HEAT PUMP READY | Department for Energy Security & Net Zero

Part of the Net Zero Innovation Portfolio

Thermly: Distress Diagnostics

CARBON TRUST

Project Lead: Thermly Limited

Partners: Lendology

Funding: £518,362

Thermly

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The problem: heating systems are most often replaced under a 'distress scenario', but the complications and timescales needed to install heat pumps means the industry is failing to transition these households away from fossil-fuelled solutions.

Research from EST and IPSOS Mori indicates that 30% of all heat system replacements occur under distress scenarios, i.e. at the point the boiler has broken down. A further 28% are replaced when they are 'on their last legs' i.e. requiring frequent repairs. As the typical customer journey for heat pumps currently takes 3-6 months, up to 58% of households don't have the luxury of time to go through the heat pump installation process because they cannot live without heat. They instead opt for the simplest and quickest solution – inevitably a like for like (gas) boiler replacement.

The solution

Distress Diagnostics seeks to address this in two ways: by pre-empting distress situations, and by making it easier to organise a heat pump installation in distress situations. It intends to do this by identifying when households are likely to reach a distress situation in advance, developing a service that proactively meets the needs of those households before they know they have a problem; and by providing a temporary heating solution for those households who already find themselves in distress, 'buying time' whilst the route to heat pump installation is secured.

> "The heat pump industry must find a way of identifying these households, ideally in advance of distress. Just as important is finding effective ways of engaging them, tailored to their circumstances. By working collaboratively across the sector, this project seeks to tackle these challenges head on and could make a huge difference in the market for heat pumps."

Gareth Robertson
Director, Thermly Limited

Opening up the market for heat pumps by avoiding distress situations

What are we going to do?

The project will examine the drivers of distress situations from a technical and behavioural perspective, with the dual aim of establishing predictive analytics capability across the entire UK housing stock and driving forward better and more effective marketing and engagement of that cohort. This will facilitate alternative, more effective, commercial models that support these households to transition away from fossil fuels.

Why is this an improvement on current solutions?

As far as we know, no other provider is fully capable of predicting with any degree of accuracy the risk of a household's heating system failing. The gas boiler industry has a significant advantage through a supply chain able to respond to distress situations in 24 hours. If the heat pump sector is going to compete and grow market share over the next 5 years, it needs to have a competitive offer for these distress properties. This project is the first step towards having this in place – because without this level of intelligence, we cannot accelerate the growth of the supply chain to meet this potential demand.

What would success look like?

1. Securing the data, and applying the overlaid intelligence that enables the creation of diagnostic software which (with reasonable accuracy) identifies the risk/likelihood of distress;
2. Identification of a viable commercial solution for households approaching and / or in distress (which may include interim heat solutions, for example) to successfully transition to heat pumps (and which the existing supply chain can support)
3. Developing an advanced understanding of the customer base, having tested/refined different approaches to much more effectively engage these households

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

58% of the population currently falls into the currently unserved 'distress' category of households and therefore cannot currently transition to a heat pump. There is therefore a clear case for funding this project which is developing a commercially viable route for households to access this market, and developing the intelligence to support more informed approaches to market growth. By 2028, Thermly estimates that it will be directly delivering an additional 2.1% of the national target per year – around 12,500 installations – as a result of this project.

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. Wave 2 of this stream supports solutions aiming to improve the ease of heat pump deployment in homes that are 'complex to decarbonise', develop innovative solutions to enable heat pumps to be deployed in 'distress purchase' situations, improve performance of domestic heat pumps with low-GWP refrigerants and improve the domestic consumer experience of using and living with a heat pump.

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