – especially in UK and Sweden.

“Guaranteed budget”

- Part of the appeal of installation Option A is that it reduces the risk to the homeowner and could provide cost certainty. Therefore if a ‘cost guarantee’ for the whole energy efficiency improvement project is offered as part of the Option A ‘preferred supplier’ route, then the appeal could be further enhanced.

“Accredited partners”

- With Option B, there is uneasiness around the ‘accredited list’, as it restricts the homeowner’s choice. Homeowners worry that they might

FIGURE 27 — RECOMMENDED OPTIMISATIONS TO CONSIDER TO IMPROVE COMPREHENSION AND APPEAL OF EEM CONCEPT

ENERGY EFFICIENCY IMPROVEMENT LOAN

- 1 – A personal energy consultation
- 2 – Thematic packages
- 3 – Flexible timings
- 4 – Guaranteed budget
- 5 – Easier accreditation

BUILDING ENERGY PASSPORT

- 1 – A long lasting document
- 2 – Easy access, self-managing, flexible usage

GREEN HOME DISCOUNT

- 1 – Something to strive towards

not be able to trust the tradesmen, or may get ripped off. Providing some reassurance either about the size/range of the list, or building in some flexibility (e.g. accepting third-party accreditations like Gas Safe in the UK; or an option for homeowners to get their preferred tradesmen accredited) would be very welcome.

3.1.2 – Suggested improvements to Building Energy Passport concept

“A long-lasting document”

- Many homeowners are resistant to anything that might tie them in with one provider – whether a mortgage lender or a utility provider. Clarifying that the BEP exists independently of any one service provider, and will persist with the building even if you switch providers, will reassure here.

“Easy access, flexible usage”

- Different people will want to use and interact with the BEP in different ways – some will monitor it closely, others are much less interested in using it actively and any obligation to ‘update’ or ‘manage’ it will be off-putting. It is therefore recommended to clarify that it is a flexible document that can manage itself automatically with little to no input from the homeowner needed. Although those who do want to engage more closely might be able to get more value from it. Ensuring that this can be accessed in a range of ways such as a web portal, an app, an annual statement, or an in-home device may help emphasise this flexibility.

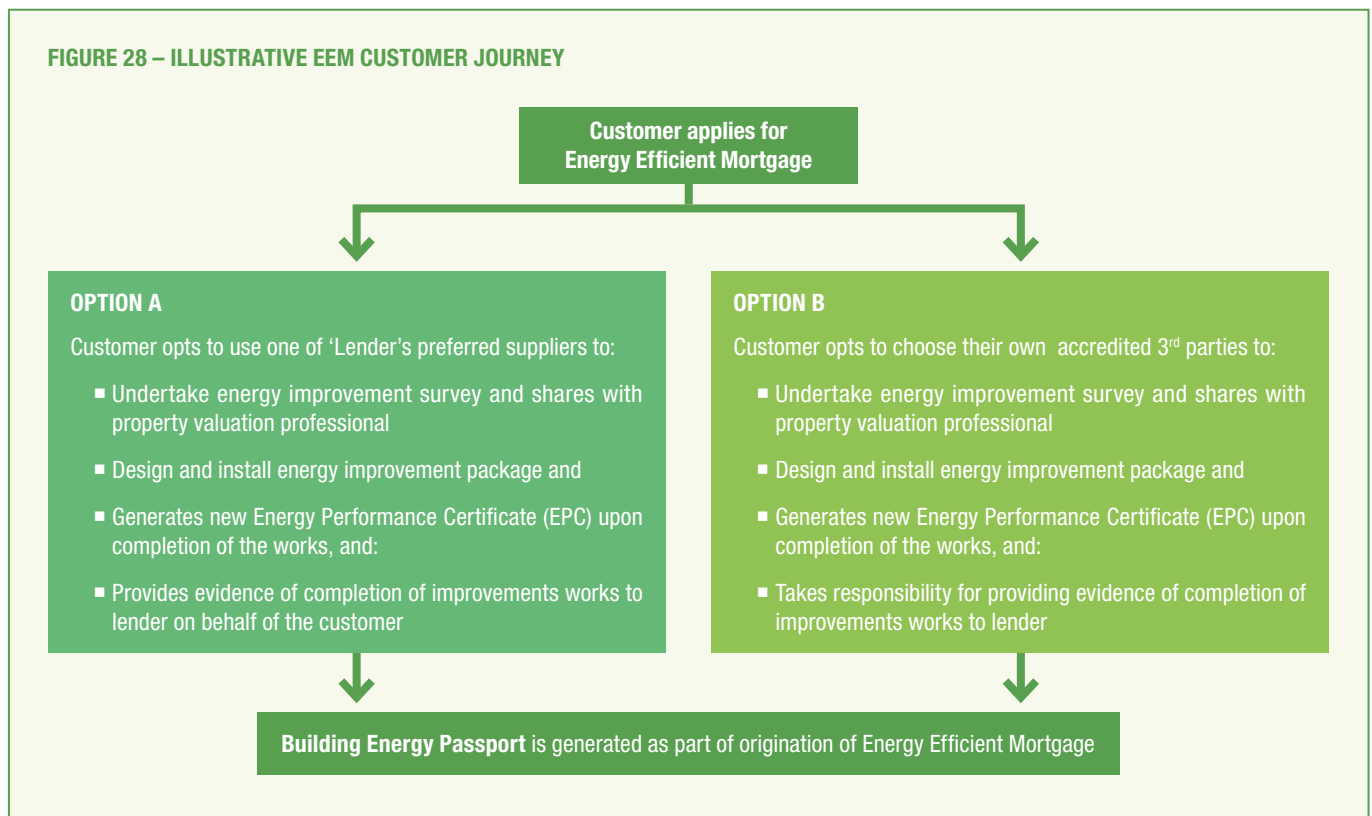
3.1.3 – Suggested modification to the Green Home Discount concept variant

“Something to strive towards”

- This is unlikely to influence choice of home directly – they will buy whichever home they fall in love with, and the energy efficiency is a secondary factor at best. However the idea of the discount is appealing, and many spontaneously expect that the discount could be ‘earned’, by making improvements that bring the home up to a B- or A-rating. This could be powerful and compelling, and shifts the offer much more towards being a strong incentive to action, rather than a reward for good behaviour.

3.2 – ADAPTED ENERGY EFFICIENCY MORTGAGE CONCEPT

The key recommendations arising from the qualitative research phase offered a firm foundation from which to modify the EEM concept ahead of testing it with wider populations of respondents in target countries. Amongst the majority of recommendations that were implemented in the modified concept, a key overarching theme was the need for clarity and simplification in relation to how the product would work. The adapted concept is described below and set out in the illustrative EEM customer journey in **Figure 28**:



THE ENERGY EFFICIENCY MORTGAGE

“A new mortgage product, available to help consumers make their homes more energy efficient.”

The Energy Efficiency Mortgage works by giving you a discounted interest rate (-0.2%) on your mortgage, when you take out an Energy Efficiency Improvement Loan. This Energy Efficiency Improvement loan is used to make improvements to your home, to make it more energy efficient.

3.2.1 – Key aspects of Energy Efficiency Mortgage product

- The Energy Efficiency Mortgage (EEM) is available across the full range of mortgage types e.g. fixed, tracker, variable, at a competitive interest rate i.e. in line with existing mortgage products on today's market
- It includes an Energy Efficiency Improvement Loan (EEIL), which is used to make your house more energy efficient:
 - The interest rate on the Energy Efficiency Improvement loan would be comparable to or lower than the mortgage rate (i.e. lower than a consumer loan)
 - It is loaned over the same term as the mortgage
 - You would make a single monthly payment each month which includes both the mortgage and the loan (which is paid to one lender)
 - The value of the loan would vary depending on the property and improvement works, but would be around £10,000-£20,000
- The Energy Efficiency Mortgage offers a discounted mortgage interest rate (-0.2% percent on your mortgage), which is applied when you take out an Energy Efficiency Improvement Loan

Note: The 0.2% discount rate tested as part of the EEM concept here and the pricing of the EEIL are not intended to pre-suppose the discounting actions of mortgage lenders; it was simply introduced to add tangibility to the concept. Ultimately it will be for mortgage lenders to decide the level of discount they would wish to offer customers. However, by suggesting a value of discount also helps to isolate the impact of the fiscal benefit of interest rate savings as a driver of appeal.

- If you do not take out the Energy Efficiency Improvement Loan (EEIL), your mortgage works as normal (but your interest rate is not discounted). However, if you are purchasing a highly energy efficient home there is the option of a Green Home Discount which may offer a 'tiered' discount on the interest rate depending on the energy performance rating of the property.

3.2.2 – How does the Energy Efficiency Improvement Loan work?

Once you have chosen to take out the Energy Efficiency Improvement Loan an energy assessor would then carry out an energy improvement survey on your property, to establish:

- What improvements could be made to make your home more energy efficient e.g. double/triple glazing, improved insulation, new efficient heating system, smart heating controls or larger, smarter additions such as solar panels and home battery solutions
- How much the improvements would cost
- What difference the improvements would make to your monthly energy bills
- The energy assessor would take into account your individual needs and preferences. They would prepare a report recommending the energy efficiency improvement measures most relevant to your needs
- You then decide if you'd like to make the improvements, and which improvements you'd like to make

3.2.2.1 – Installer Option A:

The improvement works would be conducted by one of our accredited, preferred installation partners

- Your Energy Efficiency Improvement Loan (EEIL) would be held on your behalf, and paid directly to the installers at key milestones in the project
- We would recommend one of our accredited installers to conduct the improvement works on your property, and we would manage the improvements on your behalf
- The preferred installer would provide you with a clear price for the works which would be guaranteed
- Upon completion of improvement works, the preferred installer would provide you with a revised Energy Performance Certificate. This would indicate the improved energy rating for the property

3.2.2.2 – Installer Option B:

You would manage the installation of the improvement works yourself

- The Energy Efficiency Improvement Loan (EEIL) would be paid directly to you, and at the end of the work you'd provide evidence of completion i.e. final invoices, and a new Energy Performance Certificate indicating the improved energy rating for the property
- You would choose installer(s) and would be responsible for managing the improvement works yourself

(NB: The installers you choose must be certified to carry out the agreed energy improvement measures e.g. if installing a new energy efficient boiler, the installer must have the relevant Gas Safe certification.)

3.2.3 – Building Energy Passport

A smart, digital document for your property, used to help make your home more energy efficient, store all information regarding the energy efficiency of your home in one place, and provide on-going support and energy efficiency advice.

- Records results from the initial property survey, and which works have been recommended
- Records all improvement works done on your property e.g. planning documents, invoices, Energy Performance Certificate
- Tracks your energy use over time (using a smart meter installed in your property)
- Allows you to monitor and manage energy use
- See real-time impact on energy use, as your improvement works are completed

Includes a "renovation road-map" tool that can provide help on current works and recommendations on how to improve the energy efficiency of your property further.

This feature would be offered as part of your Energy Efficiency Mortgage (EEM).

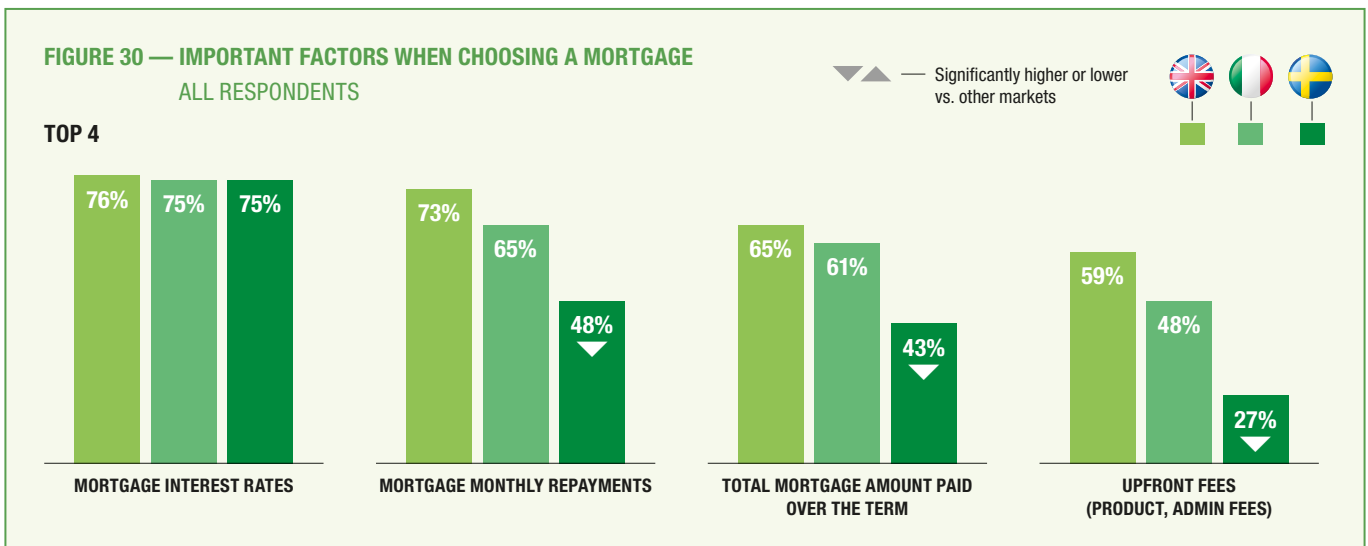
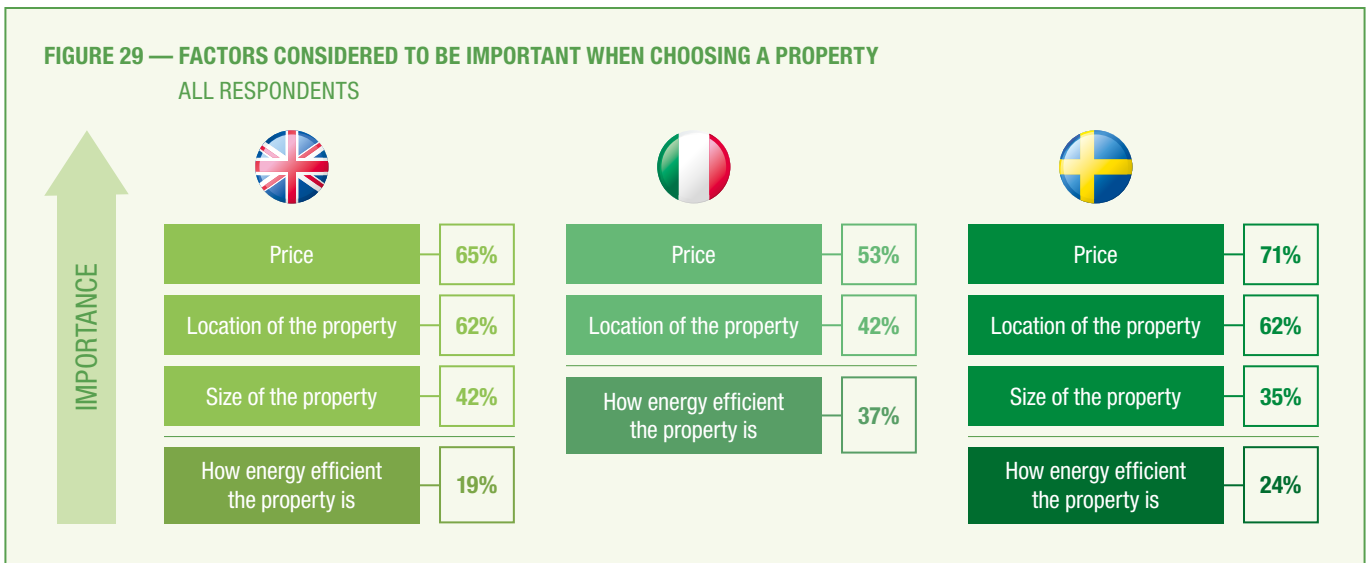
SECTION 4 – QUANTITATIVE TESTING OF CONCEPT

In this section the results from the quantitative testing of the adapted concept are discussed. Key insights arising from the German focus groups indicated a low level of appeal for the EEM concept as respondents struggled to see how it was differentiated against the KfW scheme. For these reasons, the decision was taken to focus the quantitative testing of the concept on the UK, Italy and Sweden the results of which are discussed in this section.

The quantitative research phase took the form of an online survey. We conducted 500 interviews in each of the focus countries, with consumers who had recently taken out a mortgage, or were actively considering a mortgage.

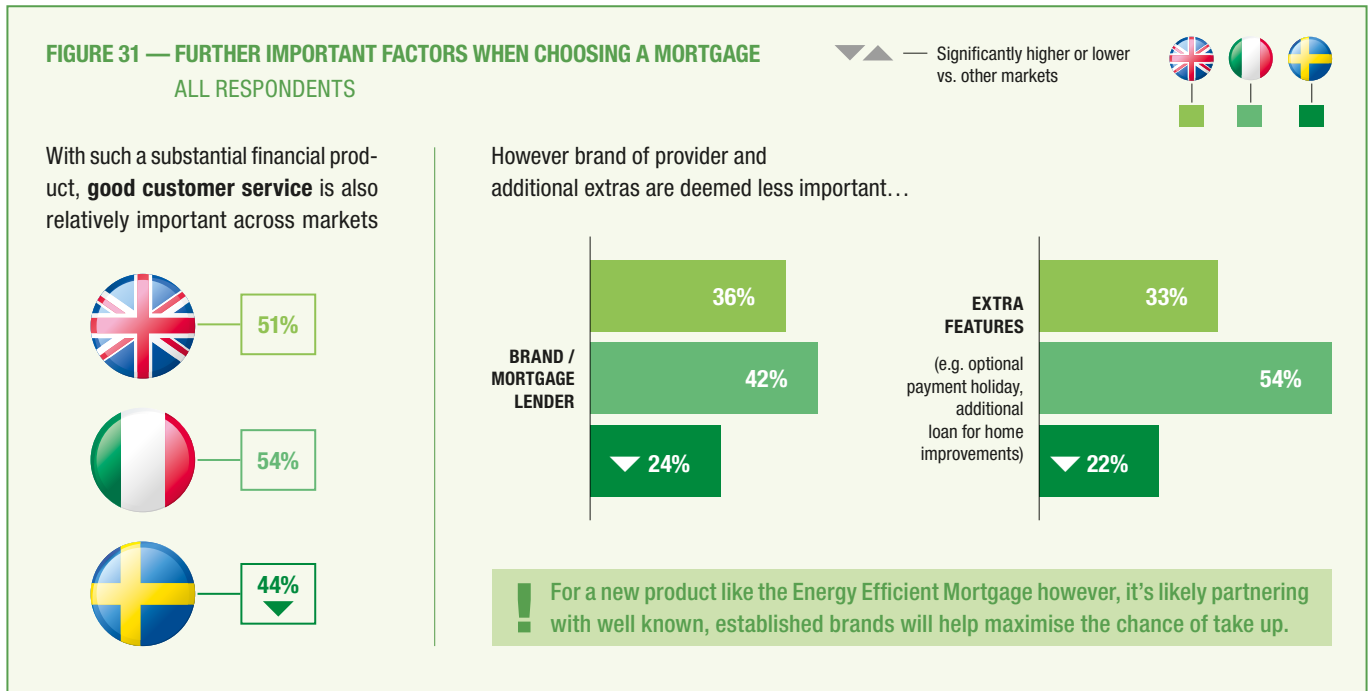
4.1 – THE MARKET CONDITIONS FOR LANDING THE ENERGY EFFICIENCY MORTGAGE PROPOSITION

The first part of the quantitative research was designed to understand existing attitudes in the market that provide important context for the EEM propositions. **Figure 29** shows that energy efficiency is a secondary consideration when choosing a property in UK and Sweden, whereas it is a more important decision factor in Italy. Across all markets in scope, price followed by the property location are the main decision factors.



When considering which mortgage to take out, it's unsurprising that rates and monthly payments are carefully considered (Figure 30). However, customer service is also a consideration across all markets, and Italian consumers

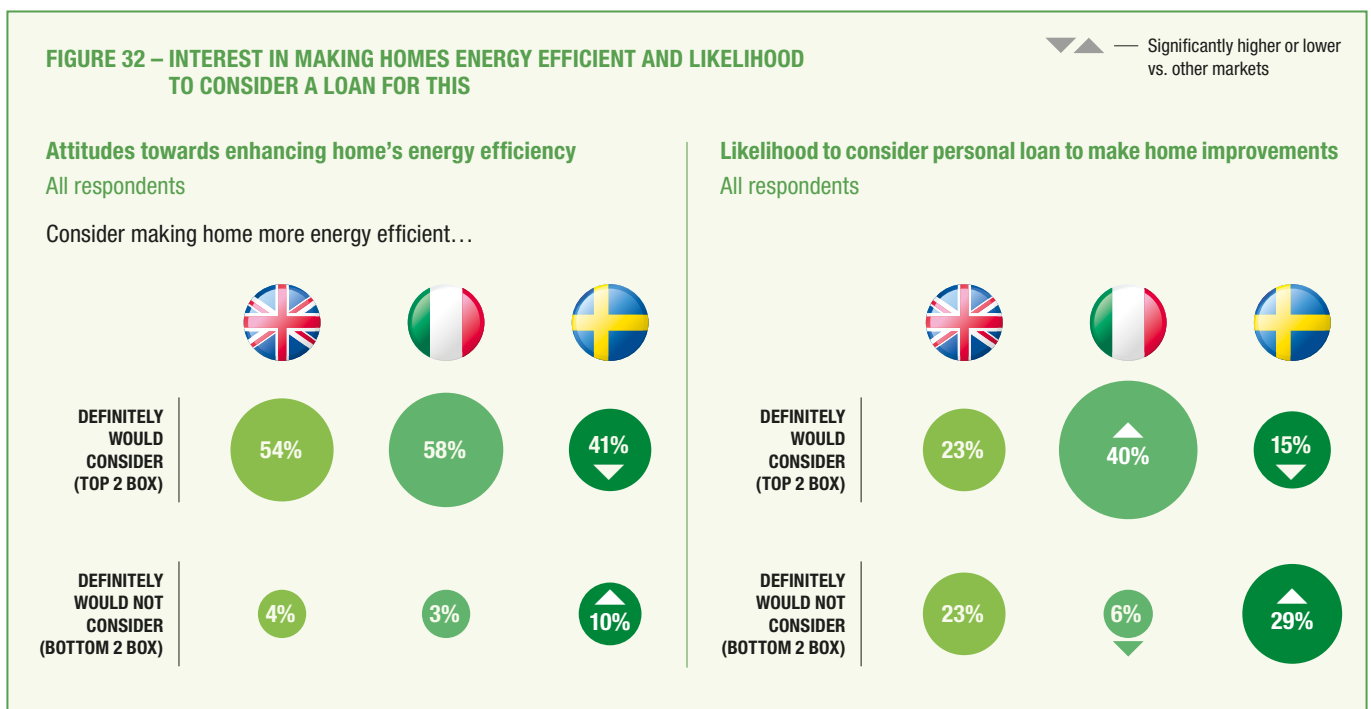
want extra features (Figure 31). Although the brand of a mortgage lender appears to be of secondary nature, it is likely that a mortgage lender with a well-known, established brand will maximise the chance of take up.



The appetite of respondents in each market to making energy efficiency improvements is highest in UK and Italy and lower in Sweden as seen in Figure 32 which also shows that the likelihood of considering a personal loan to make such improvements is the lowest in Sweden compared to the other markets. This may be in part explained by the limit placed by Swedish regulations on borrowing beyond a LTV of 85% as described in Section 2.4 of this report. As such Swedish respondents may have perceived that additional borrowing to fund the refurbishment of their

home may lead them to exceed this limit and therefore potentially incur penalties, or simply lower the amount they can borrow to actually purchase the home. Nevertheless, the basic idea of an EEM was generally well received by Swedish respondents.

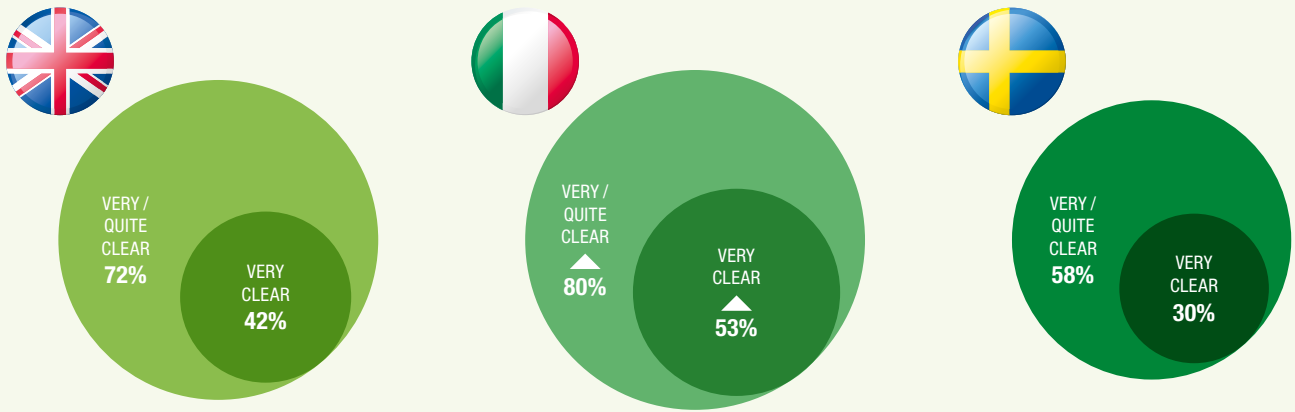
The main barriers to making their homes more energy efficient, as stated by respondents, are that they believe their property is already energy efficient, followed by the perception that improvements would be too expensive.



4.2 – REACTION TO ENERGY EFFICIENCY MORTGAGE PROPOSITION

FIGURE 33 — CLARITY OF THE ADAPTED EEM CONCEPT
ALL RESPONDENTS

▲▲ — Significantly higher or lower vs. other markets



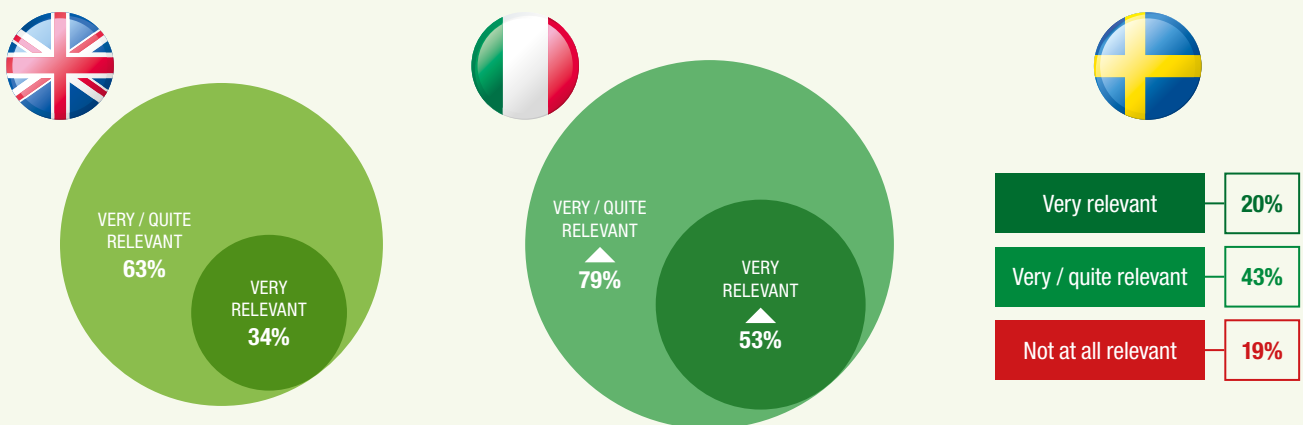
* Unclear in each market 7% of less

From **Figure 33**, the majority of consumers in all markets state that they are clear on how the EEM works. From **Figure 34** it can be seen that Italian respondents feel it is most relevant, whereas some Swedish consumers struggle to believe it could be relevant to them. Again, it is

important to qualify the Swedish consumer reaction and contextualise it in market terms. As set out in Section 2.4, in Sweden the LTV limit is regulated to 85%, the presence of this limit may have influenced respondents' reactions to the concept.

FIG. 34 — RELEVANCE OF ADAPTED EEM CONCEPT
ALL RESPONDENTS

▲▲ — Significantly higher or lower vs. other markets



* Not at all relevant UK = 10%, Italy = 3%

Appeal of the concept is highest in Italy, followed by UK (**Figure 35**). Outright rejection of the concept is minimal in Italy and slightly higher in the other markets. Not surprisingly, the appeal is highest to those consumers that are open to making energy efficiency improvements to

their properties and to those that would like to take out a loan for such improvements (**Figure 35**). Looking a bit deeper into sub-groups that find the EEM very appealing shows that for UK and Italy it is particularly the multiple mortgage holders that see its value (**Figure 36**).

FIGURE 35 — APPEAL OF ADAPTED EEM CONCEPT
ALL RESPONDENTS

▲ — Significantly higher or lower vs. other markets

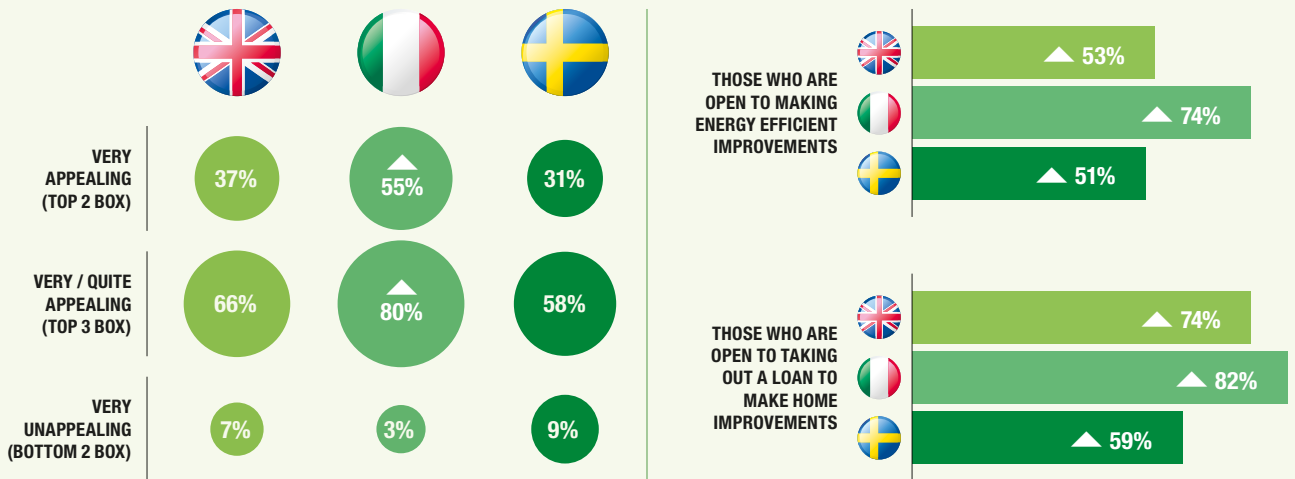
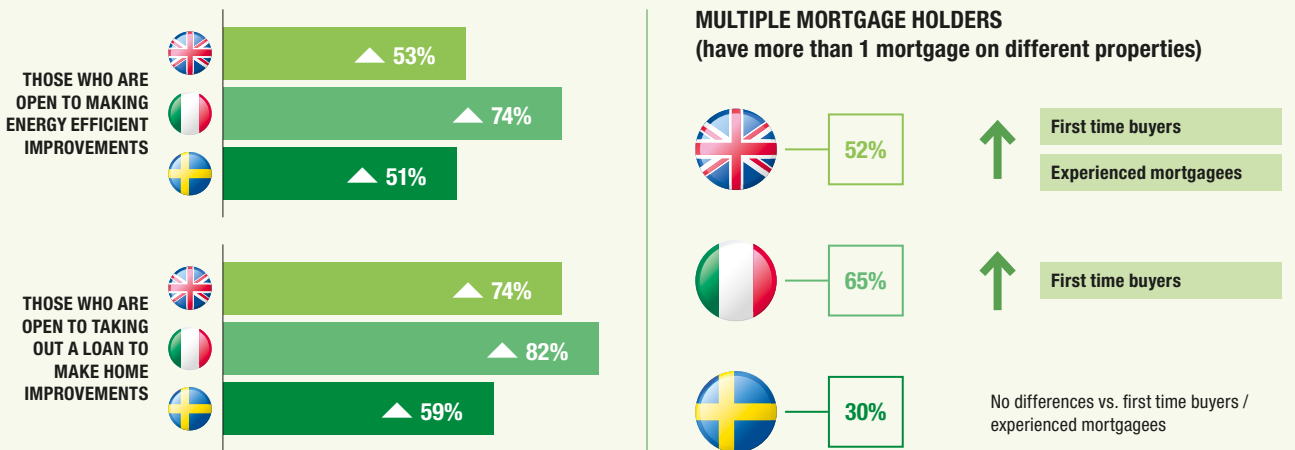


FIGURE 36 — SUB-GROUPS WHO FIND EEM VERY APPEALING
ALL RESPONDENTS

▲ — Significantly higher or lower vs. total



In order to understand preference for the EEM, we asked respondents to compare it to the mortgage they currently have or are considering taking out. Following strong levels of appeal, the Italian market is most likely to agree an EEM would be preferential to a conventional mortgage with 30% of respondents choosing the EEM (Figure 37).

UK and Swedish consumers are still open to taking the EEM, but may need more specific information to make a final decision.

When looking at the BEP, respondents who did not find the EEM appealing were excluded. The passport was introduced as an additional feature, offered as part of the EEM. This was due to the results from the qualitative phase that identified the BEP as a logical corner stone to the EEM, but not as a compelling selling point itself.

Among those who did not find the product appealing (62 respondents in the UK, 35 in Italy and 96 in Sweden), the research identified both primary and secondary barriers based on the numbers of respondents who mentioned them as reasons for disliking the product.

Primary barriers across all three countries studied were 'do not want to take out or cannot afford an additional loan' and 'I already have an energy efficient home, therefore it is not applicable to me' (Figure 38).

Secondary barriers (Figure 39) were identified broadly as time issues. 'Not having time to carry out renovation', not planning to stay in the home long enough to benefit' and 'being tied into the mortgage provider for a long time', were cited across all three countries as secondary barriers. Lack of interest in making the home more energy efficient was also mentioned particularly in the UK and Sweden.

FIGURE 37 — PREFERENCE FOR EEM VS. CONVENTIONAL MORTGAGE
ALL RESPONDENTS

▲ — Significantly higher or lower vs. other markets

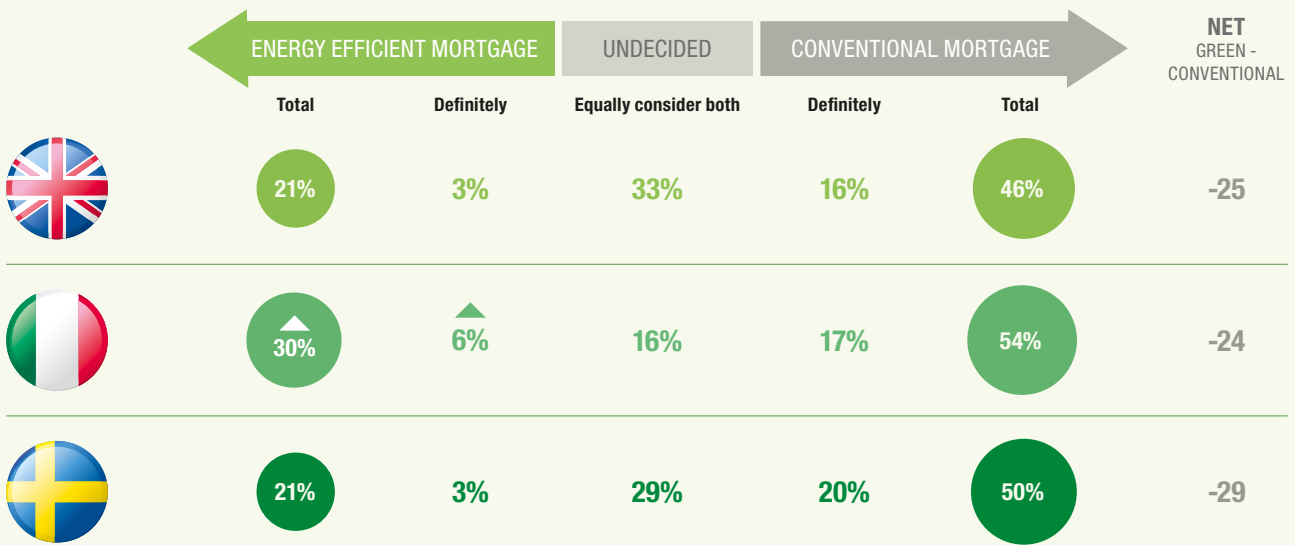


FIGURE 38 — PRIMARY BARRIERS TO UPTAKE OF THE PRODUCT
ALL WHO DO NOT FIND THE ENERGY EFFICIENT MORTGAGE APPEALING

MOST IMPORTANT REASON (select 1 only)

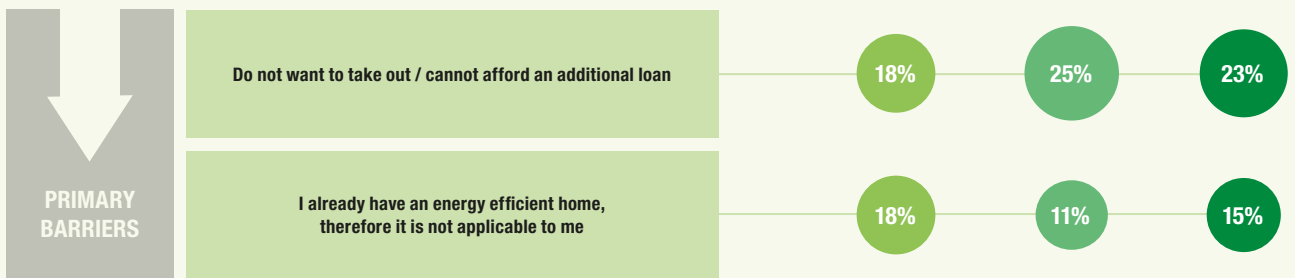
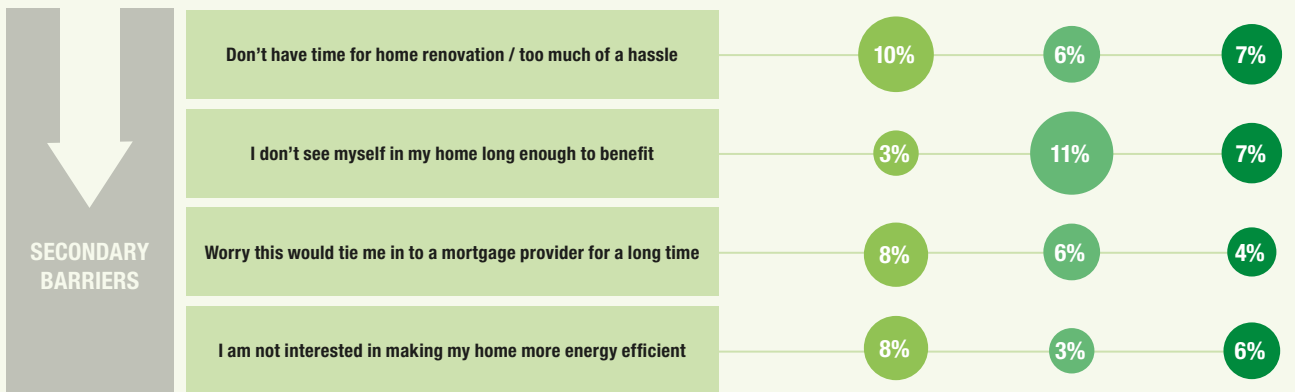


FIGURE 39 — SECONDARY BARRIERS TO UPTAKE OF THE PRODUCT
All who do not find the Energy Efficient Mortgage appealing

MOST IMPORTANT REASON (select 1 only)



All other barriers under 6%

Drivers of appeal fall under several themes:

- Home Improvement through a competitive loan
- Finance through a lower mortgage interest rate and long term money saving
- Energy namely bringing down bills and making the home warm and comfortable
- Property through increased value and making it easier to sell
- Being green by reducing one's carbon footprint

FIGURE 40 — THEMED DRIVERS OF APPEAL

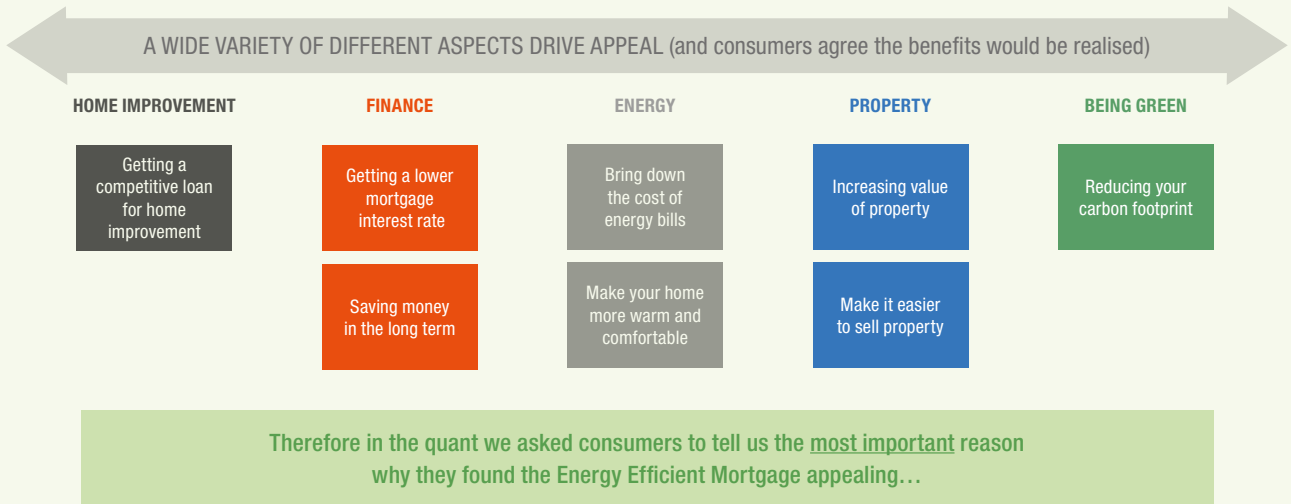
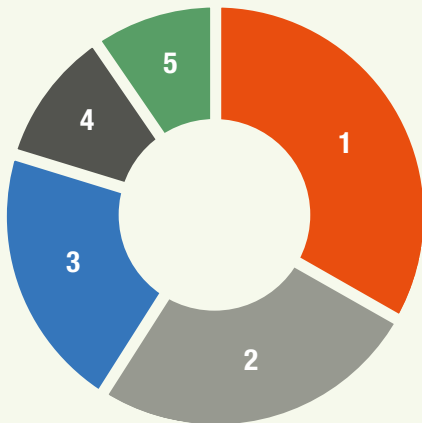


FIGURE 41 — CHART SHOWING RELATIVE SIZE OF DRIVERS OF APPEAL
ALL WHO FIND ENERGY EFFICIENT MORTGAGE APPEALING

MOST ATTRACTIVE ASPECT (select 1 only)

Consistent across markets



1 – Finance

Getting a lower interest rate on your mortgage, and saving money in the long term.

3 – Property

Increasing the value of your property, and making it easier to sell.

2 – Energy

Bringing down the cost of your energy bills, and making your home more warm and comfortable.

4 – Home improvement

Getting a competitive loan for home improvement purposes.

5 – Green

Reducing your carbon footprint.

Of these themes, the one most important reason for finding the product appealing (excluding those that found it unappealing) was the financial benefits of the product (**Figures 41**). This key driver of appeal was mentioned as the most important across all three study countries. It is a strong indicator of the relevance of a banking partner when launching the product. Financing means different things in the study countries, in the UK and Sweden it is about having access to a lower interest rate, while in Italy it is about achieving long term savings. Of almost equal importance to finance as a driver are energy considerations, namely the tangible benefit of bringing down energy bills, particularly in the UK and Italy. The emotional benefit of achieving a warm and comfortable home is a strongly recognised energy benefit in all countries. The importance of energy considerations is in turn a strong justification for the role of an energy company to further jointly develop and launch the product.

Of slightly less, but still notable appeal across all countries, is the ability to increase the value of the property. There is also evidence of a respondent belief that the improvements funded by an EEM would make a property easier to sell. **Figure 42** shows that although not widely mentioned as the single most important driver of appeal, ease of selling the property is mentioned as a strong benefit (among others) by the majority of respondents who found the product appealing.

Achieving home improvement through a competitive loan and being green are less recognised benefits as drivers of appeal.

FIGURE 42 — IMPORTANCE OF MAKING THE PROPERTY EASIER TO SELL
ALL WHO FIND ENERGY EFFICIENT MORTGAGE APPEALING

TOTAL WHO AGREE THE ENERGY EFFICIENT MORTGAGE WOULD PROVIDE THIS BENEFIT

■ = Make it easier to sell my property

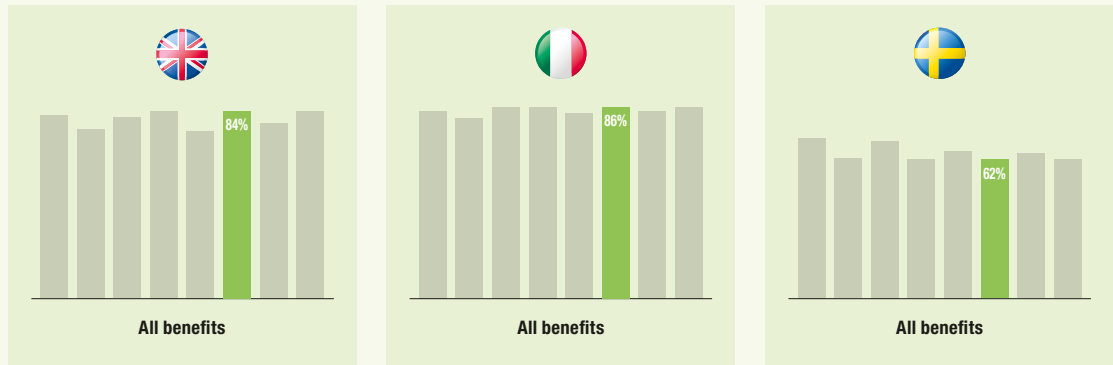


FIGURE 43 — APPEAL OF ADDITIONAL BENEFITS
ALL WHO FOUND ENERGY EFFICIENT MORTGAGE APPEALING

MOST ATTRACTIVE BENEFIT (select 1 only)

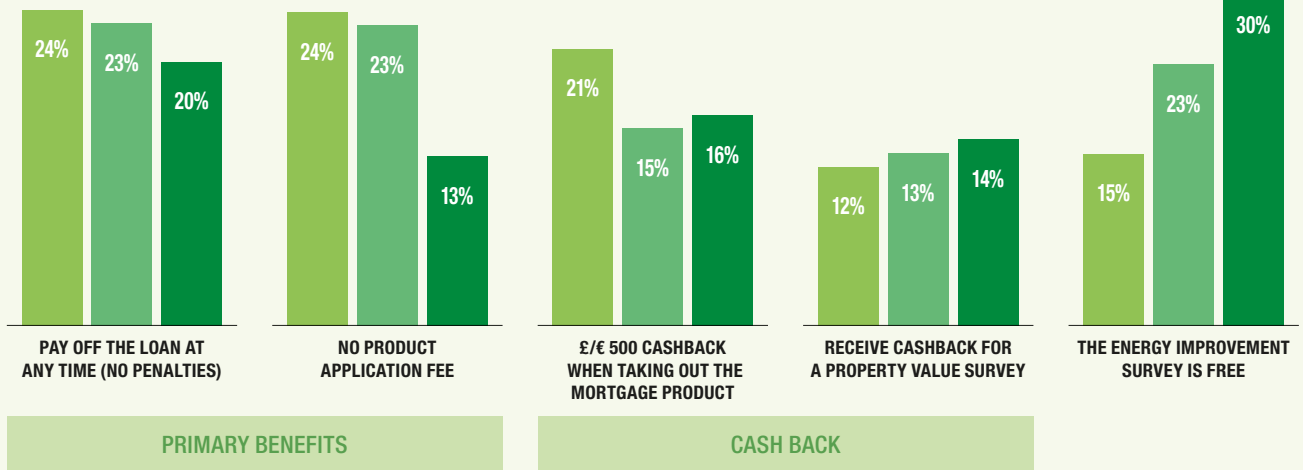
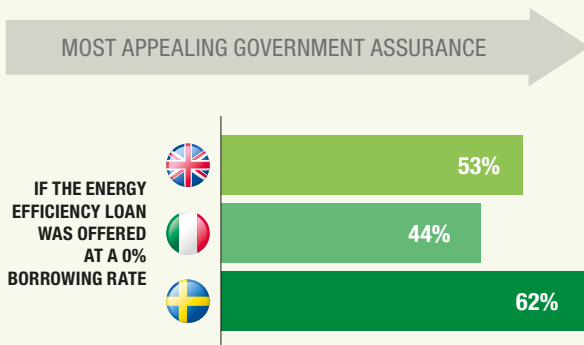


FIGURE 44 — APPEAL OF ZERO PERCENT BORROWING RATE ON THE LOAN
ALL WHO FOUND ENERGY EFFICIENT MORTGAGE APPEALING

MOST ATTRACTIVE (select 1 only)



4.3 – REACTION TO ADDITIONAL OFFERS AND GOVERNMENT ASSURANCES

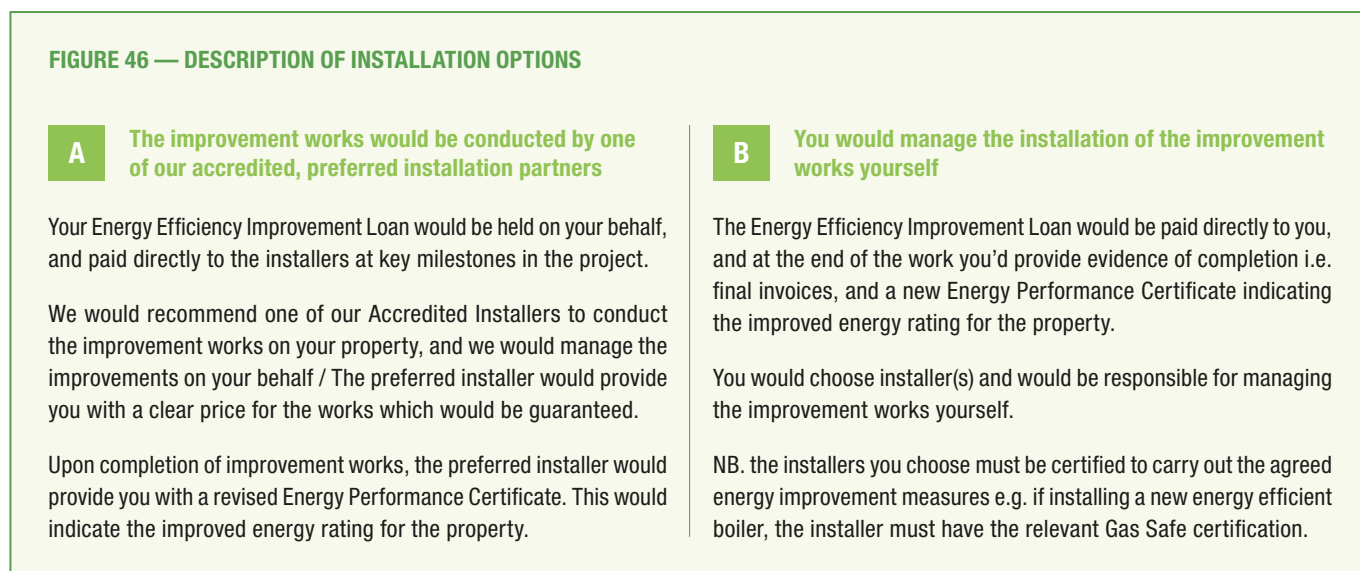
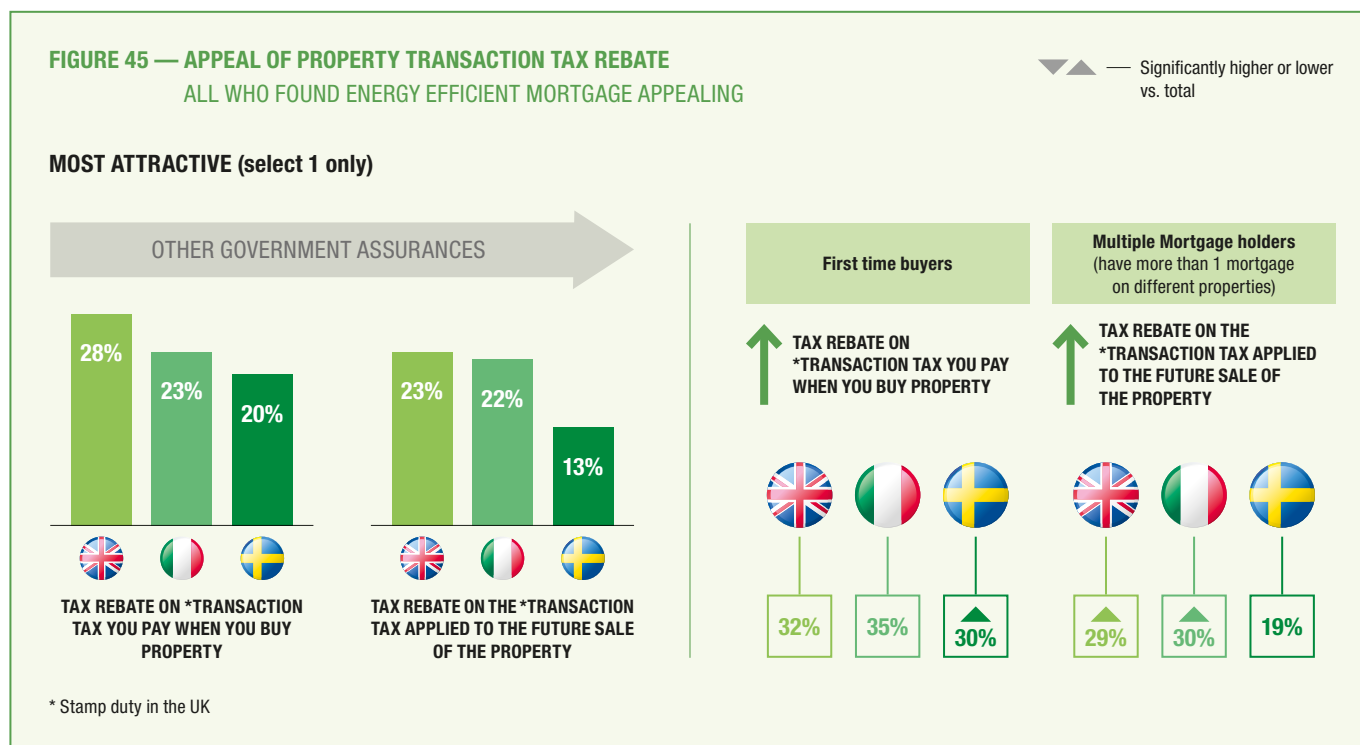
Whilst the EEM concept tested with consumers as part of this research in its own right has appeal, driving significant market uptake of EEMs may require additional support from Governments in the form of additional demand side incentives. As part of this research a range of potential Government assurance schemes or policy options were tested in relation to their attractiveness.

Looking at first choice additional offers and government assurances, **Figure 43** shows that the ability to pay off the loan at any time without penalty is a strong benefit in all three countries. A free energy improvement survey of the property is strongly appealing in Italy and Sweden. The lack of a product application fee appeals in the UK and Italy.

Overwhelmingly the ability to get a zero percent borrowing rate was the most appealing Government assurance across all three study countries (**Figure 44**).

It is important to state that this zero percent borrowing rate would only apply to the EEIL and not the mortgage component of the EEM. However, tax rebates also act as strong drivers of appeal, either on purchase of the property (particularly in the UK) or when it is sold. When comparing the opinions of first time buyers and multiple mortgage holders, there are some

notable differences (**Figure 45**). First time buyers in Sweden are particularly motivated by a rebate on transaction tax on purchase of a property. Multiple mortgage holders in the UK and Italy are particularly motivated by a tax rebate on property sale.



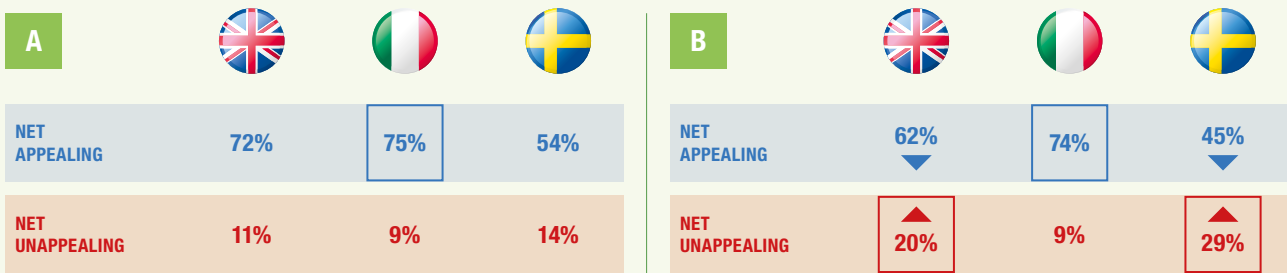
Respondents were asked to consider two installation options, either option A to get the work done by an accredited installer or option B to manage it themselves. The detail of the two options is given in **Figure 46**. Both of these options achieved good levels of appeal in each country. However as **Figure 47** shows there were some notable differences. Among respondents who either find the EEM appealing or have a neutral opinion towards it, across the three countries both options have good appeal. In Italy both options are equally well received. In the UK and Sweden option A is most strongly liked while option B is significantly less favoured.

For both installation options, keeping control of costs of works and ensuring their quality are key factors driving preference. For option A, appeal is based on getting a guaranteed installation cost and on getting guaranteed installation quality while avoiding hassle of managing the project.

Option B appeal is driven by having personal control and flexibility over cost and quality. This picture is consistent across all study countries.

FIGURE 47 — APPEAL OF INSTALLATION OPTIONS
ALL WHO FIND ENERGY EFFICIENT MORTGAGE APPEALING

▼▲ — Significantly higher or lower vs. option A



Along with installation options, the research then introduced the idea of a performance guarantee. As part of option B, respondents were informed that they would be required by the lender to guarantee the quality of the work by taking out some performance insurance. This would assure the lender that the benefits of energy efficiency improvements would be achieved at the property. This performance guarantee is not required as part of option A where accredited installers would be used.

The requirement to get a performance guarantee had a significantly negative effect on the appeal of option B in all the study countries (Figure 48). However there is still a significant proportion of respondents who prefer option B even with the requirement to get a performance guarantee, this is particularly true in Italy (Figure 49).

FIGURE 48 — CHANGED APPEAL OF INSTALLATION OPTIONS WITH PERFORMANCE GUARANTEE
ALL WHO FIND ENERGY EFFICIENT MORTGAGE APPEALING

▼▲ — Significantly higher or lower

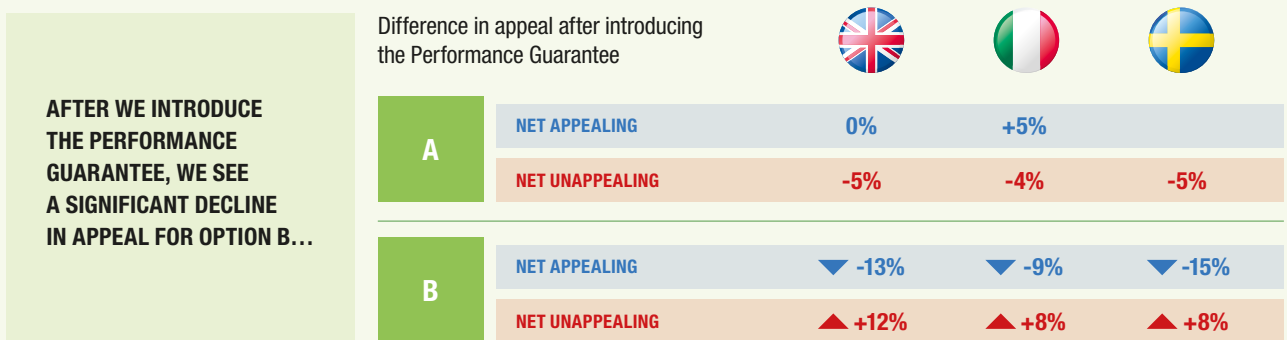
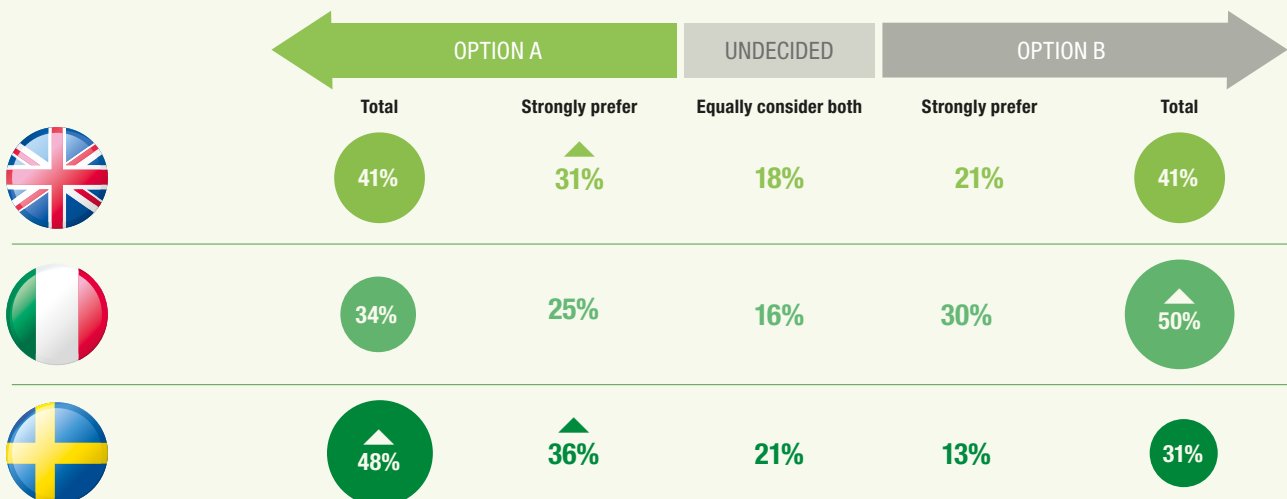


FIGURE 49 — PREFERENCE FOR OPTION A AND B WITH PERFORMANCE GUARANTEE
ALL WHO FIND ENERGY EFFICIENT MORTGAGE APPEALING

▲ — Significantly higher than Option A / B



4.4 – INTRODUCTION TO GREEN HOME DISCOUNT AND REACTION

The research tested reaction to a GHD as shown in **Figure 50**. The aim here was to determine whether a mortgage offered to buyers of particularly energy efficient homes could influence buyers to select such a home.

As seen in **Figure 51**, for most respondents, such a mortgage would be unlikely to affect a buyer's final decision to select a more energy efficient home. However a GHD might make around 60% of respondents at least consider such a home and for 25% of Italian respondents it would make them more likely to buy such a property.

FIGURE 50 — GREEN HOME DISCOUNT CONCEPT

INTRODUCING THE TIERED MORTGAGE

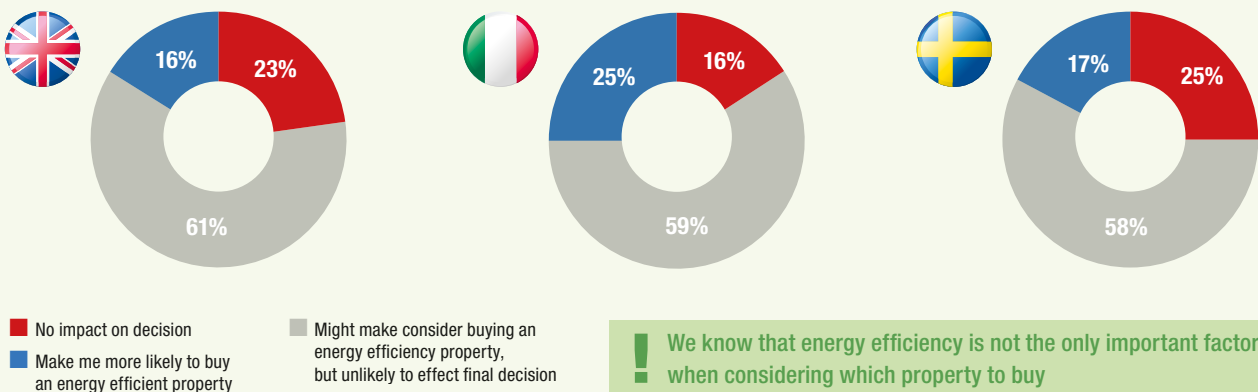
In the future, the Energy Efficient Mortgage may be available on properties which are already energy efficient e.g. new build, or an older property with Energy Performance rating of A, B or C rating. The Energy Efficient Mortgage would be offered with a mortgage discount of up to -0.2%

If this Energy Efficient Mortgage was available as above, to what extent would it impact your decision on which property to buy?

FIGURE 51 — EFFECT OF A GREEN HOME DISCOUNT ON PROPERTY CHOICE
ALL RESPONDENTS

▲ — Significantly higher or lower vs UK / Italy

Most consumers say the tiered mortgage would be unlikely to impact on the decision of which property to buy.



4.5 – INTRODUCTION TO BUILDING ENERGY PASSPORT AND REACTION

The research also tested the idea of a BEP (described in **Figure 52**). This would be a digital document where all information regarding energy

efficiency upgrades to the home and advice on how to run the home efficiently would be stored.

FIG. 52 — BUILDING ENERGY PASSPORT CONCEPT

We introduced the Building Energy Passport as an additional feature, offered as part of the Energy Efficient Mortgage

BUILDING ENERGY PASSPORT

A smart, digital document for your property used to help make your home more energy efficient, store all information regarding the energy efficiency of your home in one place, and provide on-going support and energy efficiency advice.

- Records results from the initial property survey, and which works have been recommended
- Records all improvement works done on your property e.g. planning documents, invoices, Energy Performance Certificate
- Tracks your energy use over time (using a smart meter installed in your property)

- Allows you to monitor and manage energy use
- See real-time impact on energy use, as your improvement works are completed
- Includes a “renovation road-map” tool that can provide help on current works and recommendations on how to improve the energy efficiency of your property further

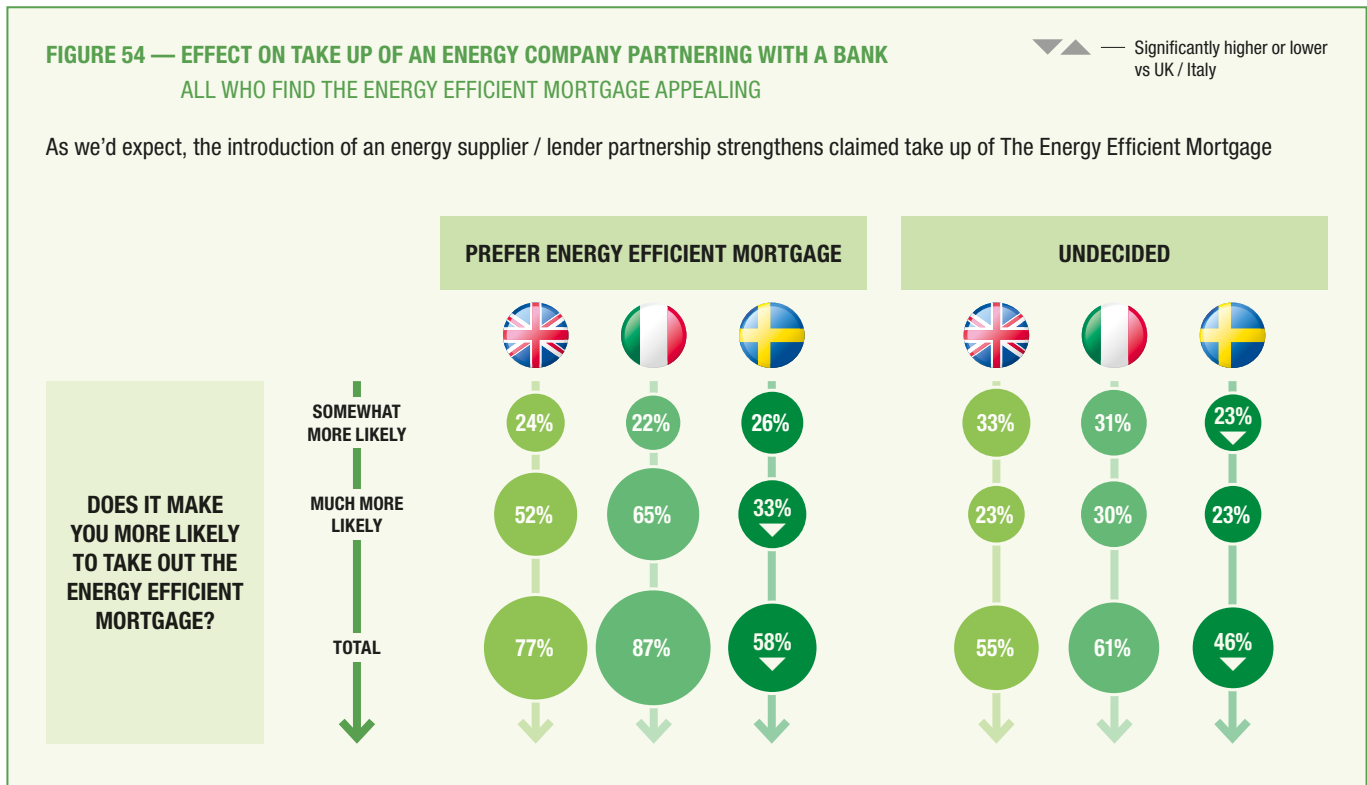
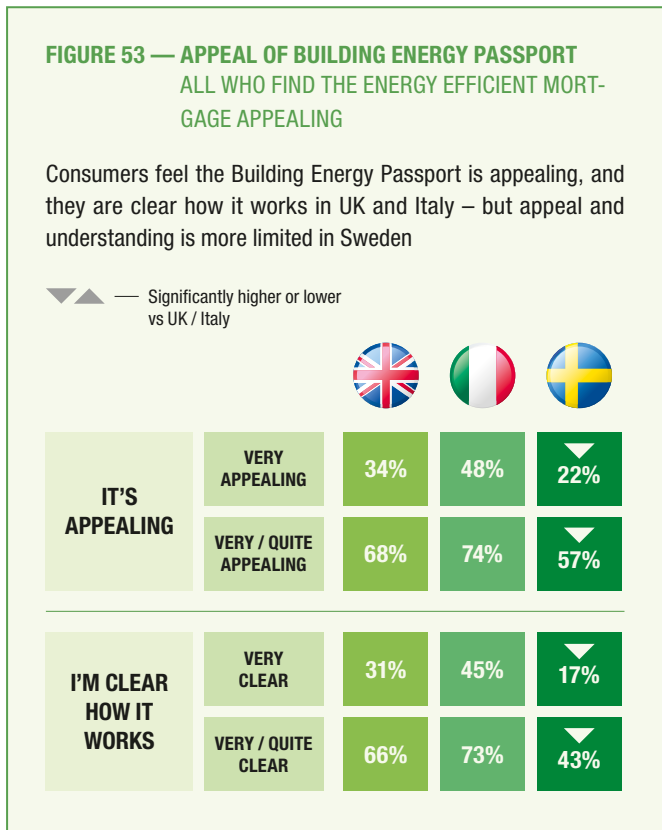
This feature would be offered as part of your Energy Efficient Mortgage

PLEASE NOTE WE TESTED THIS FEATURE AS AN ADDITION TO THE ENERGY EFFICIENT MORTGAGE

Respondents in the UK and Italy found this idea appealing and could see how it might work for them. Appeal and understanding are more limited in Sweden (Figure 53).

4.6 – ENERGY SUPPLIER AND BANK PARTNERSHIP

Finally the quantitative research explored the likely take up of an EEM if it was offered by a bank working in partnership with an energy company. As Figure 54 shows, among those who preferred or were neutral to the idea of an EEM, the existence of such a partnership would increase claimed take up, particularly among Swedish respondents.



SECTION 5 – GUIDANCE FOR DEVELOPING AN ENERGY EFFICIENT MORTGAGE (EEM) PROPOSITION

EEM PROPOSITIONS ARE LIKELY TO BE WELL RECEIVED BY BRITISH AND ITALIAN CONSUMERS

The EEM is well received in two of the three countries (UK and Italy) where our quantitative research was carried out. In these countries it is seen as relevant and easy to understand. In Sweden this is less so. Therefore, it is recommended that the EEM propositions are tested in the UK and Italy, or other countries which share similar market and consumer characteristics. In Sweden it is advised that some of the underlying mortgage market conditions should be addressed, particularly in relation to the ability of customers to take out additional loans without penalties in order to create a landscape where in future, test propositions are more likely to succeed.

'GO TO MARKET' ROUTES FOR PROPOSITION DEVELOPMENT HAVE BEEN IDENTIFIED.

Furthermore this research highlights possible 'go to market' routes for the test propositions in the UK and Italy. **Figures 40 and 41** offer potential proposition themes that could be developed based upon the strongest drivers of concept acceptability. Market test propositions based upon the consumer benefits of "better financial management", "better energy management" and better "property value management" could be explored as part of the further proposition development.

It is suggested that any "better financial management" go to market route should be led by banking marketing messages focusing around "*achieving a lower interest rate*" for the UK market and "*save in the long term*" for Italian market. It is suggested that marketing such a proposition would be best led by mortgage lenders and other credible financial service industry actors.

For the "better energy management" go to market route, messages around "*bringing down the cost of my energy bills*" should resonate with UK consumers while "*achieving a warmer, more comfortable home*" should work in both the UK and Italy. Marketing such a proposition might best be led by a company active in the energy sector, e.g. an electric utility or energy efficiency experts / assessors.

Finally for the "property value management" go to market route, messages referring to "*potentially increasing the value of my property*" could take a strong lead along with *make it easier to sell my property* as secondary messaging. However, on property value increase it is incredibly important that this is not over claimed as value drivers are highly situational and locational in their nature. Therefore, it is important not to set a de-facto expectation that energy efficiency improvements will drive significant value improvements

in all cases. In reality there will be a range of factors influencing the value of a property at given moment. Nevertheless, marketing these propositions could be led by property experts with the relevant communications skills.

Propositions that lead on "home improvement" and 'being green' are not recommended from this research as they appear to be less strong as drivers of appeal. However such themes might be used as secondary messaging in any marketing campaigns, e.g. 'get a competitive loan to improve your home and reduce your carbon footprint'.

OFFERING A MIX OF ADDITIONAL FEATURES WILL ADD TO THE APPEAL OF AN EEM PROPOSITION.

The results of this research indicate that respondents were motivated by a number of EEM product features. **Figures 30, 31 and 32** suggest that an EEM is more likely to succeed (depending on its objectives) if the proposition offers one or more of the following:

- Ability to pay off the energy efficiency improvement loan at any time
- A free energy survey
- A fee free application process

These elements clearly need to be carefully considered and perhaps applied differently in each test market and to differing customer segments. If the objective of a market test of EEM is to achieve the highest possible uptake then clearly de-risking the decision for the customer through the features above could help to achieve that.

EUROPEAN UNION (EU) MEMBER STATE GOVERNMENTS HAVE A KEY ROLE TO PLAY IN HELPING TO STIMULATE DEMAND FOR ENERGY EFFICIENT MORTGAGES

Whilst it is clear that an EEM proposition's appeal will be boosted by a mix of features, there is nevertheless an important role for EU Member State Governments to play in helping to stimulate demand for this innovative product. Overwhelmingly the ability to get a zero percent borrowing rate was the most appealing Government assurance across all three study countries. However, tax rebates also act as strong drivers of appeal, either on purchase of the property (particularly in the UK) or when it is sold. Therefore, we would encourage EU Member State Governments to carefully consider how they could help to enable a faster scale up of EEM in Europe by introducing such demand side incentives.

AN EEM PROPOSITION SHOULD OFFER CUSTOMERS THE CHOICE OF INSTALLATION OPTIONS – AS A FULLY MANAGED SERVICE AND AS A DO IT YOURSELF OPTION

One of the most important considerations for a market test of EEM propositions will be whether to offer energy efficiency installations via option A or B or both. Initially, option A (use of accredited installers and a fully managed service) and option B (manage the project yourself) were each favoured by roughly equal numbers of participants, although the response was highly polarised: some respondents liked the idea of a company managing the project and guaranteeing costs for them, while others would like to do this themselves to achieve flexibility. However once it was pointed out that option B would require respondents to take out performance insurance then the appeal of this option dropped.

However, this does not mean that option B can be ignored; it still has significant appeal to respondents even with the performance guarantee, particularly in Italy (**Figure 51**). As part of this consideration of course, comes the question of which home improvements to offer. The qualitative research clearly showed that simply offering a package of improvements based on efficiency alone is unlikely to be successful. Packages offered, need to bear in mind the aspirations and plans of the home owner. It is suggested that packages based on benefits could make them more appealing, help homeowners make sense of them, and give greater flexibility. For example a “Warm Home” package focused on insulation and heating; a “Future Tech” package focused on smart control and electric vehicles, a “Micro Gen” package focused on renewables (**Figure 15**) might make sense to customers. It is possible that customers would be willing to pay a premium for the managed service, although this was not a question explicitly covered in this research.

THE BUILDING ENERGY PASSPORT (BEP) SHOULD BE OFFERED IN A LIMITED FORMAT IN THE INITIAL LAUNCH OF AN ENERGY EFFICIENT MORTGAGE PROPOSITION

Looking at recommendations for the Building Energy Passport (BEP), this was well received by respondents in the UK and Italy who could see how it might work for them. From the qualitative focus group research a digital information source is a logical element of the EEM, it makes sense to offer it. However the passport is not a major benefit in an isolated context; it might make respondents more likely to consider an EEM but probably

would not heavily influence their final decision. Providing a digital BEP could be a useful feature to offer within the EEM as a free add-on. It could include official documents relating to the mortgage and the improvement works which customers would probably find useful. However its role as an information and advice source for ongoing energy efficient behaviours is probably limited as customers would not refer to it very often. It is not recommended that initial EEM propositions should invest heavily in a live digital building energy assistant function for the passport. It would be better at least initially, to offer a simple digital document storage facility.

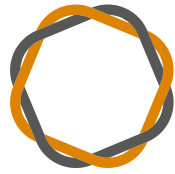
INCLUSION OF A ‘TIERED’ GREEN HOME DISCOUNT IS NOT RECOMMENDED IN INITIAL PROPOSITION TESTING

Evidence arising from this research suggests a “tiered” GHD mortgage which applies different rates of interest rate discounts depending on the energy performance rating of a property does not offer a high level of mass market appeal and is considered to be a fairly niche product. For some respondents it may be an aspiration to improve their home over time and therefore achieve a better mortgage rate. However such a product is unlikely to encourage customers to buy a more energy efficient home in the first place because other factors such as location and house size, etc., would have more influence. Therefore, in an initial larger mass market test it is not recommended to lead with a tiered GHD proposition. However, it may be relevant for certain lenders to test this product with particular niche segments potentially in partnership with new home builders. Therefore, once the EEM market has been established, the GHD product may represent an aspirational second generation mortgage product.

THE EEM COULD BE MARKETED AS A BANK / ENERGY COMPANY PARTNERSHIP FROM DAY ONE

This research did not look at branding specifically but it did ask respondents whether a bank / energy company working together to offer this product would make sense. The research shows that there is clearly a role for banks and energy companies to work together to offer an EEM. This made sense to respondents and is likely to make sense to customers. Banks bring financial expertise and credibility, while energy companies bring energy knowledge and could potentially offer accreditation to installers under option A. However, this is not to say that other partnership combinations involving both large and SME installer of energy efficiency equipment would not be credible to customers.

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