



Energy efficiency of the built environment has long been a challenge and the current energy crisis has worsened the situation, thereby increasing the urgency to act. **Research commissioned by the Green Finance Institute has shown rising consumer interest in energy efficiency and appetite for an attractive new financial solution to help decarbonise homes.**

Property Linked Finance (PLF) – an innovative financial solution that is not currently available in the UK – has the potential to meet growing consumer interest in energy efficiency. Based on successful mechanisms developed in the US and elsewhere globally, our research has shown there is appetite from consumers for a PLF scheme, both in stable and rising energy price environments. If coupled with mechanisms to drive demand – including both ‘sticks’ (such as regulations) and ‘carrots’ (such as tax rebates) – and other public, private and blended finance schemes, PLF will play an important role in supporting widescale upgrading of the built environment across the UK.

## The Energy Bill Crisis

Net zero, energy security and the cost of living crises are colliding in an ‘energy trilemma’ perfect storm. The price of energy has dramatically increased in recent months, both in the UK and globally. Rising prices are causing widespread and severe affordability concerns for both domestic and commercial energy consumers<sup>1</sup> with reports that the number of households struggling with energy bills is set to triple in 2022.<sup>2</sup>

While it is essential that the immediate symptoms of the crisis are treated and relief is offered to struggling households, attention also needs to be given to addressing the causes, to provide resiliency against future energy crises. This resilience involves both securing energy supply – from low cost and low carbon sources – but also

addressing energy demand. Better insulated homes have less demand for energy and cost less to heat. An upgraded, energy efficient housing stock would be futureproofed both against future consumer crises from energy shocks, but also for a net zero future.

## The investment opportunity

The challenge, however, of futureproofing millions of UK homes is significant, estimated at £250 billion<sup>3</sup> to 2050. Relying on public money alone would be an unmanageable burden for the public purse, although grant support will be needed to help those on the lowest incomes. Mechanisms that mobilise private capital towards funding the upgrading of homes will be transformational and essential.

Research, commissioned by the Green Finance Institute (GFI) in Spring 2021, assessed consumer views on energy efficiency and the options to finance efficiency upgrades. This research identified latent and growing demand for energy efficiency that needs to be enabled. Funding this demand is a significant opportunity for the private sector and will help to deliver real progress for household affordability, energy security, and net zero.

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<sup>1</sup> HoC Library, The energy price crunch, 14 January 2022

<sup>2</sup> Resolution Foundation, Higher and higher, Averting a looming energy bill crisis, 17 January 2022

<sup>3</sup> Climate Change Committee (CCC), The Sixth Carbon Budget, December 2020

# The challenge

The 2021 research found that energy efficiency was seen as important by 83% of respondents (Graph 1). Many reasons were given for the high deemed importance of energy efficiency; reducing energy bills was the most popular response, though other concerns, including reducing environmental impact, were also high.

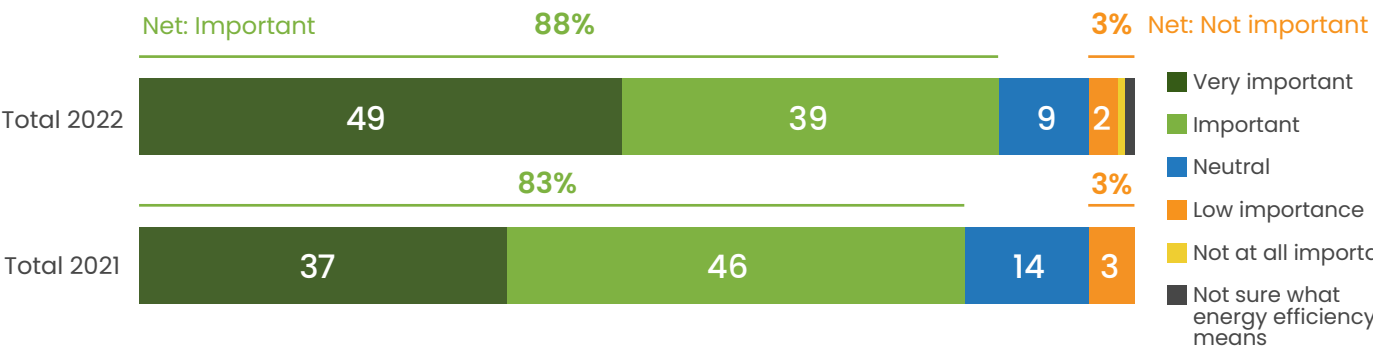
As the energy situation in the UK has changed drastically in the last year, the GFI commissioned further research in early 2022 to understand how the rise in energy bills, cost of living, and other events such as COP26, have impacted consumer sentiment towards energy efficiency and finance for installations.<sup>4</sup>

The updated research identified a greater urgency and interest amongst consumers for action on energy efficiency. In the last year, the proportion of homeowners who find it difficult to meet the cost of their energy bills has tripled. At the same time, close to nine in ten British homeowners now say that the energy efficiency of their property is important to them, a significant increase since Spring 2021. The main reason given for this increase was rising energy costs, however for younger people and landlords hearing about COP26 was also a driver for the importance of energy efficiency.

The Spring 2021 research also assessed views on using traditional finance<sup>5</sup> for energy efficiency upgrades. Almost 25% were likely or very likely to use finance, while just under 50% were unlikely or very unlikely. A variety of reasons were expressed by the latter group, including not needing finance or being concerned about using finance.

In the last year, homeowners have become less likely to consider using third-party finance for energy improvements on their property. This change coincided with wider affordability concerns and energy bill pressures. These findings highlight a key challenge for the current crisis: though energy efficiency is important to consumers, traditional finance may not be desirable for all consumers who wish to upgrade their homes.

Graph 1: Importance of energy efficiency, total, 5pt, 2021 and 2022



<sup>4</sup> The research was completed before the Russian invasion of Ukraine heightened energy security concerns.  
<sup>5</sup> Traditional finance was described in the research for participants as credit card borrowing and personal loans, but also further advances on a mortgage/increasing a mortgage to release funds.

# The solution

In light of growing public interest in energy efficiency improvements, combined with declining appetite for traditional finance options, new financial solutions are needed to support widescale upgrades to the built environment and help address the energy security, cost of living and climate crises.

One potential solution is Property Linked Finance (PLF) – a financial instrument that can support homeowners to fund up to 100% of the upfront costs of energy efficiency improvements. PLF has been highly successful in other countries, in particular the PACE model in United States that has supported c.\$10 billion investment into energy efficiency and resiliency measures in recent years.<sup>6</sup> Introducing PLF to the UK could bring significant benefits:

- PLF is a loan that is linked to the property, rather than the property owner, which results in repayment obligations transferring to the new owner when a property is sold. This means whoever owns the property and is benefitting from the energy efficiency measures, is also responsible for paying for it. The transfer of finance in this way overcomes a key challenge of efficiency upgrades known as the “payback period barrier” whereby homeowners looking to move in the near- to medium-term are deterred from efficiency upgrades as the energy bill savings from the installation are not sufficient to make it financially worthwhile.
- PLF is secured against the property – this is a lower risk form of lending<sup>7</sup> that enables longer repayment terms (e.g. 20–30 years) and lower interest rates (i.e. similar to mortgage rates).
- PLF cashflows are predictable, therefore can be securitised and distributed to the market, which can further support lower interest rates for end consumers and enable institutional investors to actively participate in upgrading the housing stock.
- PLF schemes can be capitalised by public funds and institutional investment, which allows the funding structure to evolve – towards more private sources – as the market scales.
- PLF can be designed to offer attractive interest rates, overcome the ‘golden rule’<sup>8</sup> and focus on local delivery with a reputable supply chain – this directly addresses the major issues of the previous Green Deal scheme.

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<sup>6</sup> See: <https://www.pacenation.org>; Appendix B contains further examples of global property linked finance schemes.

<sup>7</sup> Secured loans are less risky for lenders because they can recover the asset if the borrower defaults, which is why interest rates tend to be lower than those charged for unsecured loans.

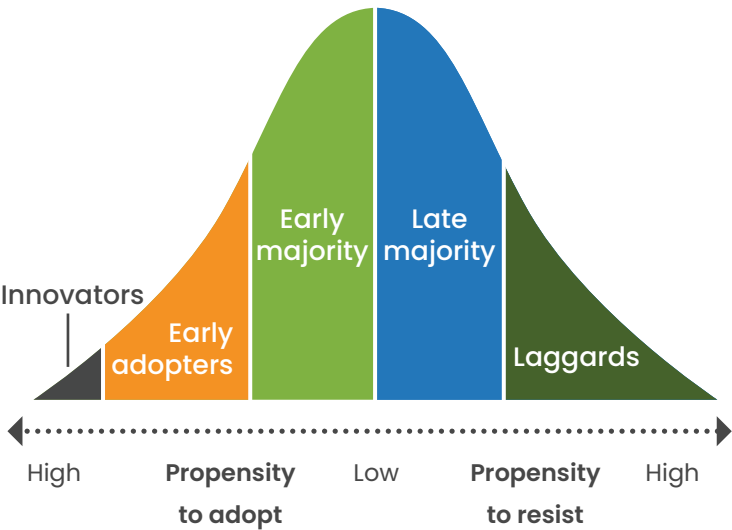
<sup>8</sup> The ‘golden rule’ applied to the Coalition Government’s Green Deal loan scheme and required the cost of the repayments for the loan to be lower than the energy bill savings from improved efficiency. However efficiency savings were a challenge to quantify, and more expensive but essential measures such as solid wall insulation were sometimes deemed ineligible.

The GFI's 2021 research found encouraging levels of demand for PLF with 63% of respondents stating they were likely or neutral to using PLF – an encouragingly positive response to a new financial solution. Of those who were open to using third-party finance for energy efficiency, 73% supported the proposed scheme.

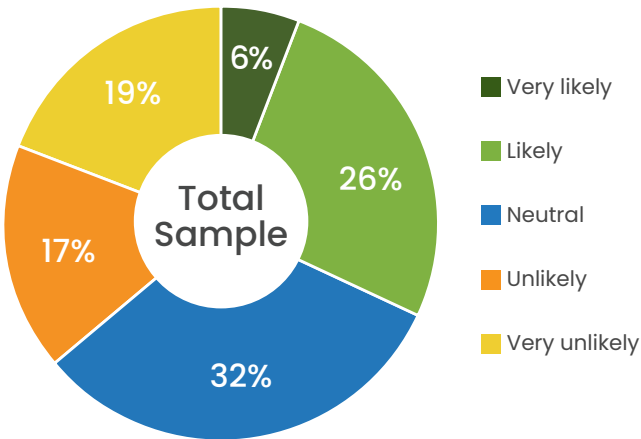
Interest in PLF follows a standard bell curve model (Figure 1) of early adopters, early and late majority (the “undecided” cohort), and laggards (the “reluctant” cohort) with approximately one third in each category (Graph 2). This is a very positive response for a new financial product – typically, new and untested products with few equivalents (i.e. to help respondents understand and contextualise the solution) receive a more sceptical response from consumers. Within the group who responded ‘unlikely to use’ PLF, the solution may not need to target those households since that group signalled they “don’t need finance” or “prefer to pay upfront”.

Across the sample, certain groups of respondents were considerably more likely to use the scheme. For example in the 2022 data, while across the overall sample 32% said they were likely to use PLF, within the group who also said they were likely to used finance for energy efficiency, support for PLF rose to 84%. Of the 64% of respondents that were ‘likely to consider’ or ‘neutral’ on PLF, the scheme was preferred above most other individual options to fund an energy efficiency project, including grants (Table 1).

Figure 1: Bell curve uptake model



Graph 2: Likelihood to consider using a PLF scheme, 5pt scale, 2021



**Table 1:**
**Preferred alternatives to fund energy efficiency, Total mentions, Total and by demographic group, 2021**

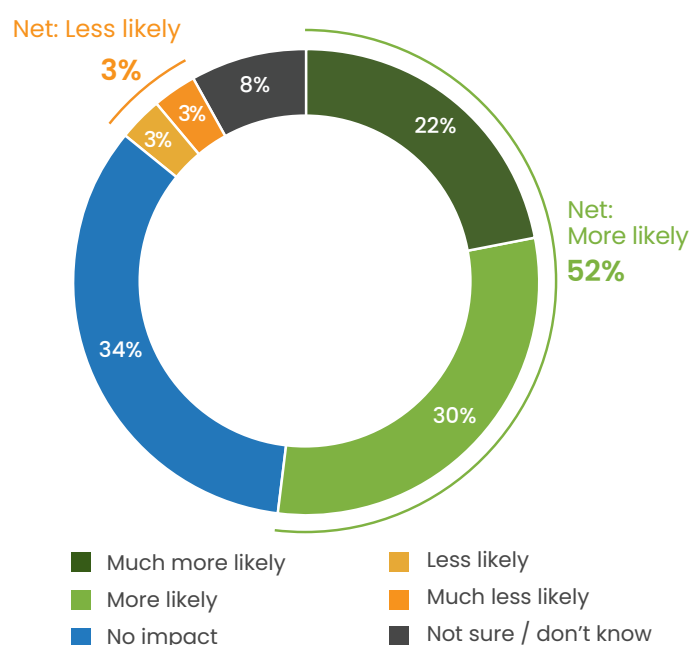
	Total		Likely to consider PACE	Neutral on PACE	Unlikely to consider PACE
Using existing savings/investments	28		18	24	39
Grant	15		16	15	14
Credit card	8		12	9	3
Personal loan	8		14	8	3
Further advance on mortgage	6		12	5	3
Loan from friend/family/individuals	3		3	3	2
None - prefer PACE	16		19	18	13
Don't know	19		6	18	21

The research also provided insights on how PLF should be designed to appeal to UK consumers, avoid the issues of previous schemes, and support widescale adoption (more information and data from the research will be available in a technical annex which will be published shortly).

The updated 2022 research found that, unlike traditional finance, which had reduced in appeal since the earlier survey, interest in PLF remained steady, and actually increased across all demographic groups (although not to a statistically significant level in all groups).

Over half the respondents stated that future socio-economic pressures would make them more likely to consider using PLF, particularly among landlords and younger people. The primary reason for this was to help reduce energy bills, though protecting against future energy price rises and saving money for other household costs were also important motivations (Graph 3).

Overall, the research indicates that PLF would be an attractive financial solution to support growing demand amongst many households to upgrade the energy efficiency of their home.

**Graph 3: Likelihood of using PLF in response to socio-economic pressures, 5-pt scale, 2022**


## Next steps

Establishing PLF in the UK will require co-ordinated collaboration across the finance, legal, installer and property sectors, as well as local, devolved and central governments.

To facilitate this collaboration and catalyse the PLF market, the Green Finance Institute will convene the 'Property Linked Finance Taskforce'. This will be a small, outcomes-focused group of market pioneers to design and structure a prototype solution. In parallel, we will develop a cross-sector campaign to build widespread industry support.

These workstreams will enable us to encourage the introduction of enabling legislation to provide the statutory basis for PLF, build a shovel ready model for PLF that can be rapidly brought to market once the legislation is in place, and lay the groundwork for a thriving and scalable PLF market.

## Acknowledgments

The Green Finance Institute is grateful to all partners and CEEB members who contributed to our PLF workstream. In particular, we would like to thank Globescan for undertaking the thorough research and excellent analysis to support this workstream and Osborne Clarke for providing invaluable pro-bono legal support in our research.



# Appendix

## A. Methodology

The Green Finance Institute commissioned consumer research to investigate the potential for PLF in the UK.<sup>9</sup>

The qualitative research involved 23 interviews, conducted by video or telephone in March 2021. The quantitative research was conducted via an online survey between 15th April and 3rd May 2021. The total sample was 1,800 with 400 in each of Wales and Scotland, and 1,000 in England.<sup>10</sup>

The quantitative research was repeated with the same size sample in Spring 2022.

Respondents to both research methods were limited to homeowners and landlords, as these are the individuals who would likely be the key target audience for PLF. The sample was representative of homeowners and landlords by age, gender, and region across the UK.

The final combined data was weighted within each nation by age, gender, and region to correct for any small differences in sample. The total sample for each nation was also weighted to the correct proportions of population for the three nations.

The final sample provides a broad picture of homeowners, for example those who own properties of varying age and type, those who own outright versus with a mortgage, years left on a mortgage, plus current energy sources and energy efficiency ratings.

## B. Global examples of PACE

**Australian Government (2021)** Building Upgrade Finance NSW

**Arenawire (2020)** Better buildings on the way with expanded renewable finance program

**PACE Nation**

**GNE Solutions, EuroPACE**

**De Woonpas**

**ESI Africa (2020)** Interview with Cape Town energy chief

**Energy Hub (2021)** Clean Energy Financing Programs in Canada

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<sup>9</sup> The research was undertaken by GlobeScan

<sup>10</sup> Northern Ireland was not included due to differences in the energy market