Executive summary
2023.08.30

Pump Priming: What are the most important changes needed to accelerate heat pump deployment in the UK?

Heat pumps are a critical technology in decarbonising residential heating in the UK. Their deployment is widely regarded as a complex, disruptive, multi-actor challenge. Accumulated knowledge suggests a coordinated approach is required to promote their widespread diffusion.

Responding to this challenge the UK government set out a market-based approach to increasing the deployment of residential heat pumps in October 2021. The strategy was praised by the Committee on Climate Change for setting a clear direction of travel. The Committee also warned that significant risks to delivery remained.

In November of the following year, Collins announced their word of the year 2022: *'Permacrisis',* said to define 'an extended period of instability and insecurity', chosen because it "sums up quite succinctly how truly awful 2022 has been for so many people". '*Partygate', 'Kyiv'* and *'warm bank'* all made the long list, aptly summing up a year of rapid, seemingly uncontrollable change.

Given recent disruptive events, this project examines how the UK market for residential heat pumps has developed in recent years, up until May 2023, and considers what is now required to accelerate heat pump deployment in the UK. The research was completed over six months between February and July 2023. The work proceeded in three phases.

Phase 1 was designed to facilitate understanding of the existing UK market for heat pumps and identify potential areas of interest that could be investigated as part of phase 2. A rapid review of literature was undertaken followed by nine scoping interviews with policy makers, academics, and industry. Insights derived were used to guide phase 2.

In **Phase 2** a rapid review of the UK market for heat pumps was undertaken. Building on existing approaches within innovation and Science and Technology Studies (STS) that view technology diffusion and system transformation as being defined by systemic, co-evolutionary change processes, the review explored system change in four central environments, as well as developments in the technology itself. The rapid review subsequently covered recent changes in policy and regulation, business, wider society, and user experience.

The rapid review found that:

- The rate at which heat pumps are being taken up is increasing but remains at very low levels.
- Most of the UK government's central policy instruments - designed to foster a market-based approach to transforming how the nation heats the housing stock - have yet to be delivered. Only one policy instrument - the Boiler Upgrade Scheme - has been implemented.
- Business model innovation is occurring despite uncertainty about government commitment.
- The installer base is growing and appears capable of delivering the number of heat pumps required under most transition scenarios in the short term.
- The potential for the market to be accelerated through deployment in new build is low.
- Investments in UK manufacturing capacity are dwarfed by those made in continental Europe.
- Societal awareness of and interest in heat pumps is increasing.
- Motivation for adoption is increasing but the able to pay market is shrinking.
- Heat pump running costs reduced following the government's temporary intervention in UK energy markets in Autumn 2022 yet remain highly uncertain in the long term.

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In **phase 3** of the project, three workshops were held following a decision theatre methodology, a novel, highly discursive approach designed to tackle complex, multi-stakeholder issues. These included 15 participants from across policy, business, academia and thinktanks. First insights from the rapid review were presented, before participants were guided through a series of exercise designed to explore the challenge from multiple angles and then reach decisions about the best ways to accelerate heat pump deployment in the UK, culminating in a list of prioritised change solutions.

The workshops resulted in a rich set of data for analysis, including both written statements and audio transcripts. Analysis of both elements concentrated on areas of agreement, tension, and trade-offs made in reaching prioritised change solutions. Six key themes were identified as featuring prominently in each theatre: the systemic nature of the challenge, installers, government commitment, government policy, societal awareness, and affordability. Three additional themes were discussed in at least two workshops: equity in approach develop, the importance of undertaking fabric efficiencies first, and capacity of the UK manufacturing base.

From the comparative analysis of prioritised change solutions across decision theatres, five common themes quickly emerged:

- **Creating a clear narrative** was seen as critical across all workshops. Continued government indecision about the long-term heat decarbonisation pathway was perceived as a principal reason hindering current progress. Accordingly, fostering a clear account of desired, necessary change across the UK housing stock, covering both changes to fabric and heating infrastructure, arose as perhaps the most salient issue across all workshops.
- Second, the **development and delivery of a coherent long-term policy framework** was viewed as essential. All agreed the resulting policy framework needs to be coherent. That individual policy measures are developed and implemented in a timely manner was a further strong message.
- Third, **increasing affordability** was considered a multi-faceted concern that required going beyond conventional framing of capital and running costs.
- Fourth, **building installer capacity**, including through enhanced understanding of the multiple roles 'installers' currently perform, from design and specification, through fitting to accreditation.
- Fifth, **improving the customer journey** emerged as the final area for improvement, including reducing the complexity of the installation process, potentially through innovative design practices and simplified installation processes.

Finally, six policy recommendations were derived from these results:

1. Demonstrate strong policy commitment at the top of government and promote a systemic approach to delivery across all departments.
2. Raise awareness of heat pumps and their role in reducing carbon emissions from housing, through a large scale, publicly backed information campaign.
3. Build momentum via timely implementation of policy.
4. Acknowledge the disaggregation of the installer industry into multiple roles and provide targeted support to each.
5. Expedite fuel price rebalancing and facilitate new value propositions that reduce total cost of ownership.
6. Establish consumer confidence and simplify the customer journey.