



Understanding Homeowners' Renovation Decisions: Findings of the VERD Project

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VERD = Value propositions for Energy efficient Renovation Decisions

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The VERD Study

In October 2011, the VERD project team at the University of East Anglia began a two-year research project investigating homeowners' renovation decisions, funded by the UK Energy Research Centre (UKERC).

This report summarises the findings, revealing why homeowners renovate and why they decide to improve their home energy efficiency.

Research Methods

The findings summarised here are based on data collected from homeowners in three ways: a national survey; interviews; stated preferences for renovation alternatives. The findings also build on an extensive review of published articles and reports on home renovations.

The survey took place in September 2012 and drew from a representative sample of 1028 UK homeowners, who were asked whether or not they were considering renovations. About half said they were not. The other half, who were, were asked how far along they were in their decision process. About 19% were thinking about renovations in general terms (stage 1), 16% were concretely planning renovations (stage 2), and the remaining 15% were in the middle of or finalising (stage 3) renovations (see Figure 1).

The data collected allowed the VERD team to answer the following questions:

1. Why do homeowners first start thinking about renovations?

2. How do homeowners decide to renovate? And why do they include energy-efficiency measures?
3. What value propositions are attractive to renovating homeowners? And what role might the Green Deal play?

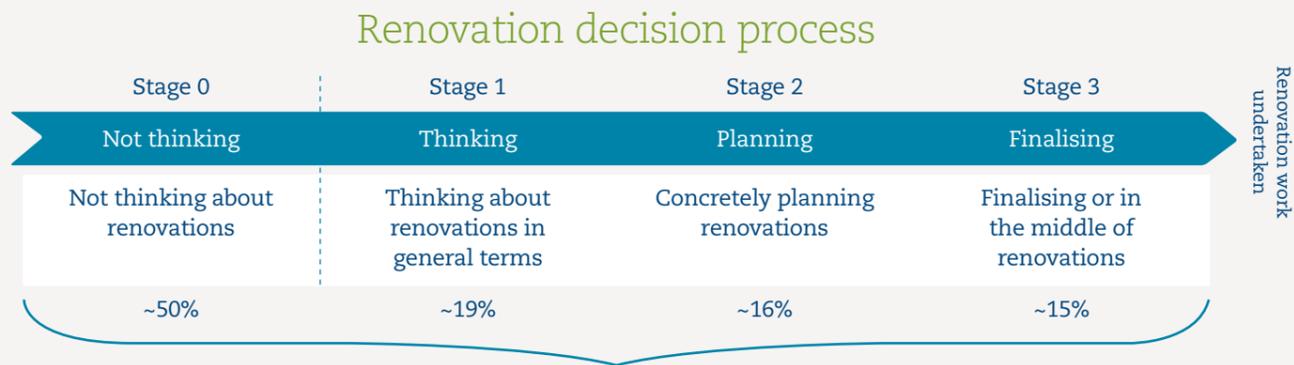
Box 1: Key

Renovations refer specifically to large home improvement projects involving major structural changes / additions to the home that are wholly or partly contracted to building professionals.

Energy efficient renovations refer to renovations involving windows, doors, heating and hot water systems, or insulation. We also call these efficiency measures.

Amenity renovations refer to major structural changes to kitchens, bathrooms, and other living spaces in the home. Amenity renovations may affect energy efficiency indirectly, but not necessarily. Amenity renovations do not include refurbishing, redecorating or other minor improvements.

Figure 1. Four stages of the renovation decision process



Within our random sample of UK homeowners, as of September 2012

1. Why do homeowners first start thinking about renovations?

1.1. Certain conditions of domestic life explain why households first start thinking about renovations.

This study has identified five 'background' conditions of domestic life which help explain why the interest or motivation to renovate first arises (see Table 1). None are specific to renovating. Rather, they create tensions, imbalances or issues within the home that renovating can help resolve.

Table 1. Conditions of domestic life which help explain why the interest in renovating first arises

Condition	Key Questions to Identify Whether the Condition is Present
Prioritising	Do households balance competing and at times conflicting commitments in how they manage and use space at home? (e.g., work-play, child-adult)
Delineating	Are households' visions for their own home and what it means to them misaligned with how it actually is? Does seeing others' homes reinforce this misalignment?
Demonstrating	Do households absorb ideas and inspirations for changing the home from sources like the media, others' homes, or home product stores?
Embodying	Do household members have particular physical needs, either currently or in the anticipated future, which might affect how the home is arranged?
Adapting	Are households aware of a need to adapt the physical arrangement or material surroundings of their homes?

1.2. Balancing competing commitments with the use of space at home is particularly influential for renovation decisions.

Various factors influence how and why households may be Prioritising. Box 2 gives an example from one of the interviews. The Prioritising condition is more likely in households with children or elderly household members, in homes that are seen as a project to be improved upon, and for occupants who expect to stay put for a long time.

Box 2: The 'Prioritising' condition

"We used to have volunteer commitments and stuff that took us away from the house more, but because of the baby and stuff on the way, we've kind of just tried to make time for the house and ourselves."

"Yeah, it's easier family wise because if you've got homework you can still be doing jobs in the kitchen or getting dinner or whatever yet you can still sort of help. The children still feel, well they are in the same room as you instead of being a wall away ..."



Households which strongly see their homes as a project for self-expression and for outwardly reflecting their identity are more likely to consider renovating.

1.3. Households with a clear vision for their home tend to be more open to outside ideas, and more likely to consider renovation because of social influences.

What does the home mean to people? Is it a refuge? A social space? A project? These aren't mutually exclusive, but households which strongly see their homes as a project for self-expression and for outwardly reflecting their identity are more likely to consider renovating. This in turn makes them more open to ideas and inspiration from other people's homes, from the media, and from renovation stores. This is called the Demonstrating condition (see Box 3). It links to social norms on renovating: what other households are doing and thinking about renovating. Demonstrating and social norms are important for helping to turn the Prioritising condition into an awareness of the importance of making changes to the home (the Adapting condition).

Box 3: The 'Demonstrating' condition

"I go to some of my friends' houses and they've got lots of little bits all around the walls and stuff like that and I think, because there's always in the back of my mind I want to do this place up, you don't tend to put stuff up when you don't feel that it's a finished article"

1.4. For many households, renovation decisions begin as an adaptive response to 'misalignments' within certain conditions of domestic life.

Households are more likely to be considering renovations if:

- they face competing commitments in using available space at home
- they face or expect to face physical issues with home life
- they see their home as a project for self-expression
- they find ideas and inspiration for the home from external sources
- they are aware of a need to adapt how space at home is used

1.5. Certain conditions of domestic life lead households to start thinking about renovating, but at this early stage there is no real distinction between households thinking about energy efficiency and those thinking about amenity renovations.

The only notable difference at this early stage in the decision process is that social norms exert more influence on amenity renovators. In contrast, efficiency renovators are more likely to adapt their homes in response to new ideas. Otherwise, energy-efficiency measures, just like amenity measures, are a means of adapting the home to better meet the demands of domestic life. This questions the conventional emphasis on motivations like saving money on energy bills.

1.6. External 'triggers', which are out of the ordinary events, can also give rise to renovation decisions. The most common trigger is when something breaks.

The one major caveat to the findings on how conditions of domestic life give rise to renovation decisions are 'triggers'. Around 1 in 4 renovations are 'triggered' or precipitated by events outside the rhythm of domestic life (see Figure 2). By far the most common of these is that something breaks, and needs fixing or replacing. Interestingly, people sometimes don't even see this to be renovating (see Box 4). Triggers simplify the more complex way that conditions of domestic life give rise to renovation decisions. In other words, the influence of other decision variables weakens in the presence of triggers.

Box 4: An example of 'triggers'

Interviewer: Have you done any major renovation work?

"We painted the kids' two bedrooms and we had most of the work done. And we did some painting ourselves but nothing major."

Interviewer: So nothing else, nothing energy-related?

"Well, I suppose we have done some. We had a new boiler put in and the loft insulated for example. And we had a window replaced. But we had to do these as things had broken and emergency work needed doing."

Figure 2. External triggers of renovation decisions

Are you renovating because ...	thinking about renovations (Stage 1)	planning renovations (Stage 2)	finalising renovations (Stage 3)	average across all renovation decisions
... something in your home needed fixing or replacing?	22%	28%	31%	27%
... someone local strongly recommended renovations to you?	3%	4%	3%	4%
... a contractor or expert strongly recommended renovations to you?	3%	1%	3%	2%
... a very attractive financial offer for renovations became available?	2%	3%	5%	3%

N.B. The 4 'trigger' options are not exclusive, so percentages should not be summed

2. How do homeowners decide to renovate? And why do they include energy-efficiency measures?

2.1. Motivations and other psychological factors, such as attitudes, help explain why renovation intentions strengthen once they are formed. For amenity renovators, social norms as well as external sources of ideas and inspiration are influential.

As the renovation decision process becomes more focused and specific, the influence of background conditions of domestic life recedes, and intentional decision factors become relatively more important. Intentional decision factors are the reasons homeowners might give to explain why they are intending to renovate.

Attitudes towards renovating as a way of improving quality of life at home are particularly important; attitudes towards energy efficiency and saving money are less important. Attitudes are linked to the more general predisposition introduced earlier, describing how households may see their home as a project through which to express themselves (see Table 1). This predisposition makes households more susceptible to social norms on renovating, and more open to ideas and inspiration from external sources, including other people's homes, stores and the media. These influences act on households once they are already intending to renovate.

In summary, stronger intentions to renovate are associated with positive attitudes towards renovating, social norms on renovating, and being open to ideas from external sources ... particularly for amenity renovators.

2.2. Households' own perceptions of how confident, able or capable they are of carrying out renovations do not affect the strength of their intentions to renovate. The exception is for households with no recent experience of renovating: for these households, perceived difficulties and issues of confidence do come to the fore when they are finalising their renovation plans.

'Perceived behavioural control' is a key factor in theories of intentional decision making. It's a complex set of psychological elements relating to perceived difficulty, confidence and capabilities. It includes whether households feel they have the necessary time, resources, skills and knowledge to renovate.

Overall, our analysis showed that perceived behavioural control is not influential; neither were a range of additional factors that were tested as measures of how hard the actual process of deciding about renovations was.

The study looked at whether households found deciding about renovations manageable, overwhelming, involving, or in some way pertinent or important. None of these significantly helped explain why renovation intentions strengthened in the sample of homeowners as a whole.

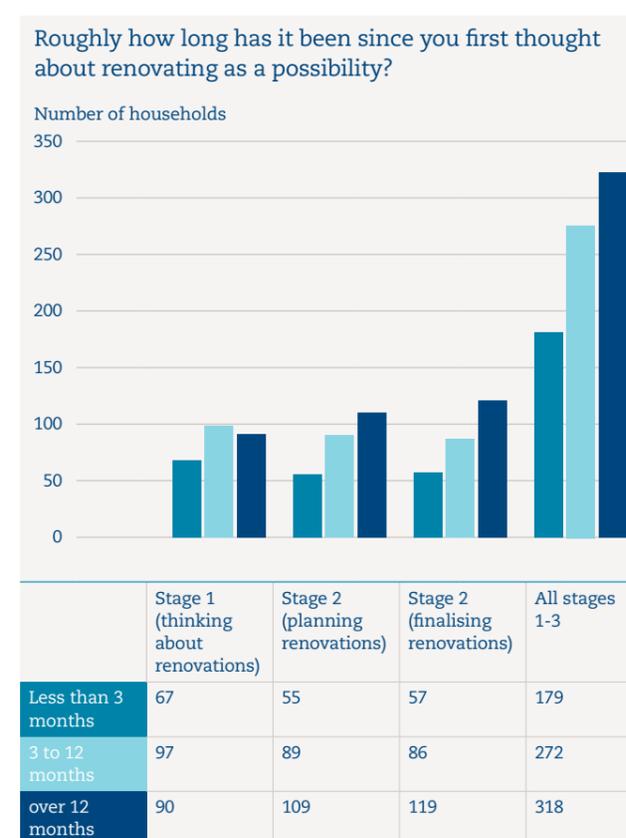
The low relevance of perceived behavioural control and decision effort may be because the type of renovations of interest to homeowners involved contractors rather than homeowners themselves doing the work.

Perceived behavioural control was, however, important for homeowners finalising their renovation plans but without the benefits of recent experience from previous renovations. For this particular segment of homeowners, feelings of difficulty and lack of confidence were influential in holding back the final decision.

2.3. Intentions to renovate take time to strengthen. Renovation decisions are lengthy processes. Almost 1 in 2 households currently considering renovations had first started thinking about them as a possibility more than a year ago.

Decisions about renovating are more likely to take over a year than they are to take less than three months (see Figure 3). Of the households in the sample, only 22% of those finalising their renovation plans had first started thinking about renovating within the previous three months.

Figure 3. Length of renovation decisions, grouped by decision stage



2.4. The longer households have been in their current home, and the shorter they expect to stay, the less likely it is that they will be considering renovations ... but not by much.

Households become slightly less likely to be considering renovations in general, or finalising renovation plans in particular, the longer they have been in their current home.

Around 2 in 3 households not thinking about renovations have been in their homes for more than 10 years. Conversely, around 1 in 3 households currently planning or finalising renovations have been in their homes for less than 5 years.

Households become slightly more likely to consider renovating the longer they plan to stay in their current home. Unsurprisingly, households not expecting to stay long are less likely to be thinking about renovating ... but surprisingly this is not a strong effect. Almost 3 out of every 4 households expecting to stay less than 3 years were still either thinking about, planning or finalising renovations.

2.5. Financial constraints do not act as a barrier to renovation decisions or strengthening intentions. They may, however, lengthen the time spent deciding.

In published studies we reviewed, the most widely-cited barriers to efficiency renovations are upfront costs and lack of capital. However, our analysis shows that neither lower annual incomes nor current financial difficulties prevent households from considering renovations. 67% of the households in our sample earning less than £25,000 a year were considering renovations.

Our survey also asked households how they were managing financially: 17% reported severe or some financial difficulties, but of these almost 2 in 3 were still thinking about, planning or finalising renovations. However, more households with financial difficulties had spent over a year thinking about renovations compared to households that were managing financially (52% compared to 27%).

2.6. Home or household characteristics do not help explain renovation intentions directly, once other decision influences are taken into account.

The characteristics of a home (e.g., age, size) and a household (e.g., size, composition, income) are often thought to explain renovations. But this is not the case if underlying causal mechanisms relating to background conditions of domestic life, triggers and intentional decision making are taken into account.

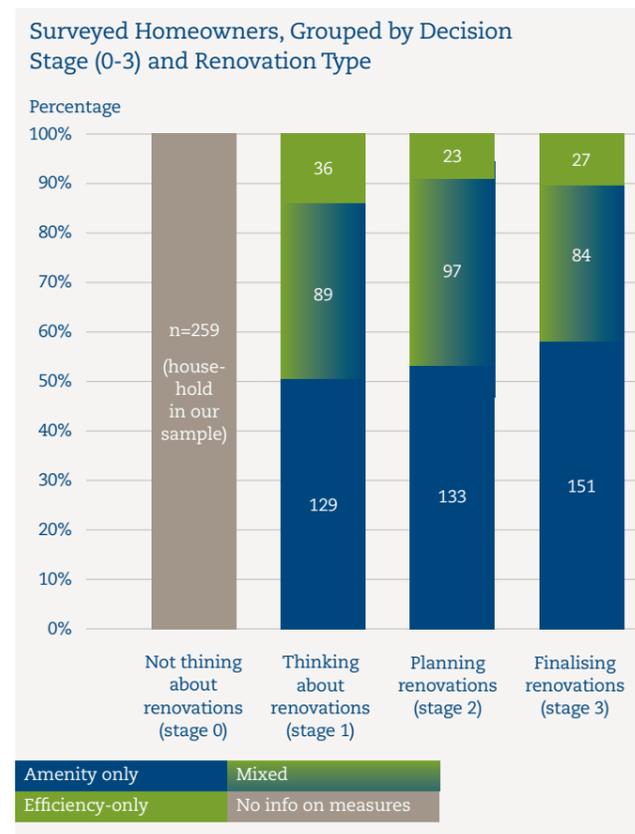
Home and household characteristics may act as proxies for decision variables, but they do not themselves explain renovation decisions. As an example, older colder homes may create greater tensions and physical issues described by the Prioritising and Embodying conditions (see Table 1). But the age of the home per se does not explain why homeowners may be deciding to renovate.

2.7. Efficiency measures are rarely done alone. Only 1 in 10 households are considering doing efficiency-only renovations. Efficiency measures included within amenity renovations are three times as common.

Households are unlikely to undertake efficiency-only renovations; efficiency measures – such as cavity wall insulation – are commonly bundled with amenity measures – such as remodelling kitchens. Of the homeowners in the sample who were considering renovations, 11% were considering efficiency-only renovations compared to 54% considering amenity-only renovations. The remaining 35% were considering mixed renovations with both efficiency and amenity measures (see Figure 4).

Windows and doors were the efficiency measure most likely to be done without accompanying amenity measures, but even this was only in a quarter of cases. Conversely, heating systems and cavity wall insulation were the efficiency measures most likely to be bundled with amenity measures.

Figure 4. Type of renovation measures, grouped by decision stage



2.8. Households' renovation plans are less likely to be efficiency-only by the time they're close to being finalised.

Households finalising renovation plans were less likely to be efficiency-only renovators compared to households thinking about renovations in general terms. This is particularly marked for cavity wall insulation (6%, down from 31%), but also for heating or hot water systems (12%, down from 20%). One interpretation is that the scope of households' renovation plans changes through the decision process, and for would-be efficiency renovators, this leads to more amenity measures being included.



Efficiency renovations are perceived as less salient or urgent. They can wait for mortgages to be paid off, for households to become well settled in their homes, and for the pressures of raising a family to have lessened.

2.9. Efficiency renovators and amenity renovators have similar decision processes. Deciding on efficiency measures is a slightly less drawn out process, and is slightly more likely in households that have been in their current homes for some time.

As described previously certain conditions of domestic life start households thinking about renovations and this was true for both would-be efficiency and amenity renovators. This study also found that the manner in which renovation intentions strengthen is similar between the two groups, and that efficiency measures are far more likely to be bundled with amenity measures than done in isolation. One slight difference is that efficiency-only renovation decisions seem to be slightly less drawn out: 28% of efficiency-only renovators have spent more than 12 months thinking about renovating, compared to 41% of mixed efficiency/amenity renovators, and 44% of amenity-only renovators.

Efficiency renovations also become more common in households which have been in their home for some time. Efficiency-only and mixed efficiency/amenity renovations make up 51% of renovations being considered in households that have stayed in one place for at least 10 years, but only 39% in households that moved in less than 3 years previously.

2.10. Efficiency renovators and amenity renovators have similar home and household characteristics. Efficiency renovators are slightly less likely to have a mortgage and more likely to live in smaller households and households without children.

Comparing the home and household characteristics of would-be efficiency and amenity renovators reveals few clear differences that set efficiency renovators apart. Households considering efficiency-only renovations are more likely to own their homes outright (53% compared to 39% for amenity-only renovations) and are more likely to have lived in their homes for over 10 years (33% compared to 23%). They are also more likely to live in a smaller household (2.3 compared to 2.4 members) with fewer dependent children (present in 20% of households compared to 26%).

These slight differences are consistent with an interpretation that efficiency renovations are perceived as less salient or urgent. They can wait for mortgages to be paid off, for households to become well settled in their homes, and for the pressures of raising a family to have lessened.

2.11. Efficiency renovators are no more influenced by policy or business activity than amenity renovators.

Policy incentives and policy-backed business activities promote energy efficiency in homes, whereas amenity measures such as kitchen remodelling are left to the market. Are efficiency renovators influenced by these activities? In short, no. Renovators including efficiency measures in their plans did not think there was more government or business activity to promote efficiency, nor did they consider that activity to be more effective (see Figure 5). Efficiency renovators were as likely as amenity renovators to be aware of financial incentives for energy efficiency and to find available information on energy efficiency reliable and trustworthy.

2.12. Efficiency renovators are more likely to see renovating as a way of reducing energy bills, but not in lower income households.

Efficiency renovators were significantly more likely to think their energy bills could be reduced by renovating. It is not clear if this was a motivating factor, or if their plans to renovate made energy costs more salient.

Over 25% of households in the sample strongly agreed that their energy bills were too high; this rose to 76% of households who also reported severe financial difficulties.

However, households earning less than £25,000 were less likely to see renovating as a way of reducing money spent on bills. This suggests a low awareness among lower

income households of the potential financial benefits from efficiency improvements.

Overall, our modelling analysis of renovation decisions did not suggest that efficiency renovators were strongly motivated by the potential for energy cost savings.

2.13. Energy audits or assessments are still not common: 2 in 3 households have never had an energy audit or an EPC. Energy audits are only weakly associated with efficiency renovations.

1 in 7 households said they had recently had an energy audit or assessment of their homes (potentially including an Energy Performance Certificate (EPC) on purchasing the home) and 1 in 3 households have had an energy audit at some point in the past. This seems to have some influence on efficiency renovations, but only some.

9% of efficiency-only renovators had had a recent energy audit, compared to 11% of amenity-only renovators (rising to 24% of mixed efficiency/amenity renovators). Of the households who had recently had energy audits, 39% were finalising renovation plans but 16% were not thinking about renovations at all as a possibility.

Recent energy audits were most strongly linked to cavity wall and then loft insulation measures. But around 1 in 3 households considering insulation had never had an audit. Recent energy audits were as likely to be associated with windows and heating systems as with kitchen remodelling or other amenity measures.

Figure 5. Households' perceptions of efforts to promote energy efficiency

Do you agree that ...	Efficiency-only renovators	Mixed renovators	Amenity-only renovators
There is a lot of government activity to promote energy efficient renovations, ...and this government activity is effective.	4.9	5.1	5.1
There is a lot of business activity to promote energy efficient renovations, ...and this business activity is effective.	5.0	4.9	4.9
There are a lot of financial incentives to help homeowners with energy efficiency renovations, ... and it's easy to find information about payment alternatives for energy efficient renovations.	4.3	4.4	4.4
Available information on energy efficient renovations is reliable and trustworthy.	4.2	4.2	4.1
Available information on energy efficient renovations is reliable and trustworthy.	3.8	4.1	3.9

mean scores on 1-7 scale (1=strongly disagree, 7=strongly agree), no significant differences were found at the 95% confidence level

3. What value propositions are attractive to renovating homeowners? And what role might the Green Deal play?

3.1. Finalising renovation plans is more strongly influenced by attractive value propositions than by the conditions of domestic life or renovation intentions.

Towards the end of the renovation decision process, households' general attitudes towards renovating and their reasons for renovating to address certain conditions of domestic life (or in response to triggers) become less influential.

For households finalising their renovation plans, case-specific issues come to the fore. By now renovations are already committed to and renovation intentions are solidified, leaving the resolution of specific issues – “how much?”, “which contractor?”, “when?” – to influence the decision process. Here, the attractiveness of the renovation value proposition becomes important.

A value proposition is a bundle of product and service attributes including, for example, core products (e.g., cavity wall insulation), additional services (e.g., quality assurance), and delivery mechanisms (e.g., marketing).

3.2. Renovating households prefer personal recommendations, small local companies (particularly for amenity renovations) and face-to-face customer support.

The survey asked households to rank their preferences for certain features of an attractive value proposition. These results largely confirmed what is already known.

Households' preferred source of advice and recommendations is from friends (58%), followed by experts (21%), their own research (12%), and the media (6%).

Households' preferred contractors for efficiency renovations are small, local companies or tradespeople (41%), followed by specialist companies (36%) and large providers including energy companies in a distant third place. For amenity renovations, households even more strongly prefer small local companies (61%).

Households' preferred customer support service is face-to-face support at home (52%), followed by face-to-face support in trade premises (23%) and phone (9%).

3.3. The most important features of an attractive value proposition for both efficiency and amenity renovations were (in order): lower upfront cost, more reliable contractors, less disruption to domestic life and less 'hassle factor'.

In addition to the survey, we ran a series of choice experiments in which homeowners were asked to choose between a number of hypothetical renovation alternatives.

By varying how these alternatives were presented, the main influences on homeowners' preferences could be identified. In a first round of choices, homeowners were asked to imagine they were planning either efficiency renovations (heating system, insulation) or amenity renovations (remodelled or revamped kitchen).

In each case these could cost around £5,000 or around £10,000 (see Figure 6).

- The most important features of an attractive value proposition were lower upfront costs and reliable contractors. Homeowners were at least 5 times as likely to prefer reliable contractors over contractors of unknown reliability.
- Next in importance was minimising disruption to domestic life. Homeowners were at least 3 times as likely to prefer renovation work that is not disruptive to domestic life over work that is very disruptive.

- Third in importance was a low ‘hassle factor’ in deciding about renovations – being able to find information easily, for example. Warranties were less important.

These elements of an attractive value proposition apply equally to both efficiency and amenity renovations.

Figure 6. Example of a choice experiment for efficiency renovations

Imagine you are deciding whether to renovate your home by upgrading your boiler and installing loft & cavity wall insulation. You can choose one or other of the following options:

VALUE PROPOSITION FEATURES	OPTION A	OPTION B
Upfront cost	£5000 upfront cost	£6500 upfront cost
Cost savings per year	£600 per year savings	£600 per year savings
Effort or burden of deciding	the necessary information is somewhat difficult to find & understand, and the renovations are a hassle to organise	the necessary information is readily available & easy to understand, and the renovations are easy to organise
Trust in and reliability of contractor	the contractor is very trustworthy & reliable	it's not known if the contractor is trustworthy & reliable
Disruption to domestic life	the renovation work is not disruptive to domestic life	the renovation work is not disruptive to domestic life
Length of warranty	5 year warranty	1 year warranty

Which option would do you choose? A or B?



Homeowners choosing to spend around £5,000 on kitchen remodelling were only half as likely to stick to this when offered the possibility of adding in £5,000 of efficiency measures using the Green Deal.

3.4. In the choice experiments, homeowners found a Green Deal value proposition attractive. They were twice as likely to prefer the Green Deal to conventional means of financing efficiency renovations.

The choice experiments were used to test whether Green Deal-financed renovations by certified contractors were attractive to homeowners choosing efficiency renovations. They were ... though, of course, it's worth remembering that these are hypothetical choices in a pre-Green Deal market (September 2012).

Homeowners choosing to spend either £5,000 or £10,000 on efficiency renovations were around twice as likely to use the Green Deal as to finance their renovations through conventional means.

3.5. In the choice experiments, homeowners would use the Green Deal to include additional efficiency measures as part of an amenity renovation, at no additional upfront cost.

The choice experiments were also used to ask those homeowners who had made a series of amenity-renovation choices whether they would include additional efficiency measures financed by the Green Deal in with their renovation plans.

These homeowners showed a strong preference for expanding the scope of their renovations using Green Deal finance. Homeowners choosing to spend around £5,000 on kitchen remodelling were only half as likely to stick to this when offered the possibility of adding in £5,000 of efficiency measures at no additional upfront cost (using the Green Deal).

Homeowners choosing to spend around £10,000 on a full kitchen revamp were also attracted to the possibility of substituting part of the overall cost for efficiency measures using Green Deal finance.

Findings of the VERD project: Recommended actions



Would-be amenity renovators should be seen as a giant 'foot in the door' for efficiency service providers.

The VERD project explored why and how homeowners decide to renovate their homes, with efficiency measures or otherwise. The emphasis was on understanding the renovation decision process in all its complexity, so as to assist service providers, local authorities and other agencies in improving domestic energy efficiency through home renovations.

Actionable insights from the VERD project are set out below. Most of these are applicable to service providers in general. Some are specific to local authorities – these are shown in boxes. The evidence for all these insights is provided in the 'Findings of the VERD Project' report.

Recommended Actions in Brief:

1. Develop value propositions to bundle efficiency measures in to amenity renovations.
2. Use the Green Deal to add or 'piggyback' efficiency measures on to amenity renovations at no upfront cost. Targeting Green Deal value propositions at homeowners planning to renovate their kitchens, bathrooms and living spaces is a potential means of improving energy efficiency in homes.
3. Emphasise the potential for efficiency measures to help address the challenges of everyday domestic life (and rely less on potential cost savings).
4. Develop market segmentation strategies to identify conditions of domestic life associated with renovation activity.
5. Use existing or 'triggered' points of contact between homeowners and service providers to deliver energy efficiency and build enduring customer relationships.
6. Deliver efficiency measures through locally-known renovation contractors.

7. Build and manage customer relationships throughout lengthy renovation decision processes.

Recommended Actions in Detail:

1. Develop value propositions to bundle efficiency measures in to amenity renovations.

Energy efficiency is too often seen as a discrete type of renovation activity. According to this view, its own particular drivers and motivations are saving money, improving comfort, and helping the environment. And its own particular barriers and constraints include capital costs, payback periods, and contractor reliability.

This narrow representation is perpetuated by studies and market research that only consider efficiency measures in isolation. It is further reinforced by renovation policies and incentives that also focus only on energy efficiency.

The VERD project found strong evidence that energy efficiency renovations are rarely just that. UK homeowners are much more likely to decide on efficiency measures as part of broader amenity renovations to their kitchens, bathrooms and living spaces. This is as true for visible efficiency measures such as windows and doors as for the less visible and more functional measures such as loft or cavity wall insulation.

Decisions to carry out renovations that include efficiency measures are therefore influenced as much or more by factors relevant to amenity measures as by a desire to be more energy efficient. What other people are doing and saying about renovations - social norms - play a bigger part in amenity renovations. So do certain conditions of domestic life such as competing commitments and the need to make better use of space at home.



Amenity measures represent a largely unexploited opportunity to introduce efficiency measures into homeowners' decisions to renovate.

Amenity measures dominate market activity, both in terms of frequency and expenditure. According to the VERD project, would-be amenity renovators should be seen as a giant 'foot in the door' for efficiency service providers, and represent a largely unexploited opportunity to introduce efficiency measures into homeowners' decisions to renovate.

Renovation decisions are lengthy, drawn out processes, often lasting well over a year from first thinking about renovating to going ahead with the work. It is potentially far simpler to introduce efficiency measures into amenity renovation decisions than it is to try and initiate efficiency renovation decisions from scratch.

The findings of the VERD project emphasise the potential for service providers to develop value propositions that bundle efficiency measures in to amenity renovations.

This may require:

- (i) identifying marketing and sales channels to target efficiency measures at would-be amenity renovators;
- (ii) specialist efficiency and amenity service providers jointly developing products and services;
- (iii) using points of contact between homeowners and the amenity supply chain - such as installers visiting homes to quote or measure up - to discuss potential efficiency measures with customers.

2. Use the Green Deal to add or 'piggyback' efficiency measures on to amenity renovations at no upfront cost.

Targeting Green Deal value propositions at homeowners planning to renovate their kitchens, bathrooms, and living spaces is a potentially important way to improve energy efficiency in homes.

The Green Deal also presents a unique opportunity to introduce efficiency measures at no additional upfront cost into amenity renovation decisions. This 'piggybacking' approach recognises that motivations to renovate - whether practical, emotional, aesthetic, identity-related, or the result of social influence - are stronger for amenity measures than for efficiency measures, and do not require financial or other incentives. But once homeowners are already thinking or deciding about renovations, the specific measures they are planning are not fixed in stone. Attractive value propositions, potentially expanding the scope of renovations to include efficiency measures, become more influential.

In choice experiments (run before the Green Deal was introduced), homeowners were around twice as likely to choose to extend the scope of a £5,000 kitchen remodelling to include an additional £5,000 of Green Deal-financed efficiency measures as they were to stick with just the £5,000 kitchen remodelling. Homeowners were also about twice as likely to choose to reduce the scope of a £10,000 full kitchen revamp to include up to £5,000 of Green Deal-financed efficiency measures as they were to stick with their original plans.

These stated preferences need corroborating in the Green Deal market now it's up and running, but they nevertheless suggest an intriguing possibility for innovative products and services to support efficiency renovations.

3. Emphasise the potential for efficiency measures to help address the challenges of everyday domestic life (and rely less on potential cost savings).

Homeowners do not think of their homes as a set of cash inflows and outflows to be optimised. Saving money on energy bills will be important for some, but is far more likely to be only a part, and potentially only a very small part, of why homeowners may be deciding to renovate in the first place. This means that value propositions relying on cost savings may only attract homeowners already committed to efficiency measures for other reasons. This segment is a small niche in a much larger potential market.

Homeowners start thinking about efficiency renovations just as they do amenity renovations - as ways of resolving certain conditions of domestic life that create tensions, imbalances or issues within the home. Would-be renovators may face competing commitments in using available space at home; they may face or expect to face physical issues with home life; they may think their home does not suitably reflect or express their own sense of identity.

Efficiency measures can help in any or all these conditions: by making spaces in the home more useable or thermally comfortable; by reducing environmental stresses on vulnerable household members; by combining functionality with design and aesthetics. Service providers can try and link their product and services more clearly to the underlying reasons why homeowners start thinking about renovating.

4. Develop market segmentation strategies to identify conditions of domestic life associated with renovation activity.

The conditions of domestic life most strongly associated with renovating are broad and difficult to pin down. How can households experiencing these conditions be identified? It is not possible to identify households directly, but the VERD project findings point to various indirect or proxy indicators of particular conditions.

The Prioritising condition describes households juggling competing commitments with how space at home gets used. This is more likely in larger households, those with more than one child, or more than one adult working from home, those whose members have a diverse range of activities and interests, or whose circumstances have just changed significantly (e.g., new job, new mode of transport, recently moved home).

The Embodying condition, which describes households facing or expecting to face physical issues, is more likely in the case of household members in poor health, but also households with very young children. One particular segment is those preparing in advance for old age by modifying their home accordingly.

The Delineating condition describes households that see their homes as a means of expressing their own sense of identity, and that are more likely to receive ideas and inspiration from other people's homes, TV shows and stores, and to be DIY enthusiasts or serial home improvers.

These proxy indicators all offer ways for service providers to target particular market segments with a higher propensity to renovate.

Box 5: Recommended Actions for Local Authorities

Local authorities responsible for processing planning enquiries or applications are in a unique position to know when homeowners intend to make major structural changes to their homes.

Requiring efficiency measures as 'consequential improvements' to renovation plans for extensions or garage conversions was discussed but ultimately not introduced as part of the Green Deal. But the planning process still allows local authorities to exert soft influence on homeowners' renovation decisions by identifying those committed to or strongly inclined to renovate.

At this point in the decision process the specifics of the renovation are not fixed, so attractive and informed value propositions can be influential.

5. Use existing or 'triggered' points of contact between homeowners and service providers to deliver energy efficiency and build enduring customer relationships.

Up to 1 in 4 renovations may be 'triggered' by one-off events that lie outside the normal rhythms of domestic life. For efficiency renovations, the most common trigger is something breaking down and needing to be fixed - usually the boiler or heating system, but also windows, doors or other efficiency-related measures.

These triggers can speed up what might otherwise be lengthy, time-consuming decision processes and offer a distinct opportunity to influence homeowners' renovation decisions towards greater efficiency. Tradespeople such as gas and electricity installers, repair and maintenance experts are often the first points of contact with homeowners whose renovation decisions have been triggered, and can use this opportunity to highlight their more energy-efficient services and products rather than the 'default' or standard ones.

Box 6: Recommended Actions for Local Authorities

Local authorities have access to a wide variety of points of contact between households and the renovation supply chain, including households living in rented properties, housing associations, and social housing.

Although the VERD project concentrated on homeowners, it is reasonable to assume that existing interactions between local authorities (or related entities) and tenants offer opportunities to introduce, market and deliver efficiency measures. These interactions include home maintenance visits, gas meter readings, and visits from assisted living support workers. Such interactions should help identify the conditions of domestic life that may motivate households to want to adapt and potentially improve their homes with efficiency measures.

Local authorities can also encourage landlords (and tenants to ask their landlords) to explore using the Green Deal to finance efficiency improvements so that the occupiers who benefit from lower bills also cover the costs of the improvements.

6. Deliver efficiency measures through locally-known renovation contractors.

Local companies and tradespeople, and specialist renovation companies, are the preferred types of contractor for both amenity and efficiency renovations. Homeowners much prefer contractors (as well as products and services) recommended by friends, family or other people known to them. Although local companies may be too small or specialised to operate over wide areas, concentrating activity in particular areas could help generate 'neighbourhood effects' whereby word-of-mouth recommendations build trust and credibility. This is in addition to any economies of scale from undertaking several renovation projects in the same area, as in the street-by-street schemes being tested in certain communities.

Box 7: Recommended Actions for Local Authorities

Local authorities are a trusted local 'brand', and benefit from a perceived independence from commercial market activity. By backing preferred local suppliers they can help make renovation value propositions more attractive.

Pre-selecting preferred Green Deal suppliers is one approach being tested; organising and running 'open house' schemes is another.

Local authorities have the scale of operation to support local service providers in renovations, potentially through customer support, risk guarantees, badging and certification, and so on.



The findings of the VERD project emphasise the potential for service providers to develop value propositions that bundle efficiency measures in to amenity renovations.

7. Build and manage customer relationships throughout lengthy renovation decision processes.

As renovation decisions take considerable time, building and managing trusted relationships with homeowners becomes even more important. Homes are deeply personal, private, and emotionally-laden places, so decisions to make structural changes are not taken lightly: they are 'high' involvement decisions. This also helps explain why word-of-mouth recommendations and smaller local, less impersonal contractors are so important for would-be renovators.

In short, renovations are unlikely to be one-shot sales. Homeowners prefer face-to-face support through the decision process, whether in-home or in-store. Contractors should focus on developing and maintaining personal relationships with their customers in order to build trust and credibility, and on aligning their products and services with people's deeper motivations for renovating.

The focus and scope of homeowners' renovation plans is unlikely to remain static throughout the decision process, so different efficiency measures may be relevant or attractive at different points. Customer relationships should help service providers adjust their value propositions accordingly, and identify the points at which special offers or other high salience incentives may help get homeowners over the line.

Conclusions

This research helps explain why homeowners decide on energy efficiency renovations, and why they are even thinking about renovations in the first place.

Well-designed value propositions, potentially supported by the Green Deal, can help homeowners finalise their renovation decisions. But understanding how homeowners got to the finish line means looking back to how renovation intentions first took shape and then strengthened during often lengthy decision processes.

The key insights from this research are as follows:

- Renovations are a response to tensions and imbalances within the conditions of domestic life, such as how space at home gets used. Renovation decisions can also be triggered by events such as the boiler breaking down.
- Once initiated, renovation decisions are lengthy processes during which intentions to renovate strengthen. Influences include attitudes, social norms, and a predisposition towards seeing the home as a project to be worked on and adapted. Conversely, lacking confidence, capabilities or feeling overwhelmed by renovations are not influential, except in households inexperienced with renovating.
- Financial constraints do not prevent households from planning renovations, but they may make the decision more drawn out.

- There are few systematic differences between efficiency renovations and amenity renovations in terms of the decision process. Efficiency renovators are not more influenced by policy or business activity promoting efficiency.
- Efficiency measures are far more commonly done together with amenity measures, than on their own. There is very little evidence to suggest efficiency renovations should be treated as a distinct type of home improvement.
- The Green Deal can potentially help 'piggyback' efficiency measures on to amenity renovations without any additional upfront cost. Amenity renovations are far more common, require no incentives, are more strongly linked to social norms and positive attitudes to renovating in general.

These insights from the VERD project were made possible by the way in which we thought about renovation decisions. This differs from the conventional approach, and captures the decision process more realistically. The novelty of our approach is summarised in Figures 7 & 8.

Figure 7. The VERD project's approach to renovation decisions

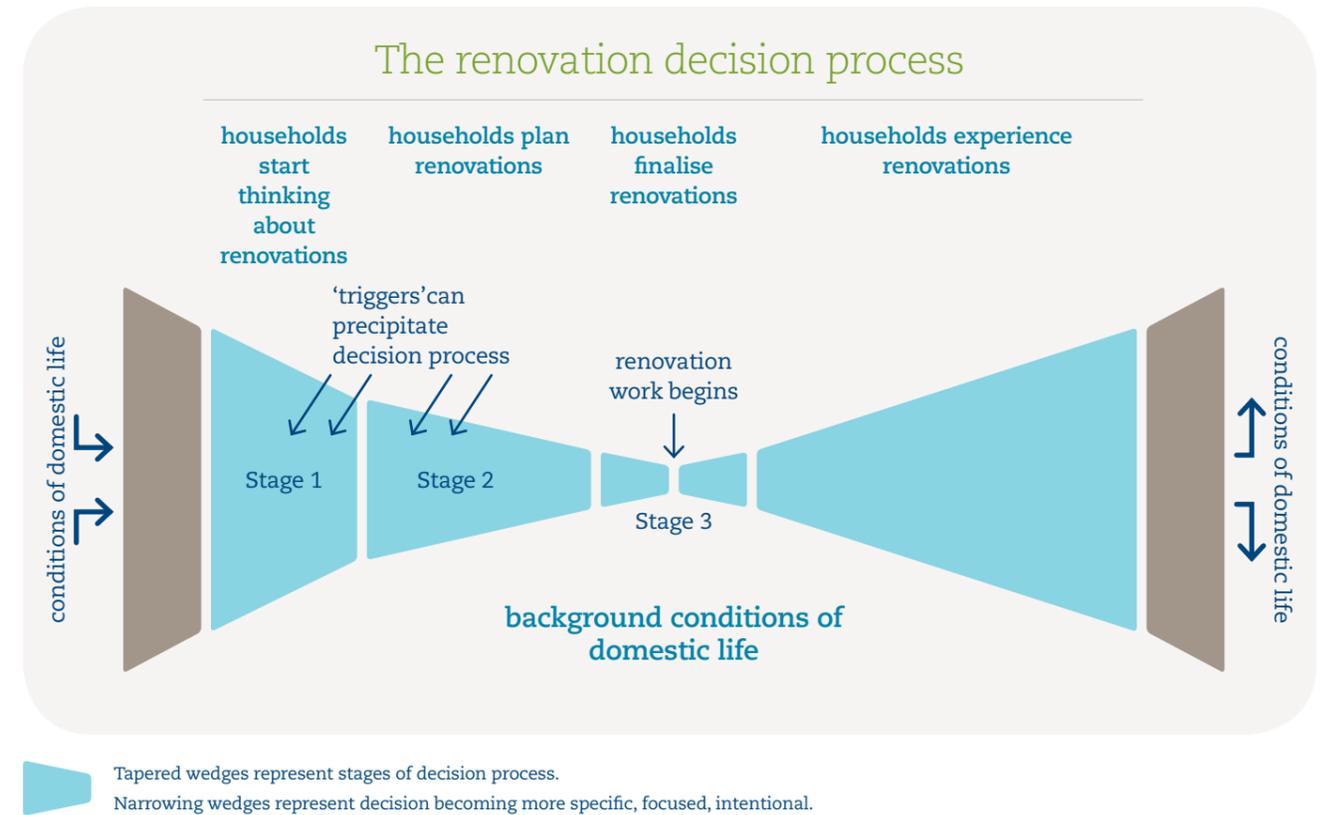
Box 8: Conventional approach:

1. decision as static 'event': influences -> decision -> outcome
2. energy efficiency as discrete type of renovation
3. energy cost savings as sufficient motivation for renovating ...
4. ... if 'value proposition' is right (financing, trust and contractor reliability, disruption to home)

Box 9: Our approach:

1. decision as process represented in 4 stages with changing influences
2. efficiency measures as part of amenity renovations
3. certain conditions of domestic life start homeowners thinking about renovations
4. once intentions to renovate are formed, attitudes, norms, and the right value proposition become more influential

Figure 8. The VERD project's understanding of renovation decisions



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