Perenna

Green Home Finance Accelerator
End of Pilot Phase Report

February 2025

End of Pilot Phase Report

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Executive Summary

Introduction

Perenna is a new digital bank offering an innovative solution to help homeowners overcome challenges associated with property retrofitting.

Perenna were awarded grant funding by the Department for Energy Security and Net Zero's Green Home Finance Accelerator (part of the Department's £1bn Net Zero Innovation Portfolio) to support development and piloting of a retrofit discount feature product.

Perenna's Green Home Finance Accelerator project included Heatio and Energy Systems Catapult as consortium partners.

To reward homeowners for making upgrades to their home, Perenna is offering a new green finance product, a retrofit discount feature. Homeowners who take up a new long term fixed rate (i.e. 10-40 year fixed rate) remortgage from Perenna can benefit from a discount on their mortgage interest rate (0.20%) for the remainder of the term when they retrofit their properties with low carbon technologies, like heat pumps or solar panels, to be "net zero ready[1]".

Perenna's retrofit discount feature offers an interest rate reduction on the entire mortgage amount. This differs from the cashback options for retrofit installation commonly seen with high street lenders.

Our customers have the option to get support on their retrofit journey[2]. For example, one of our pilot project consortium partners, Heatio, offers installation of a Home Energy Management System (HEMS). This captures current energy insights, recommends low carbon technologies (LCTs) tailored to the home, and monitors performance of the retrofit measures to ensure optimisation, giving potential customers unique insights into their property and the confidence they need to progress their retrofit.

We also partnered with Energy Systems Catapult (ESC) to support our research into the perspectives of consumers and brokers on retrofitting and the launch of our retrofit discount feature into the mortgage market.

Key Dates and Financials

The Consortium officially commenced pilot activities as of January 23, 2024.

Perenna launched its retrofit discount feature to market on August 13, 2024.

Heatio launched their Home Energy Management System (HEMs) on June 18, 2024.

Consumer Research undertaken by ESC on behalf of the Perenna took place over October, November and December 2024.

The pilot officially closed February 28, 2025.

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[1] 'Net zero ready' is defined as a property which has a heating system which runs on electricity, or a low-carbon district heating system, rather than on-site fossil fuel combustion.
[2] Please see https://static.perenna.com/retrofit-discount-customer-guide for more information on the retrofit discount.

Perenna's retrofit discount feature and Heatio's HEMS continue to be live in the market.

Grant Amount

The total grant amount awarded to the Consortium is £599,331.04.

Geographic Scope

Perenna mortgages, including the Retrofit Discount option, are available to customers in England and Wales. Heatio's products and services are available UK-wide.

Pilot Objectives

The primary objective of our green finance product is to overcome specific challenges for homeowners who seek to retrofit. This includes removing the upfront costs to install LCTs, reducing the hassle of retrofitting by signalling to recognised partners in the retrofit supply chain and providing educational awareness on retrofits.

Primary Customer Group

Perenna is piloting the retrofit discount feature on its residential remortgage products. This means it is initially available to current owner-occupiers with a mortgage. There are over seven million of these homeowners in England and Wales[3]. Over one million of these had the potential to remortgage in 2024.

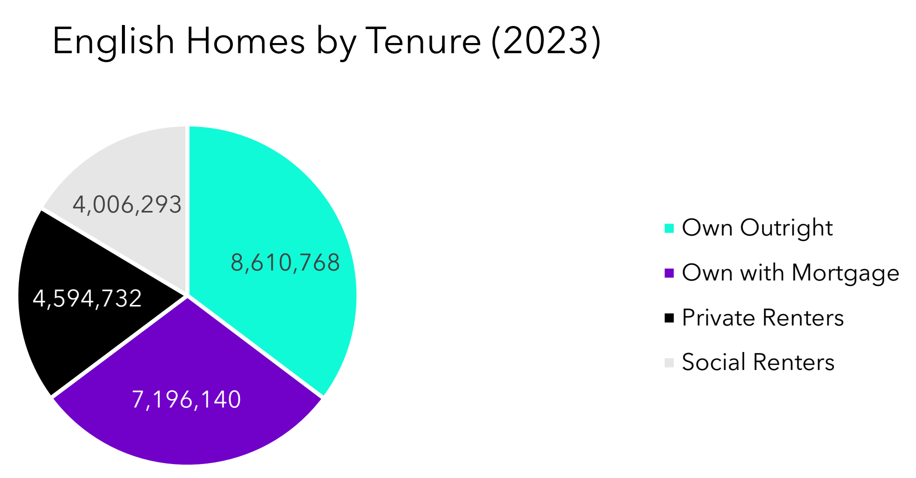

Figure 1: Number of English Homes by Tenure (2023)

Barriers Addressed

Perenna are seeking to address the following barriers to retrofit and green finance product uptake:

i) a lack of awareness of retrofit
ii) a lack of financial incentive where homeowners often struggle to justify the cost and hassle of retrofitting

[3] Data from English Housing Survey 2022-23

iii) upfront costs
iv) navigating a complex landscape of finding trusted installers for low carbon technologies.

To tackle these barriers, Perenna introduced:

i) a 'retrofit discount feature' as a financial incentive to encourage customers to retrofit
ii) educational awareness for brokers and customers through a retrofit calculator, webinars and blogs
iii) dedicated landing webpages with weblinks to trusted third-party installers
iv) partnership with Heatio to offer insights into home energy usage through their Heatio Platform[4]

At this stage, it remains difficult to determine whether barriers have been fully overcome due to no uptake of the retrofit discount feature and broader market challenges. Post-pilot, Perenna aims to engage targeted broker firms interested in retrofitting, exploring how we can integrate a mandatory requirement for retrofit discussions with clients.

Consumer Impact

As Perenna has not yet had a customer complete the retrofit journey, we cannot assess our product's impact on improving the financing and retrofitting process. Our consumer research indicates that the retrofit discount feature is well-received and is perceived as a good way to save money. However, homeowners are seeking more assurances regarding energy savings compared to borrowing costs. Currently, consumers are not opting into the feature due to a lack of awareness, and there is limited demand among mortgage customers. For more details on consumer research, please refer to section 11.

Heatio's platform aims to provide homeowners with detailed and actionable insights on energy consumption, cost savings and reductions in carbon emissions. Heatio trial findings have indicated that homes equipped with technologies like heat pumps, solar panels and battery storage experienced significant decreases in energy use. One property reported up to a 57% reduction in energy bills. Additionally, noteworthy reductions in carbon emissions were recorded, aligning with the environmental objectives of the technology.

Since the launch of the Pilot Phase in summer 2024 (and separate to the GHFA project), a total of 116 customers have signed up to the Heatio platform, with a total of 63 fully onboarded (Smart Meter Connected). From 10,712 visits to the Heatio website during the pilot phase period, a total of 217 marketing qualified leads were generated at a visit-to-lead conversion rate of 2%.

Outcomes and Learnings

Perenna experienced no uptake of the retrofit discount feature, due to barriers being experienced and the duration of the full customer journey. However, there have been significant learning opportunities since the launch into market. Consumer research undertaken by ESC highlighted the target audience for the feature. Those planning on obtaining a mortgage within the next two years showed the highest interest in the

[4] https://www.heatio.com/

offering. Broker feedback also mentioned the feature may appeal to buy-to-let (BTL) landlords due to potential upcoming Minimum Energy Efficiency Standards (MEES) and Energy Performance Certificate (EPC) regulatory reforms.

Consumer feedback from ESC's research suggested a need for more incentives to retrofit. This could be in the form of a cashback to provide an immediate benefit to the homeowner. Alternatively, increased government support could assist lenders in providing low-cost additional loans for retrofitting or supplementing existing homeowner subsidies, such as the Boiler Upgrade Scheme[5].

Educational awareness is still key to unlocking the consumer market. Proactive communication is required on installation, costs and benefits for driving consumer engagement. However, this needs to be emphasised from a cost savings, trust and ease of installation narrative. Sustainability is seen as an afterthought when it comes to homeowners wanting to retrofit.

Despite our collaborative efforts across the Consortium to raise awareness about retrofitting, converting interest into actual consumer action regarding the retrofit discount feature and platform adoption did not materialise. We intend to continue industry collaboration to enhance consumer trust and education around LCTs.

<u>Unexpected Results</u>

We discovered there are negative sentiments around green financial products exacerbated by misinformation from social media and general press coverage around LCTs. From consumer research undertaken by Heatio, consumers remain wary about lenders, fearing hidden agendas and mistrusting the projected savings from LCTs. Addressing these challenges requires continuous market education, transparent communication about the financial and environmental benefits (for example, we display mortgage savings on our website) and sustained efforts to build trust and dispel misconceptions within the broader financial ecosystem.

<u>Readiness for Commercial Deployment</u>

Perenna launched into the market with full-scale deployment. To date no customer has taken the retrofit discount feature, ongoing iterations must be developed post-pilot to enhance this performance. For example, Perenna can:

i) collaborate with broker sourcing tool providers to filter for green mortgages across the new build and retrofitting space and
ii) strengthen partnerships within the supply chain to boost awareness of retrofitting to support decarbonisation of homes.

Additionally, other lenders offering low-interest loans to finance retrofitting combined with government subsidies may further incentivise the adoption of LCTs, accelerating green finance and the decarbonisation of homes.

[5] https://www.find-government-grants.service.gov.uk/grants/boiler-upgrade-scheme-1

Main Report

1.Pilot Project summary

Perenna has introduced a retrofit discount feature for homeowners who secure a new long-term fixed-rate remortgage. Homeowners who retrofit their properties with a heat pump or solar panels will receive a 0.20% discount on their mortgage rate for the remainder of the mortgage term. Customers can choose to use Heatio's Home Energy Management System (HEMS), which tracks energy use and suggests further retrofitting improvements.

Energy Systems Catapult (ESC) conducted consumer research during the Discovery Phase to gather feedback on our retrofit product feature designs, which informed the refinement of the pilot launch in the summer of 2024.

First, we discovered that remortgagors are more likely to retrofit their homes than purchasers. We believe it is beneficial for a homeowner to have lived in their property for at least one winter before deciding to change their heating via a retrofit.

Secondly, we discovered a crucial trigger point in the homeownership cycle. Borrowers start considering their remortgage options, often when they have six months left on their current fixed period. Homeowners may consider upgrading their property by using the equity they have built up, possibly adding to their mortgage to fund these improvements. As a result, we have selected our long-term fixed rate remortgages to trial the retrofit discount.

Retrofit Feature

The retrofit discount feature is designed to encourage homeowners to adopt low-carbon technologies (LCTs) by offering reduced mortgage interest rates. Homeowners can choose who they would like to support them on their retrofit journey. For example, if they use Heatio's services[6], they could receive detailed insights into their home energy use, accurate building models, validated installations, and educational resources to increase their retrofit awareness.

Our feature offers a discount of twenty basis points (0.20%), to the standard product rate should the customer complete the qualifying retrofit within two years. A qualifying retrofit is limited to the installation of either of the following:

- Solar panels (system with a minimum installed capacity of 2kWp)
- Heat pumps (air source or ground source)

We decided to limit the qualifying retrofit measures to solar panels and heat pumps for the following reasons:

- they have a large impact on reducing primary energy usage and carbon emissions
- they have higher barriers to installation (the purpose of the pilot is to design innovative financial solutions to help homeowners overcome retrofit barriers) and

[6] Customers do not have to use Heatio's services for successful verification of the retrofit discount. If they remortgage to Perenna, use an MCS certified installer and provide us with the MCS certificate or certificate number within 2 years of the mortgage start date, they will qualify for the retrofit discount.

- they can be properly verified.

Customers must opt-in to this product feature during the application process and must complete the retrofit within 2 years from the completion date of the remortgage. The retrofit must be completed by an MCS certified contractor. If they do not opt-in, do not complete the measures within 2 years, fail to use an MCS certified contractor or do not install eligible technologies, they are not eligible for the discount.

The discount has been set at twenty basis points (0.20%). Based on the consumer research performed during the Discovery Phase, this value is high enough to be attractive to homeowners as an incentive. This value was agreed internally based on the following benefits to Perenna:

- Property value increase post-retrofit.
- Customer credit risk decreases post-retrofit.
- Funding cost decreases in future.[7]
- Prepayment rate decreases post-retrofit.[8]
- Brand awareness increases.
- Enhanced reputation.
- Lower financed emissions.

The value of this discount can be significant.

If a customer borrows £300,000 over 35 years at an interest rate of 6.00% and installs solar panels, Perenna will lower their rate to 5.80% and they will save £40 per month on their mortgage payments. That could be a saving of £480 per year (not including any potential energy cost savings).

	Before Retrofit	After Retrofit	Monthly Savings	Annual Savings	10yr Savings
Mortgage payments	£1,711	£1,671	£40	£480	£4,800

Figure 2: Example of how Perenna explains the retrofit discount feature saving.

The customer journey is in simplified terms, is as follows:

- The Broker identifies the Perenna remortgage product is suitable for their customer after a fact-finding conversation and a review of sourcing systems.
- The Broker generates a European Standardised Information Sheet[9] (ESIS) document for the customer's unique circumstances. It details the key features of the mortgage, such as Lender information, loan type and amount, duration, interest rate and repayments.

[7] Funding costs for a mortgage provider are the expenses the lender incurs. These can be affected by the type of lending, and on what type of security/property funds are leant on.
[8] Prepayment risk is the chance that a borrower pays off their mortgage early.
[9] European Standardised Information Sheet (ESIS)
The pre-contractual disclosure document, the template for which is contained in MCOB 5A Annex 1, provided to a consumer in accordance with MCOB 5A.

- The Broker explains the key features of the mortgage, as described by the ESIS, which includes the optional retrofit option.
- The Broker discusses the retrofit option on remortgage products and the customer decides if this should be included.
- A Decision in Principle (DIP) is generated and if accepted the customer progresses to the application stage.
- The customer would apply for a long-term fixed-rate remortgage with Perenna.
- The customer can then choose the retrofit improvements they want to make with an MCS installer of their choice. Perenna will offer support in finding an installer through partnerships with other companies and signposting to these in website content. These home improvements could be paid via the customers' funds, an unsecured personal loan from another bank, or as an additional sum on the mortgage with Perenna.
- The customer completes the retrofit improvements and submits the MCS certificate number to Perenna for verification.
- As a reward for completing the work, Perenna will lower the rate on their mortgage. This lower rate will apply to their entire mortgage loan and the entire term of the mortgage and will be applied after installation is verified.
- The customer would be free to switch mortgage products or remortgage with Perenna or another bank after five years from the start of the mortgage at no charge.

Target audience

This pilot was exclusively for remortgage customers which means we focused on homeowners with a mortgage.

According to English Housing Survey data for 2022-23, there were 7.2 million homeowners in England and Wales with a mortgage. Most of these homeowners had a mortgage with a rate which reverts to a standard variable rate (SVR) after 2 or 5 years. As a result, over a million homeowners remortgage every year and the vast majority of these live in properties which could have solar panels and or a heat pump installed.

The ideal property type for this target group is a (semi) detached or terraced house. The remortgagor target profile is:

- Age: 34-44
- Property: Semi-detached or terraced house
- Property Build Year: Post 1945
- Income: 30k+
- Mortgage Amount: £250,000+
- Current Mortgage Rate: Fixed Standard Rate
- Mortgage Term: 15 years or more remaining

Consumer research conducted during the Pilot Phase revealed a strong interest in retrofitting, particularly among individuals looking to move into their "forever homes." This interest was especially notable among young couples, who tend to be more environmentally conscious, as well as families, due to their higher average energy usage[10]. Retrofitting may also attract customers who are already comfortable and skilled with the technology and do not need technical advice or support from brokers.

Those that opted into the feature during the Pilot Phase were between 28-34 years with property age ranging from 1880 to 2002. For details on how these customer groups were marketed to during the pilot, see section 9.

Market barriers

Perenna aims to tackle the following issues:

- A lack of awareness regarding retrofitting.
- Difficulty of homeowners justifying the costs and inconveniences associated with retrofitting.
- The challenge of upfront costs.
- Navigating a complex landscape to find reliable installers for low-carbon technologies.

For most households, up-front costs greater than £5,000 are prohibitive and require some form of financing. This is not too dissimilar to how many households view other home improvement projects such as extensions, loft conversions or kitchen upgrades. For many, this financing need is met through secured loans such as a mortgage, as they allow the homeowner to spread the costs of the project over a much longer time horizon and therefore minimise the monthly payments.

Another challenge the new customer faces is navigating the complicated and confusing landscape of finding trusted installers. To assist them in this, we have a dedicated page for both heat pumps and installers which includes links to trusted third parties and installers that can assist them. We also link to our Consortium partner, Heatio. They have developed their Heatio platform to give potential customers unique insights into their property and the confidence they need to progress with their retrofit.

We provided educational content on our website to include useful information about retrofitting, including a retrofit calculator providing personalised recommendations and a list of independent trusted installers.

With low uptake of the feature we cannot determine whether barriers have been adequately overcome. However, we endeavour to adjust the product and service delivery to evolve the product.

2.Pilot Timeline

Table below shares key milestones as part of delivering this project.

Key Milestone	Date
Start of Pilot	16 January 2024

[10] https://www.nesta.org.uk/project/finding-ways-to-deliver-cheaper-electricity-by-rebalancing-levies/how-different-households-use-energy/

Go-Live	Perenna system changes for retrofit discount feature: 13 August 2024 Heatio: 18 June 2024
Consumer Research	October-December 2024
End of pilot	28 February 2025

Figure 3: Table of Pilot Phase Key Milestone Dates

The timeline for delivery of this pilot mainly remained on track as per the initial plan shared with Department for Energy Security and Net Zero. One deliverable, deployment of 'Retrofit Discount Feature', was delayed by two weeks due to an issue with the platform this feature was being deployed to. To mitigate the delay, the context and significance of the change was highlighted to the platform vendor. As this change was made to deliver a feature on a mortgage product this did not affect the overall delivery of this pilot.

3. Integration of Design or Process Innovations

During the Pilot Phase, we gathered feedback from our brokers regarding the retrofit discount feature. Brokers expressed a lack of clarity about the purpose of the feature, how it worked, and felt uncertain about their ability to explain it or find the necessary information to assist their customers who wanted to retrofit. As a result, there was a missed opportunity for both brokers and clients needing support.

To address this issue, we reviewed the wording of the feature in the client application to make it clearer and more intuitive. Our goal was to ensure that the language used conveyed the feature's purpose at a glance, eliminating any confusion and making it easier to opt in. By refining our communication about this functionality, we aimed to help brokers feel more confident and informed, ultimately enhancing the overall experience for everyone involved.

New retrofit discount feature wording: 'Some of our mortgages come with an optional retrofit discount feature for those clients who intend to retrofit their home in the next two years. If your client is interested in adding a heat pump or solar panels, they could benefit from a lower mortgage rate (terms and conditions apply). More information can be found on our intermediary website.

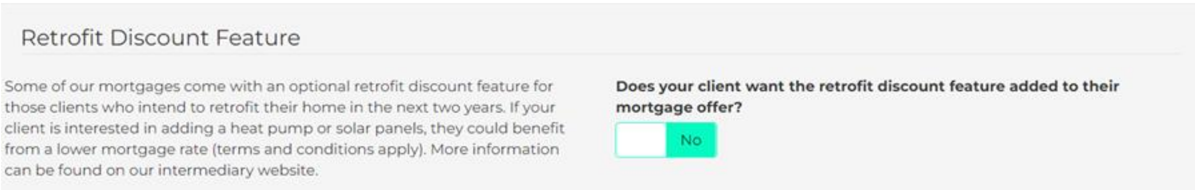

Figure 4: Revision to wording of retrofit discount feature within the application.

4. Pilot Partnership Learnings

The Consortium is comprised of three partners: Perenna Bank PLC (Perenna), Heatio, and Energy Systems Catapult (ESC). This is a continuation of the Consortium which participated in the Discovery Phase of the Green Home Finance Accelerator. The roles on the project have been distributed as follows:

- Perenna is the lead organisation in the Consortium and the finance provider, responsible for designing, launching, marketing and assessing the retrofit product feature's performance. We handled the customer journey, operational elements and engagement with brokers and consumers.
- Heatio provided expertise in low carbon technologies (LCTs) and energy efficiency installations. They are responsible for providing the Home Energy Management System (HEMs), offering support and services should Perenna customers choose to use Heatio and ensuring a positive experience with retrofit installations. They supply data on completed installations for reporting. Heatio also undertook qualitative and quantitative consumer research to understand consumer attitudes towards energy management and LCTs.
- ESC focused on using best-in-market techniques to conduct qualitative and quantitative research on the broker and consumer experience of the proposition. These insights will support future product development.

We identified a consistent need to enhance the retrofit supply chain through our partnerships. It is essential to expand collaborations with reliable entities such as financial service providers, energy suppliers and government. These partnerships can focus on promoting financial incentives, grants and subsidies that help reduce the burden of high upfront costs.

5. Advice and Guidance utilised throughout the Pilot Phase

Perenna has created advice and guidance on its website to help potential customers understand the retrofit discount feature and the broader retrofitting space. This includes dedicated landing pages for the retrofit discount feature, solar panels and heat pumps.

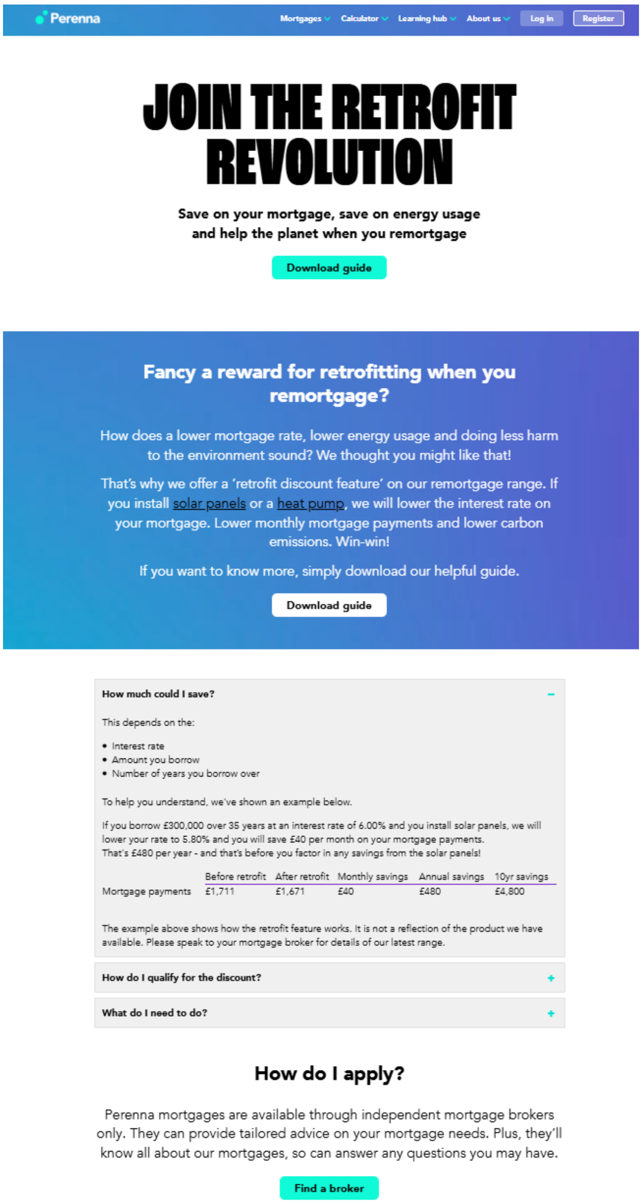

Figure 5: Retrofit discount feature landing page.

Additionally, there are customer and broker guides designed to assist brokers and their clients in navigating the steps to successfully obtain a discount. Perenna also provides links to trusted third parties, offering consumers a range of choices without limiting their options.

Customer facing website:

- https://static.perenna.com/retrofit-discount-customer-guide

Broker facing website:

- https://static.perenna.com/retrofit-discount-broker-guide

Perenna partnered with Kuppa[11] to host their white label retrofit calculator on the Perenna customer-facing website. This educational tool for consumers also supports our retrofit discount feature. Customers gain an awareness of the measures needed to upgrade their homes alongside the costs and savings. We also launched a simplified retrofit savings calculator for display on the broker website.

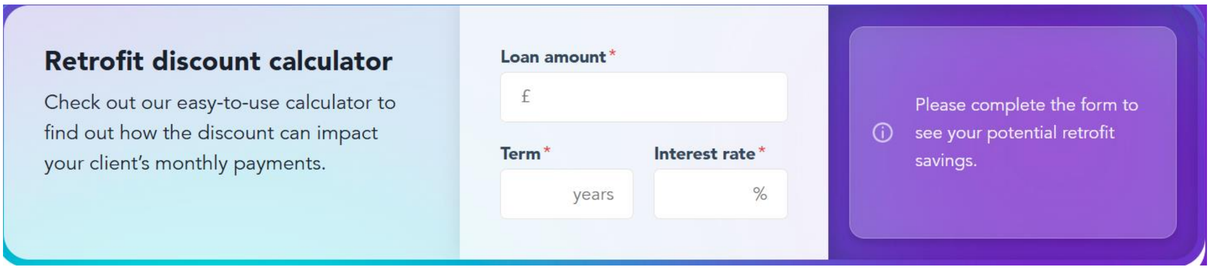

Figure 6: Intermediary simplified retrofit discount calculator.

It is yet unclear how effective these resources are to customers. However, we undertook Consumer Duty testing[12] of the consumer landing pages to monitor customer behaviour and to understand how homeowners were engaging with the educational content. Perenna tailored the advice and guidance from our landing pages to the needs of the customer. For example, only 37% of respondents realised the work had to be completed by an MCS certified installer and that upgrades needed to be completed within two years. Therefore, formatting was required to bold the key points to make it easier for the potential customer to identify. Additionally, most respondents (56%) strongly or somewhat agreed that having a cheaper mortgage was more important than cheaper energy bills. Therefore, in marketing refreshes, we focused on lower mortgage rates as a primary message over retrofitting.

Responding to Consumer Feedback

Consumer research conducted by ESC and Heatio revealed a need for advice and guidance to highlight the tangible financial benefits of retrofitting in a straightforward way. The research showed the primary motivator for retrofitting is cost savings, with sustainability regarded as a secondary benefit. Creating informative narratives that explain the immediate cost savings of installing heat pumps or solar panels resonates well with consumers. Therefore, future advice and guidance must communicate the return on investment from retrofitting.

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[11] Kuppa is a UK platform offering data-driven insights to improve home energy efficiency and support net-zero goals.

[12] Perenna undertook Consumer Duty Testing in October 2024. This was a 24-question survey to Survey Monkey audience users based in England and Wales, aged over 18 with a mortgage. We received 200 responses.

Many respondents were also unsure which retrofit option would be best for them and so wanted clear guides/support on what technologies are suitable for different house types (e.g. roof requirements for solar panels, space required for different types of heat pumps) and most financially prudent for their circumstances.

For more information on consumer research see section 11.

6. Installer Integration

Perenna opted not to partner with a specific installer and focused on providing educational and informational tools, such as the retrofit calculator, to empower customers with independence and freedom of choice. Customers are directed to the MCS Find a Contractor[13] website to enable them to search for their specific retrofit type and find a suitable contractor for their project. This is in line with existing efforts by MCS, providing a database of installers who can work on retrofits and who have been certified. Installers are not directly integrated into the customer journey, however, efforts to signpost the requirements of the retrofit offer have been undertaken.

Regional differences may affect willingness to pursue retrofits if installation barriers remain. Our qualitative consumer research noted that individuals in rural areas, such as Cornwall and Harrogate, faced challenges in locating MCS-certified suppliers and were unsure of installer availability. Therefore, the two-year window was a concern for those who have reduced access to installers, especially if there are delays to installation.

[13] Find a Contractor - https://mcscertified.com/find-an-installer/

7. Verification Processes and Quality Assurance in the Delivery of the product/service

Perenna's installation verification process is the same for both low carbon technologies (LCTs) which we are rewarding (solar panels and heat pumps).

To be eligible for the retrofit discount:

1) Perenna customers must choose installers who are MCS certified.
2) When a customer has completed their installation, they are sent an MCS certificate.
3) To have their mortgage rate lowered by Perenna, the customer provides the MCS certificate number printed on their certificate to Perenna's webform. Perenna uses this number as the input to call the MCS database via their Application Programming Inerface (API) and then verify that the address, installation date and technology type all meet Perenna's requirements.
4) Once verified, Perenna lowers the customer's mortgage rate and the customer benefits from lower mortgage payments for as long as they are our customer.
5) If Perenna does not hear from the customer for 2 years, then it is assumed that no qualifying installation has taken place, and the offer expires. The customer remains on their initial interest rate for the remainder of the mortgage.

Our process is designed to be simple and non-intrusive while maintaining compliance with building regulations and industry best practices, through MCS certification. Rather than requiring detailed documentation such as invoices or photographic evidence, as some high street lenders do, we only ask for the customer's certificate number. This approach reduces the burden on the customer, streamlining the verification process without unnecessary requests or additional steps.

As we are yet to have a customer complete our journey, we have not encountered issues around customer verification. Perenna will look to optimise the experience as and when customers complete their retrofit.

8. Go to Market Strategy

Perenna

The marketing strategy encouraged customers who were remortgaging their properties to consider a home retrofit project. The premise was to incentivise UK homeowners to install low-carbon technologies (LCTs), specifically solar panels or heat pumps, by offering a discounted remortgage rate.

To achieve this, the Perenna remortgage range offered a retrofit discount feature to encourage consumer behaviour.

This was marketed to mortgage brokers, homeowners interested in remortgaging and environmentally conscious consumers who were deemed as most likely to be receptive to the feature.

Marketing campaigns were designed with the customer journey in mind, focusing on a smooth digital experience to attract and support lead generation.

Messaging

Messaging for the retrofit feature, targeted at remortgage customers, focused on 4 key themes, many of which were identified during the research phase of the planning process:

- Overarching key message
- Focus on reduced mortgage rate
- Focus on benefits to the environment
- Focus on those specifically interested in solar panels or heat pumps

We also had messaging for brokers, referencing benefits for their customers specifically.

Messages across customer and broker channels were tested throughout marketing campaigns to understand:

- Which content resonated best with users
- Which content drove more clicks to the website
- Which content drove more engagement via actions on the website and PDF downloads

Distribution channels

A range of marketing channels and tactics were employed utilising new and existing tools to deliver effective communication of key messages to both consumers and mortgage brokers.

<u>Direct Marketing</u>

Email - Email was used during the launch of the proposition to communicate with brokers and consumers on our prospect subscriber list. This introduced the benefit of the retrofit feature on remortgage products.

<u>Digital Marketing</u>

Social media - Social creative was used to generate awareness of the proposition and Perenna, with a combination of both paid and organic social ad campaigns. This channel was employed to generate word-of-mouth, content sharing and widespread distribution. Social media channels included Meta, LinkedIn, and Pinterest.

Display advertising - Interactive and visual digital banners, incorporating impactful text, images and Call to Actions (CTAs) linking to the proposition landing pages were used to target relevant remortgage and retrofit audiences.

Retargeting – digital marketing channels were also used specifically to retarget users who have previously visited the website given these users are already aware of Perenna and are considered as having high intent. This was implemented across Meta and Google Ads display.

Content Marketing

Blogs - Digital features focused on alleviating customer pain points with CTAs linking to proposition landing pages hosted on the website and shared via digital channels; demonstrating an 'in this together' approach and delivering useful insights consumers can rely on. Content was focused on educating customers on retrofitting, exploring environmental and financial benefits and Perenna's role in sustainable mortgage financing.

Links to published blogs can be seen below.

- https://perenna.com/blog/perennas-retrofit-discount

Website/landing pages - Simple landing page design with clear messaging, and a quick and easy customer journey to deliver a stress-free and straightforward online user experience.

Partnership landing page – to enhance the customer experience, Perenna provided educational content linking to partners who can assist customers in understanding their home energy usage, how to reduce and products/services that could be helpful to them.

- https://perenna.com/snugg

Media

Advertorial/editorial - A scheduled content calendar with a mix of online and offline publications was established to raise awareness of Perenna and the proposition offering.

Examples of content can be seen below:

- https://www.mortgagestrategy.co.uk/opinion/qa-join-the-mortgage-revolution/
- https://www.mortgagestrategy.co.uk/video/why-its-so-important-for-the-mortgage-market-to-change/
- https://www.whatmortgage.co.uk/remortgage/sponsored-content-remortgage/join-the-retrofit-revolution-and-make-your-home-more-energy-efficient/

Public Relations - National and trade press were targeted with press releases to enhance public/broker perception and understanding of green home finance solutions, generate awareness of the proposition and influence engagement.

Examples below:

- https://www.mortgagefinancegazette.com/market-news/perenna-to-test-long-term-green-home-loans-in-summer-after-govt-grant-22-01-2024/
- https://www.edie.net/retrofit-mortgages-and-social-housing-finance-to-help-uk-homes-cut-carbon-and-energy-bills/
- https://www.mortgagestrategy.co.uk/news/perenna-introduces-retrofit-discount-to-encourage-homeowners-to-decarbonise/
- https://www.mortgagesolutions.co.uk/news/2024/08/13/perenna-launches-retrofit-discount-range/
- https://es.catapult.org.uk/news/green-mortgages-with-discounted-rates-trialled-to-tackle-barriers-to-housing-retrofit/
- https://www.financialreporter.co.uk/perenna-launches-020-retrofit-discount.html

Additional Tactics

Broker Engagement

Perenna currently distributes mortgages via brokers. This is the primary distribution channel for most lenders - c.95% of mortgages sold in the UK are via brokers. Prior to 2013, this was consistently around 70%.

For the successful promotion and distribution of the proposition, it was imperative that mortgage brokers possess a clear understanding of the Perenna retrofit discount feature and how they activate this.

To facilitate this, we undertook the following activities:

- Online training material was produced to promote key features and unique selling points (USPs) of the product to brokers. The Perenna sales teams used this to educate brokers about the offering
- Trade webinars and national trade events
- Branded merchandise and presentations were supplied during the second half of the project to support the retrofit message during events
- Advertising and editorial created for selected publications in the trade press to generate awareness
- Email and website content (as mentioned above)
- Dedicated Perenna Live webinar
- Downloadable guides
- Broker focussed marketing campaign, targeting trade press, mortgage clubs and sourcing systems to increase general awareness

Furthermore, a dedicated sales team was readily available to provide direct support and assistance to brokers, ensuring a smooth and seamless distribution process.

Marketing key learnings during project

Creative

During testing in in Q3 2024, we were able to identify top performing messaging themes.

Meta traffic campaigns running across Facebook and Instagram showed rate and generic messages achieved the highest click through rates to the website. For this reason, we paused environmental messages and those specific to solar panels and heat pumps to focus on our top performing creative.

However, given the product offering was niche (i.e. focusing on remortgage customers only, who were specifically interested in retrofitting), the CTR achieved on Meta campaigns was lower than what we have seen in previous traffic focused campaigns.

For this reason, in the second half of the project, we continued with rate / generic messaging but broadened the appeal by engaging more remortgage customers. This was implemented by using a generic remortgage message, supported with retrofit options.

As an additional test on creative, during the latter half of the project, we tested lifestyle imagery in all Meta creative across reach, traffic and conversion campaigns to understand the impact versus text-only creative.

This produced favourable results that we may test with future campaigns over a longer period.

Customer journey

As part of the creative refresh, we tested the impact of landing pages to help understand whether we could improve customer journey. For the first half of the project, all campaign traffic was directed to the retrofit discount page, but during the second half we conducted an A/B test to send a proportion of traffic to the remortgage page (where retrofit information remains available) to understand whether this encourages increased interaction.

This was also done to help support 'Find a Broker' searches and the use of the affordability calculator.

This test resulted in more cost-efficient clicks to the website, a higher proportion of users visiting the website and more users completing affordability calculator conversions and find a broker searches.

Audience targeting on digital marketing platforms

Due to Perenna being a financial services business, we are unable to use any audience targeting on Meta campaigns. Therefore, we are reliant on Meta using its algorithm to show ads to the users it determines as most likely to resonate with our product offering.

However, we have more flexibility with Google Ads as we can add specific audience and demographic targeting. Therefore, following data collection in the first half of the project, we amended the age group targeting based on ESC Discovery Phase research due to the previous 3 months of Google Analytics data from the remortgage page showing most users are aged between 25-54.

Email

The open rate achieved on the email sent to prospects at launch of the campaign was higher than the benchmark for business and finance industry,[14] highlighting the success of the content included.

Social media

[14] https://mailchimp.com/resources/email-marketing-benchmarks/,

Meta enabled us to reach a wide audience, cost effectively – ensuring maximum impact of the Perenna brand and retrofit message. Paid ads were implemented across all campaign types:

- Reach – to raise awareness of the proposition
- Traffic – to drive users to visit the Perenna website for more information
- Conversions – to drive users to download Perenna's retrofit PDF guide

Using a combination of campaign types ensured we were reaching users at every stage of their customer journey.

LinkedIn provided a highly relevant channel to target our broker audience. We were able to create a custom audience to use in campaigns which was made up of broker firms from our key accounts. This ensured budget spent was effectively reaching the most relevant users who could recommend this product feature to their clients.

Pinterest was a new channel tested by Perenna to better understand how we could reach users at other key moments of their digital journeys. Paid ads were tested across the following campaign types:

- Reach – to raise awareness of the proposition
- Traffic – to drive users to visit the Perenna website for more information
- Quiz ads – to encourage interaction with users to participate in a short retrofit related quiz which directed them to the Perenna website for more information

Organic social was used alongside paid ads to ensure all Perenna media channels had consistent messaging. This was critical to reaching already engaged followers of Perenna pages. To date we have:

- Over 10,000 LinkedIn followers
- 350 Facebook page followers
- Over 800 Instagram page followers

Where budget allowed, selected organic posts were boosted to amplify reach and awareness.

<u>Retargeting</u>

Given these users already had an awareness of the Perenna brand, Meta conversion campaigns enabled us to focus on Perenna's retrofit PDF downloads. The PDF summarised the proposition and the steps required to apply. This was a successful strategy, seeing a more cost-efficient cost per PDF download in comparison to prospecting audiences.

<u>Content marketing testing</u>

In October 2024, we carried out unbiased consumer testing of the retrofit discount landing page on the customer website. This was conducted via Survey Monkey and highlighted optimisations that could be made to the landing page to improve customer experience and understanding:

- Making links to 'find a broker' more prominent
- Provide links to dedicated heat pump and solar panels pages throughout the landing page content
- Better formatting of key information such as time periods and installer requirements

- Focus on lower mortgage rate as primary message (this was already applied as part of creative optimisations mentioned above).

Heatio Marketing

Heatio undertook the following marketing activities in the Pilot Phase:

- Dedicated landing page accessible via Perenna's website
- Social Media
- PR
- Podcasts[15] with the Perenna Team
- Articles and Blogs including Q&As

Heatio collaborated with PR agencies to initiate the development of an integrated communication strategy to maintain consistent messaging across all channels. Preparation efforts include press materials and briefing documents, which have already seen preliminary digital and print media deployment. These efforts are supplemented by crafted media content highlighting user testimonials and their systems' benefits.

Heatio also collaborated with a digital marketing firm to develop and execute a foundational digital marketing plan that included targeted advertising campaigns across multiple digital platforms designed to maximise reach and engagement. The creation and launch of campaign-specific landing pages, which went live on July 30th, 2024, provided a detailed look at the energy-efficient solutions offered by Heatio.

Throughout the final quarter of 2024, Heatio maintained an active presence on social media, with a total of 19 posts across LinkedIn, Instagram, Facebook, and Twitter. These posts were strategically designed to engage, increase visibility and foster community interaction. Heatio developed a series of 10 emails aimed at enhancing customer engagement through the energy management journey. These emails provided insights and advice on energy savings, recommendations on LCT options tailored to individual needs, and continuous support to ensure customers are well-informed and equipped to make optimal decisions for their homes.

Heatio's marketing activities primarily focused on delivering educational content on low-carbon technologies, energy efficient improvements and their impact on home energy efficiency to inform homeowners about the relevant benefits of retrofitting.

The following activities were developed to drive awareness of the technologies and overcome negative messaging in the industry:

- Website Insight Hub
- The Heatio Home Energy Show - Podcasts
- Solar & Heat Pump focused social media content
- PR & Industry Reactive Statement

[15] https://www.youtube.com/watch?v=4GsbBpH0MU4 https://www.youtube.com/watch?v=InENeo91TY4

9. Market Penetration

<u>Perenna's Market Penetration</u>

Overall, the marketing activity has proven that Perenna can drive a high volume of relevant users to the website to engage in relevant content and key actions such as downloading PDF guides, using the mortgage calculator and finding a broker.

We leveraged paid marketing across multiple channels to engage potential customers and brokers at every opportunity within their user journeys, making use of awareness, consideration and conversion campaign types.

We were able to sustain visibility on broker sourcing platforms, industry events and trade publications to maximise the impact of the campaign.

Messaging tests revealed that generic and rate-focused themes performed best in paid advertising campaigns for customers.

Creative and landing page optimisations during the second half of the project increased website visits and key actions, such as calculator conversions and broker searches. This validated our strategy to target a broader remortgage audience and educate them on retrofit, rather than narrowing focus to those already seeking retrofit solutions.

The customer website landing page effectively highlighted product benefits and guided users to additional educational resources on solar panels and heat pumps.

We achieved all planned objectives, through campaign management and continuous optimisations, to enhance user journeys from paid advertising.

<u>Opportunities for future improvements in Perenna</u>

- Use of video content to help with product feature and retrofit education. The consumer duty survey identified the need for alternative methods for communicating complex messages such as how the product feature works as well as educating on wider retrofit support. Video content would enhance current text-based explanations.
- YouTube advertising - Maximising any video content by repurposing this on YouTube campaigns to reach a wider audience. As YouTube advertising is managed from the Google Ads platform, we would have more control on audience targeting – e.g. using demographics and audience interests to ensure videos reach the most relevant users.
- Use of lifestyle imagery in creative. The short test at the end of project showed promising results. We would suggest testing this again for a longer period to better understand if lifestyle imagery is the optimal creative direction.
- Broker email campaigns. If further improvements were completed from an application perspective for brokers, marketing would support with email campaigns to further explain this process to our registered brokers.

<u>Heatio's Market Penetration</u>

Since the launch of the Pilot Phase in July 2024, and separate from the Perenna's Green Home Finance Accelerator project, a total of 116 customers have signed up for the Heatio platform, with 63 fully onboarded and connected to Smart Meters.

Heatio marketing initiatives successfully generated digital engagement, achieving 10,712 unique visits to the Heatio website and 237,800 impressions across diverse social media platforms, including LinkedIn, Instagram, Facebook, TikTok and YouTube. These efforts culminated in 217 marketing-qualified leads (MQLs) with a modest conversion rate of 2%.

Collaborative campaigns with Perenna and ESC promoted the retrofit discount through various mediums, such as a dedicated landing page, press releases, podcasts, and Q&A sessions with stakeholders. Despite achieving broad reach, these campaigns revealed a challenge in converting audience interest into direct consumer inquiries, highlighting a need for more effective engagement strategies. Section 10 provides further insight on conversion to actual customers.

Heatio's Insight Hub articles and "Home Energy Show" podcasts also demonstrated considerable reach. The articles received 620 visits, while the podcasts generated 32,844 views and 126 new subscribers. A strategic shift in messaging in December enhanced consumer engagement, leading to an 8% increase in monthly average conversion from MQLs to sales-qualified leads (SQLs).

The insights gathered from Heatio's marketing campaigns and platform trials from July to December 2024 present a nuanced picture of successes and ongoing challenges in promoting and adopting energy-efficient solutions. While the campaigns effectively generated awareness and engaged a broad audience, they revealed persistent difficulties in converting this interest into concrete consumer action. Collaborative efforts with Perenna and ESC reached wide audiences but did not result in a commensurate level of consumer inquiries, highlighting the need for more targeted and actionable marketing strategies.

10. The Customer Experience and Behavioural Insights

Research Undertaken

ESC commissioned qualitative interviews with twenty mortgage brokers and sixteen consumers between October and November 2024. The aim was to understand consumers' perceptions and brokers' willingness to recommend and discuss Perenna's retrofit discount feature with their clients and to identify ways to improve customer uptake.

Following this, an online quantitative survey was developed to measure the appeal of the feature amongst mortgage customers and assess its impact on their interest in home retrofitting. This survey was completed by 2,208 consumers in December 2024, representing a broad range of demographics.

Product Performance and Consumers/Brokers Perceptions

The Perenna Retrofit Discount feature is well perceived when presented to consumers alongside explanations of heat pumps and solar panels. The proposition was well understood by everyone, and found appealing by most consumers, with appeal above 50% in all groups and higher amongst those likely to get a mortgage or release equity through one in the next 2 years:

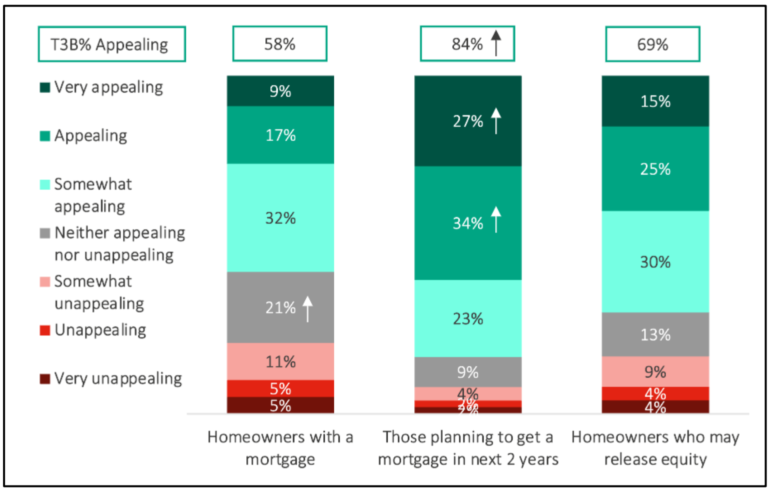

Figure 7: Appeal of the Retrofit Discount Feature

Long-term mortgages are liked for their stability

Consumers view long-term mortgages as strange initially, but beneficial once explained. Long-term mortgages have mixed appeal, but consumers in qualitative research were open to them given the perceived volatility in the economic climate. Brokers are also positive about long-term mortgages and see them as innovative in a very traditional market. However, brokers believe a paradigm shift is needed in the UK residential mortgage market for greater take-up.

Being a challenger bank is not a barrier to Perenna

Consumers see a new challenger bank as potentially disruptive, more agile, green, flexible, and competitive. There are some doubts about new banks, including lack of familiarity (69% of homeowners with a mortgage, 62% of those getting a mortgage in the next 2 years, and 77% of those releasing equity) and financial stability (37%, 51%, and 44%, respectively).

However, these concerns don't significantly discourage consumers or brokers. Appeal of the proposition remains high in most groups (37%, 71%, and 54%).

<u>The retrofit discount feature is viewed as an effective way to save money</u>

Awareness of Perenna's retrofit discount feature was high amongst brokers, and as a concept, most customers viewed it favourably. Consumers liked it for its potential to save money, as well as its flexibility, but also wanted further assurances on aspects such as evidence of energy savings vs borrowing costs.

In the online quantitative survey, key drivers for adoption of the discount feature across all groups included saving money on energy bills (68% for homeowners with a mortgage, 54% for those getting a mortgage in the next 2 years, and 63% amongst those releasing equity), lower mortgage interest rates (56%, 50%, and 48%, respectively), and better home energy efficiency (50%, 51%, and 51%).

Barriers included the perceived insufficiency of the 0.2% discount (61% for homeowners with a mortgage, 69% for those getting a mortgage in the next 2 years, and 67% amongst those releasing equity), concerns over installation costs (46%, 49%, and 45%, respectively), and scepticism about financial benefits (43%, 44%, and 48%).

The retrofit discount feature increased stated likelihood to install solar panels and heat pumps to a small degree amongst all groups, indicating that it has potential to overcome financial barriers to low carbon technology. The change in stated likely uptake of solar panels and heat pumps was significantly greater amongst people with a mortgage who had indicated they are likely to take up the Perenna offer in the next two years. This group appear to be interested in low carbon technology but feel the financial barriers more acutely, with only 19% perceiving heat pumps affordable compared to 56% for those getting a mortgage in the next 2 years and 36% for those releasing equity.

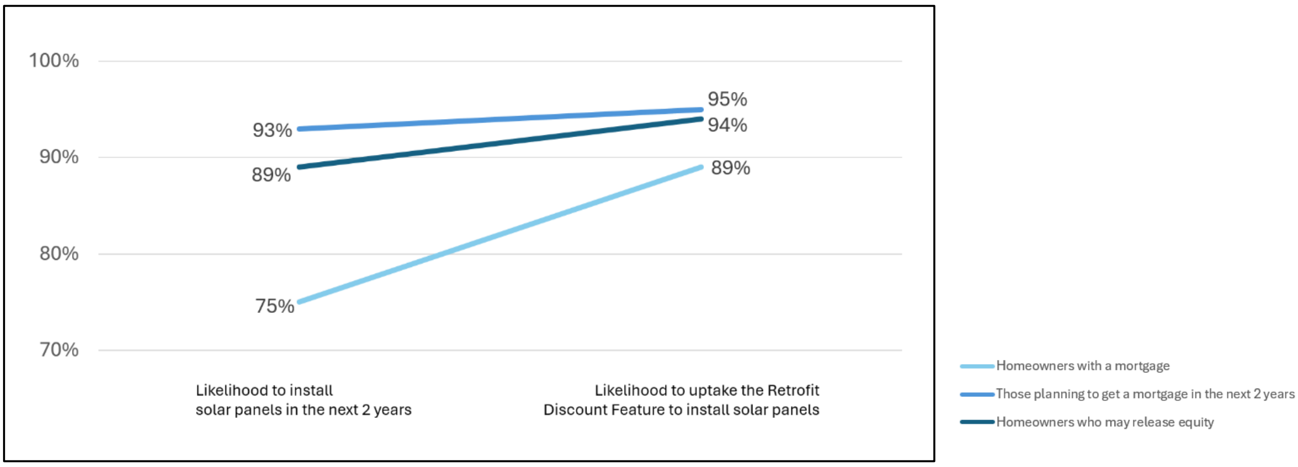

Figure 8: Comparison in likelihood to install solar panels

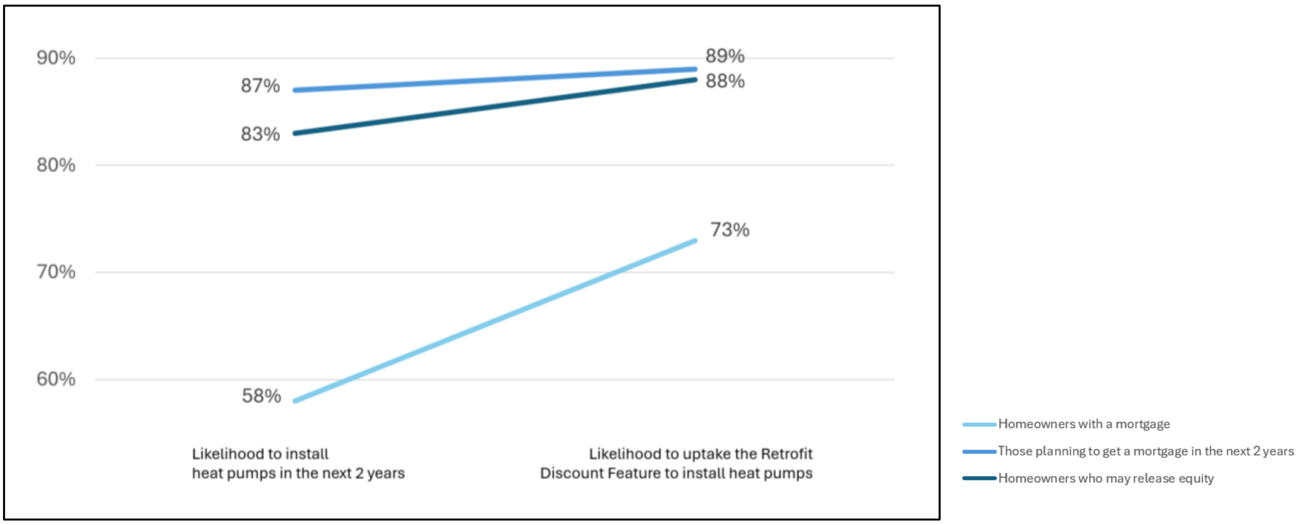

Figure 9: Comparison in likelihood to install heat pumps

Whilst the retrofit discount feature is very promising in consumer surveys, consumers are not taking it up because they lack awareness, don't see its importance, and it does not meet their current needs. Consumers are unfamiliar with low carbon technologies and green mortgages with 75% of homeowners with a mortgage, 48% of those getting a mortgage in the next 2 years, and 63% of those releasing equity stating they know nothing or just a little about heat pumps, and 50%, 27% and 34% respectively knowing nothing or little about solar panels.

Some consumers who are more familiar have heard from negative word of mouth that these technologies can be expensive, hard to find, hard to install, and hard to run. Coupled with consumers' lack of focus on the monthly running costs of a home when purchasing a property, this means that low carbon technologies are not valued by consumers. Consequently, they do not mention them to their mortgage broker.

Brokers are not mentioning the retrofit discount feature to their customers because they recognise this lack of demand. They also lack knowledge of the retrofit technologies and so are not confident in speaking about them. If customers don't ask, they won't offer it–especially in a world of high property prices and high living costs, which drives consumers to chase lower monthly payments and low interest rates above all else.

Despite the proposition being appealing in principle, there is little demand amongst mortgage customers. Perenna alongside the retrofit supply chain need to build momentum through education and empower people to feel knowledgeable, comfortable, and confident about these technologies. People need information, advice, support, and guidance in a simple and clear way.

Target Market

There are two primary target groups of consumers in the short and long term. People getting a mortgage in the next two years are closer to being ready for the retrofit discount feature and show highest appeal of the proposition. Those who already have a mortgage might be an even more interesting group to consider for the future due to the opportunity to encourage heat pump adoption in this group.

Those getting a mortgage in the next two years are younger (typically under 34) and have shown more consistent interest in the proposition because they find it more appealing (84%) and relevant (81%). They have a higher stated uptake of the proposition (70%), and they reported greater awareness and interest in heat pumps (52% awareness, 71% interest) and solar panels (73% awareness, 81% interest). However, this group is more likely to install a heat pump without the retrofit discount (87% within 2 years), leading to a small increase in stated uptake of heat pumps to 89% when the retrofit discount is available.

The retrofit discount feature has a greater impact for people with an existing mortgage. This group has lower knowledge of heat pumps (25%) and appeal in the proposition overall (58%). Whilst only 32% of this group are likely to take up the retrofit feature in the next 2 years, likelihood to install a heat pump rises significantly amongst this group from 58% before awareness of the retrofit discount to 73% when aware of it. This increase is likely because this group feel cost barriers more significantly, with 54% perceiving heat pumps to be unaffordable.

These two groups should be the target market, with brokers trained to identify these audiences and recommend Perenna.

Additionally, insights from the Consortium suggested that targeting homeowners with Electric Vehicles (EVs) could serve as a potential "gateway" to low carbon technologies (LCTs). These homeowners are already familiar with energy tariffs related to EVs, which could create synergy with other energy-efficient solutions such as heat pumps and solar panels. Although this remains a hypothesis and has yet to be tested, it could represent another target audience for Perenna.

Opportunities in the future

<u>Education of customers and brokers is key to prepare the market</u>

Initiate a paradigm shift by teaching consumers about retrofitting, LCTs and the potential to reduce monthly running costs, highlighting the value of long-term fixed mortgages:

- National level social media campaigns to raise awareness of retrofitting and retrofit mortgages.
- Share real-life case studies and testimonials.
- Increase Perenna's presence at home renovation and rebuilding events.
- Improve Perenna's website to explain the impact of improving Energy Performance Certificate (EPC) band on bills and mortgage terms, offer a detailed return of interest calculator tool, and offer information on MCS certified suppliers and grants/subsidies.

<u>There is an opportunity to rethink the customer journey</u>

Video content would be useful for brokers and customers to better educate on the process and retrofitting options available. This could be implemented on both intermediary and customer website landing pages to assist with decision making.

Whilst the education piece is driving awareness and building momentum in the market, Perenna can gain share by extending the technologies offered to other energy efficiency measures, such as new roofs, windows, insulation, and energy storage solutions like batteries. This has the benefit of making homes heat pump ready whilst awareness builds and is in step with other research which suggests consumers prefer an incremental approach to home retrofit.

Perenna can build stronger relationships with brokers, so they are familiar with the Perenna brand, and the retrofit feature is top-of-mind. For example, by sending regular email updates and materials, ensuring all brokers have regular contact with a business development manager (BDM) and further simplifying the application process. Additionally, there is prevailing belief that green mortgages are primarily associated with new builds. Therefore, there is potential for lenders to collaborate with broker-sourcing tool providers to improve the search functionality for green and retrofit mortgages to address this discrepancy.

We can look to educate brokers on the target audience for the retrofit. Provide brokers with useful materials to support conversations with customers on key points (e.g., advice on suitable technologies, lists of MCS accredited installers, and clear illustrations or evidence of energy cost reductions compared to their borrowing cost–savings and financial outcomes).

11. Integration of Government Grants

Perenna has made a strategic decision to not integrate government grants into its Pilot project. We were conscious of public perceptions that are often associated with government involvement in subsidies and grants for "green" initiatives. That is why Perenna chose to signal to recognised companies within the renewable technology supply chain as well as enhance support for industry partners and start-ups. We believe in consumer choice; consumers can choose to use government grants to help lower costs of install e.g. using the Boiler Upgrade Scheme[16].

[16] https://www.find-government-grants.service.gov.uk/grants/boiler-upgrade-scheme-1

12. Commercial Viability

The long-term vision for the retrofit feature is to ensure its ongoing accessibility to customers while continually learning from feedback to enhance the product. This feature will remain available beyond the pilot period, and there are currently no plans to withdraw it. We are also exploring ways to integrate the feature into other existing products, such as purchase products, and it is being considered for future offerings that are still in development.

Research indicates that brokers have suggested buy-to-let (BTL) landlords are interested in retrofitting. While Perenna does not currently offer BTL options, this could be included in future offerings.

The key unique selling proposition is that the retrofit feature provides a discount on the overall mortgage rate instead of offering a cash incentive. This approach offers customers more sustainable and cumulative long-term savings. The Perenna proposition is unique in that it signals to trusted suppliers to help customers gather data-driven insights. For example, via Heatio's HEMs to receive energy saving recommendations, instilling confidence in their decision-making.

There were no operational changes identified to scale the product. The customer process is already simple with claims dealt with via webform or telephone. The Pilot did not reveal any inefficiencies that would affect commercial viability.

The main challenge to scaling is the necessity of educating brokers about the feature. While the product is accessible to customers, brokers are vital in conveying the benefits of retrofitting to them. Many brokers lack familiarity with how retrofitting operates, so it is essential to raise awareness and provide clear guidance.

Barriers to commercialisation for Perenna include its reliance on brokers. To address this, there is a need for increased education, awareness, and potential incentives related to retrofitting and the promotion of green lending products. Brokers have recommended that Perenna enhance support and provide more incentives for the retrofit discount feature. However, any incentives must comply with consumer duty regulations and avoid breaching any rules.

Incentivising brokers at the product level must be aligned with the Financial Conduct Authority's (FCA) Mortgage Conduct of Business (MCOB)[17] rules and Consumer Duty. According to the FCA's Consumer Duty, brokers are required to ensure that customers receive fair value, and that any financial incentives do not negatively affect customer outcomes. There is a risk that incentives could create a bias in broker recommendations, driven by procuration fees or incentives, rather than focusing on the products that are most suitable for the customer. Therefore, any incentives offered to brokers need careful consideration to avoid creating conflicts of interest.

[17] https://www.handbook.fca.org.uk/handbook/MCOB/1/?view=chapter

13. Final reflections

If Perenna were to start the project design and delivery from scratch, with appetite within the business, we would broaden the product type the feature is available on. It currently is only available on remortgages. Additionally, consumer research highlighted the feature is limited in the low-carbon technology offered and the type of incentive to the homeowner. Perenna has an opportunity to evolve the product feature's offering to reward battery power and electric vehicles, though to ensure energy efficiency benefits are obtained these measures need to go hand in hand with further LCT upgrades. The reduced rate is not immediately appealing compared to the immediacy seen from a cashback green mortgage. Therefore, trialling an alternative incentive or further highlighting the long-term savings of the retrofit discount feature could be beneficial to the consumer. For green finance products to be successful moving forward, all stakeholders must be involved in motivating action towards retrofit. The UK government has a goal to reach net zero by 2050. They can do this by supporting homeowners to retrofit their properties. This can be achieved by assisting lenders in providing low-cost additional borrowing or by enhancing existing subsidies for homeowners, such as those offered through the Boiler Upgrade Scheme.

Perenna's retrofit discount feature was developed in a challenging market with low consumer demand for green mortgages. Despite consumer research suggesting the retrofit discount feature is well perceived, a concerted effort is required across the supply chain, including the government, lenders, brokers and trusted installers, in supporting homeowners in their journey to retrofit. Educational awareness of low carbon technology (LCT) should extend beyond the sustainability angle. Consumers are driven by price, cost savings, trustworthiness and having non-invasive or intrusive work carried out at their homes. These will be crucial factors for the supply chain to unlock when continuing to evolve or design their green financial products. Brokers need proper guidance and training to promote retrofitting. Once they feel confident discussing low-carbon technologies (LCTs), consumer demand is likely to rise.