HEAT PUMP READY

Department for Energy Security & Net Zero

Part of the Net Zero Innovation Portfolio

Innovative finance models

Learnings from the Heat Pump Ready programme

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1. Introduction

1.1 About Heat Pump Ready

Heat Pump Ready was part of the UK Government's £1 billion Net Zero Innovation Portfolio (NZIP) which provided funding for low-carbon technologies and systems and aimed to decrease the costs of decarbonisation, helping enable the UK to end its contribution to climate change.

Heat Pump Ready, led by the Department for Energy Security and Net Zero (DESNZ), aimed to accelerate heat pump adoption in the UK. The programme supported the development of new tools, technologies and business models to:

1. Improve the customer journey for heat pump adoption
2. Improve the installer journey for heat pumps (including survey, design, installation, commissioning and aftercare)
3. Develop smart and flexible home energy systems utilising heat pumps
4. Create new business models to finance heat pump installations and maintenance
5. Reduce the lifetime costs of heat pumps through innovations in technology and manufacturing
6. Develop innovative approaches to heat pump deployment at high-density

1.2 Report objectives and audience

This report summarises key innovations and learnings from Heat Pump Ready projects that focused **on innovative financial models to accelerate heat pump deployment**.

The report is aimed at finance providers, housing providers, policy makers and heat pump industry stakeholders and offers insights on how to:

- Attract institutional investment to lower borrowing costs and scale up investment
- Help social landlords recover some of the costs of retrofit
- Offer monthly subscription services to homeowners for heat pumps
- Build tools that give lenders and consumers confidence in energy savings

Similar reports on the lessons learned against the other Heat Pump Ready themes, as well as more detailed case studies on individual projects and programme evaluation reports, can be found on the gov.uk website. The Carbon Trust has authored this report as a part of its Heat Pump Ready trial support and learning contract.

1.3 Relevant projects – innovative financial models

Table 1: Summary of Heat Pump Ready projects focused on innovative financial models for heat pump deployment

Company	Project name	Summary
Hometree	Green Homeowner Loans	Developed the UK's first residential renewable securitisation and fintech platform for affordable, point-of-sale financing.
Energiesprong UK	Comfort Plan™	Created a novel business model for retrofitting social housing through landlord-recouped repayments, overcoming the split-incentive challenge.
Parity Projects	Performance	Developed insurable, performance-backed financial guarantees using predictive energy modelling to reduce lender risk.
City Science	Advanced Modelling for Heat as a Service	Facilitated Heat-as-a-Service (HaaS) through predictive modelling and intuitive financial management software for social landlords.
Fornax	Heat Pump Plan	Built a pay-monthly heat pump lease model to increase consumer accessibility and trust, reducing upfront costs and risks.

1.4 Key project learnings

1. **Securitisation of heat pump loans can unlock low-cost capital.**
   Hometree showed that securitisation (pooling loans into a tradable investment product) can reduce borrowing costs for homeowners. By bundling loans for heat pumps, solar

PV, and batteries, Hometree created the UK's first asset-backed securitisation (ABS) for domestic renewable energy upgrades. This attracted £300 million in investment from Barclays and the Canada Pension Plan Investment Board. As a result, at the time of reporting, the project aimed to be able to offer loans with 7-8% interest over up to 25 years, lower than typical point-of-sale finance.

2. **Recovery of the up-front investment via a 'Comfort Plan' can help social landlords invest in heat pumps, but the economics are challenging.**
   Energiesprong developed a Comfort Plan™ that allows landlords to recover some retrofit costs through a monthly tenant charge in return for guaranteed comfort and performance. Tenants still saved on energy bills, and landlords gained partial cost recovery. However, the economics were challenging: financial modelling showed no tested delivery model that repaid within 25 years. The best-performing approach recovered 3-5% of costs annually. Nonetheless, landlords valued the approach for its scalability and positive tenant outcomes.

3. **Subscription models appeal to homeowners and lower the upfront cost.**
   Fornax and Hometree considered subscription services that bundle installation, maintenance, and repair into a monthly fee. These made heat pump costs more manageable, with Fornax targeting payments of around £75/month.

4. **Performance-backed guarantees could reduce risk but didn't attract lenders.**
   Parity Projects built a modelling tool that proposes loans for heat pumps backed by guarantees on predicted energy savings. Though the modelling was found to be technically robust, lenders weren't interested in using guarantees to inform lending decisions. However, banks did see value in the tool to help report the carbon footprint of their mortgage portfolios under the Partnership for Carbon Accounting Financials (PCAF).

5. **Finance providers can help assure performance and build trust.**
   Projects by Hometree, Fornax, and Energiesprong showed that finance providers can support quality and trust by embedding design validation and performance assurance into financial products which helps reduce risk for homeowners.

2. Detailed project learnings

2.1 Securitisation of heat pump loans can unlock low-cost capital

- Hometree's Green Homeowner Loans project showed that securitisation (pooling loans into a financial instrument that can be sold to institutional investors) can significantly reduce the cost of borrowing for domestic retrofit. By aggregating loans for heat pumps, solar PV, and battery storage, Hometree established the UK's first renewable energy asset-backed securitisation (ABS). With support from Barclays and the Canada Pension Plan Investment Board (CPPIB), the securitisation attracted up to £300 million in institutional capital, which, at the time of reporting, would enable Hometree to offer loans with interest rates of 7-8%. Hometree's Heating Plan is now active, meaning customers can apply for zero deposit, all inclusive financing, spreading the cost of a heat pump installation (including maintenance and repairs) over up to 20 years.

- This model was made viable by bundling multiple technologies to ensure sufficient scale and diversification. The cost of capital was reduced through engagement with wholesale finance markets, while the long loan periods made monthly payments more manageable for consumers, compared to a gas boiler on a ten-year plan.

- Regulatory compliance posed a significant challenge. Consumer credit regulations, particularly Section 75 of the Consumer Credit Act, impose liability on finance providers if the equipment is faulty or fails to perform. To manage this, Hometree developed robust design and installation validation processes. Their proprietary core platform ensures that only accredited installers are used and that installations are verified before loan funds are released. This helped mitigate credit risk and gave institutional investors greater confidence in the performance of the underlying assets.

2.2 Recovery of the up-front cost via a 'Comfort Plan' can help landlords invest, but the economics are challenging

- **Energiesprong UK's Comfort Plan**™ aimed to address the "split incentive" barrier in social housing, where landlords pay for retrofits but tenants benefit from lower energy bills. The Comfort Plan™ enables landlords to recoup a portion of retrofit costs through a fixed monthly fee paid by tenants, in exchange for guaranteed comfort and performance. The model is underpinned by a performance guarantee

and real-time monitoring, ensuring tenants are always better off – typically by at least 20% – compared to their pre-retrofit energy costs.

- The project developed a full technical and billing infrastructure. Monitoring systems, installed by partner Carnego Systems, gathered data from heat pumps and other retrofit components to track actual performance. Billing was managed by SmartKlub, who issued monthly statements and handled payments. If measured performance fell below expectations, tenants were automatically issued credits. Legal agreements were developed with support from Pannone Corporate to formalise the consumer service relationship and define the terms of performance guarantees and dispute resolution. These agreements resembled utility contracts, setting out both landlord and tenant rights and obligations.

- Landlords were presented with three delivery options for retrofit and cost recovery. The Comfort Plan™, which integrated performance monitoring and billing into a seamless system, was the preferred choice due to its simplicity and transparency. Although the model recovered only 3-5% of retrofit costs annually – insufficient to fully repay investment within 25 years – it was viewed as a practical and scalable mechanism for partial cost recovery while improving tenant experience and trust.

2.3 Subscription models have potential to appeal to homeowners and lower the upfront cost

- **Fornax and Hometree** tested subscription-based models bundling installation, servicing, and repair into a single monthly fee. These models offer heat pumps on a lease basis, with the provider retaining ownership of the equipment and assuming responsibility for its performance.

- **Hometree** reported that subscription models improved customer conversion. Hometree's internal research, backed by customer trials and early market activity, showed that offering a bundled lease led to higher uptake compared to standard loan products, although data on the scale of increase was not made available by the project. Hometree reported that customers were especially attracted by the inclusion of servicing, repairs, and performance guarantees, which helped mitigate fears of unexpected costs and system failure.

2.4 Performance-backed guarantees could reduce risk but didn't attract lenders

- **Parity Projects** developed an innovative modelling and assurance platform aimed at making energy use predictions accurate enough to underpin insurable performance guarantees. Their tool calculated the heat transfer coefficient (HTC) within dwellings and generated highly detailed predictions of expected energy use and savings post-retrofit. These calculations were validated through in-home monitoring and the project reported a predictive accuracy within ±5%.

- The project explored ways to offer loans at better rates by reducing perceived lender risk, using these performance guarantees. Despite the technical robustness, Parity found that major lenders were not ready to integrate performance-backed guarantees into their underwriting criteria. Discussions with multiple high street and specialist mortgage lenders revealed limited appetite for incorporating energy performance into loan risk assessment. Parity Project highlighted that lenders need simple, reliable data on energy performance and that they would need alignment with regulatory reporting frameworks before they would consider integrating this data in to loan calculations. However, lenders were interested in using Parity's models to report the carbon emissions of their mortgage books under the Partnership for Carbon Accounting Financials (PCAF).

2.5 Finance providers can help assure performance and build trust through packages that include monitoring and standards of performance over the length of the loan

Projects across the Heat Pump Ready portfolio highlighted that finance models could play a critical role in driving quality, accountability, and performance.

- **Hometree's** core platform integrates financial approval with installer assessment, design review, and post-installation validation. This could help to ensure that only high-quality systems are financed and helps manage warranty and performance risk.

- **Fornax's** technology platform uses live data feeds to monitor system performance and manage maintenance. Its subscription model includes for any underperformance or breakdown to be resolved without extra cost, which could foster trust in the technology.

- **Energiesprong's** service integrates automated monitoring and billing. SmartKlub's system issues monthly statements to tenants and flags underperformance for investigation. Tenants receive real-time assurance that systems are operating

correctly, and landlords can proactively identify and resolve problems. The financial model thus reinforces accountability and builds confidence in retrofit outcomes.