

Project Lead: Gen Game

Partners: Evergreen Energy Ltd, Chameleon Technology Ltd, TalkTalk, EnAppSys Ltd, University of Salford (Energy House)

Funding:

£762,523



The problem: How can the heat pump user experience be supported?

The heat pump installation journey requires several engineer visits to assess the feasibility of a heat pump and correctly size the system. This process does not always take into account nuances of different customer routines and lifestyles.

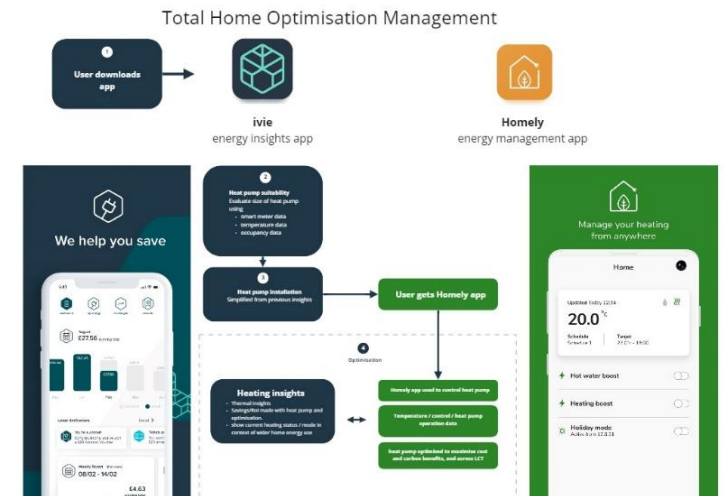
The solution

Utilising smart energy insights from existing data within the home presents several opportunities for improving access to heat pump technology and embedding heat pumps as part of a wider smart home set up, serving a more flexible grid.

The THOM project will create a heat pump specialist Home Energy Management System (HEMS) supported by a full package software solution, to help customers understand and maximise the benefits to their home whilst reducing costs and carbon. Smart meter and occupancy data from within the home will be used to develop insight into the home's current thermal performance, and these insights will be gathered into AI solutions to streamline the heat pump installation, improve the system performance and offer minimum impact to the energy customer.

This is a groundbreaking project to embed heat pumps within the portfolio of in-home, energy saving technologies and to really make the technology simpler and more accessible.

Stephane Lee Favier
Managing Director, GenGame Ltd



Using smart energy data to enhance the heat pump user experience

What are we going to do?

GenGame and partners will develop an app to integrate smart meter data, internet router data (for property occupancy) and smart thermostat data, with internal data analytics to provide home energy usage insights.

Testing will be conducted on existing customer groups, and using the University of Salford Energy House research facility (pictured right), to evaluate and increase the performance of the solution.

Why is this an improvement on current solutions?

This product can offer a smoother, quicker and cheaper user experience throughout the heat pump journey. Initially it will use smart data insights from the home to size the heat pump more effectively, and reduce the number of engineer visits required.

By continuing to monitor and analyse data post-installation, the system will also provide automated optimisation with features to improve system efficiency according to customer occupancy patterns and heating demands, and allow customers to schedule energy consumption outside peak times and reduce the load on the national grid.

These features should lead to reduced installation and operation costs for consumers.

What would success look like?

A fully integrated app is developed which is engaging for consumers to gain insights into their energy usage, adjust and manage their home set-ups and provide a simpler route for purchasing heat pumps.



How will this project help towards the target of installing 600,000 heat pumps per year by 2028?

Heat pump installations can be complex and expensive for users, so developing tools that are easy to engage with can mitigate and ease some of the burden. This will lead to an increased uptake of heat pumps by consumers with more awareness of their heating needs.

By further integration with the smart energy grid, this product also has potential to facilitate load balancing requirements required for a mass heat pump rollout.

The Optimised solutions development stream of the Heat Pump Ready programme supports the development of innovative tools, technologies and processes to overcome specific barriers to heat pump deployment in the UK. This stream supports solutions aiming to reduce the life time cost and increase the performance of domestic heat pumps, minimise home disruption whilst providing high quality installations, develop and trial financial models to support heat pump deployment, improve the heat pump consumer journey and provide a smart and flexible home energy system.

Heat Pump Ready is funded by the Department for Energy Security and Net Zero through the NZIP programme. The Collaboration & Learning stream is managed by the Carbon Trust with support from Ipsos and Technopolis. We give no warranty and make no representation as to the accuracy of this document, and accept no liability for any errors or omissions.

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