
A market-based mechanism for low-carbon heat – Centrica response

Deadline: 12 January

Introduction

- The transition to low-carbon heat is the biggest challenge the UK faces on the way to net-zero by 2050. Heat accounts for approximately 40% of energy consumption and is mainly from our homes` and businesses.
- The transition to low-carbon heat will be particularly disruptive for consumers, with there being approximately 26 million existing homes and around 85% of these homes being connected to the gas grid. For customers wanting to transition to a heat pump, they may be required to make changes to their home, such as replacement of radiators and pipework installing an additional hot water tank and outside space requirements (for those installing a ground source heat pump).
- To be suitable for a heat pump, many homes will need efficiency upgrades as well, which vary considerably in cost and can run into several thousand pounds i.e. for homes with solid brick walls (no cavity). Additionally, there are currently issues with consumer acceptability of low-carbon technologies such as heat pumps.
- We agree with the Government and many in the industry, that there will not be a single technological solution in transitioning to low-carbon heat instead a mixture of technologies will be needed. Where these technologies will be deployed will depend on the local infrastructure available, the housing stock of local areas, the costs of these technologies and the level of disruption involved.
- In addition to heat pumps, hydrogen could provide decarbonised heat in buildings, either via hydrogen boilers or could be part of a combination with heat pumps as part of a hybrid system – mainly to meet peak demands during the winter months.¹
- Our 7,500-strong network of British Gas engineers and technicians visit around seven million UK homes every year and we are the largest single installer of boilers in the UK, which gives us unparalleled knowledge, scale, expertise and consumer understanding around heating. We're in a unique position to advise how the country can become more energy efficient and support heat decarbonisation.

The Government's lead proposal: an obligation in the heating appliance market

- The Government previously outlined through its Ten Point Plan its ambition to transition homes onto low-carbon heating technologies. Heat pumps have been chosen as the main technology to start decarbonising domestic buildings off the gas grid in the short and

¹ Committee on Climate Change (2018). Hydrogen in a low-carbon economy.

medium term. The Government has committed to 600,000 heat pump installations per year by 2028.

- The publication of the Government's Heat and Buildings Strategy is a step in the right direction and clearly outlines the Government's 'heat pumps first' approach in decarbonising homes in the next decade. Heat pumps are the most appropriate technology for some homes off the gas grid, particularly homes that use oil/LPG boilers.
- We see merit in the Government's proposal to introduce an obligation on oil and gas boiler manufacturers to achieve the sale of a certain number of heat pumps proportional to their boiler sales in a given period.
- We are of the view that the heat pump obligation would aid growth of the UK heat pump market. Approx. 35,000 heat pumps were sold in 2019 and overall unit sales have increased by 85% since 2016. Currently there are approximately 240,000 heat pumps operational in the UK in total with airtsource heat pumps accounting for 87% of the units sold.
- One of the key learning points BEIS's study of the UK's heat pump manufacturing supply chain, was that there needed to be a clear strategy and commitment from government on the need for heat pumps.² We are of the view that this mechanism and the Heat and Buildings Strategy as a whole, provides a regulatory system to encourage the ramp up of heat pumps in the UK until at least the middle of the decade.

The need for an energy efficiency linked scheme

- It is widely acknowledged that if we are to reduce emissions from homes, then the energy efficiency policy landscape must vastly be improved. Installation of energy efficiency measures reduces energy demand, leading to a reduction of residential emissions and is critical in preparing the building stock for the transition to low-carbon heating technologies. Equally as important, improved energy efficiency would provide customers with more comfortable homes.³
- We were pleased to see the Government move away from a tariff model, used for the Renewable Heat Incentive, to a grant-based model, which is the form the Boiler Upgrade Scheme will take. From our experience, a grant-based model is significantly more attractive for customers as it provides a degree of certainty for the low carbon heating market, avoiding a hiatus in investment at a critical time.
- According to Element Energy on behalf of the Committee on Climate Change, its Balanced Pathway outlined that 'for an average household getting an air source heat pump and a suitable energy efficiency package, the total investment cost required in 2020 is just over £12,000'.⁴ BEIS's impact assessment on the mechanism further emphasises that the largest societal costs are the additional upfront capital costs associated with installing clean heating technologies, including ancillary costs such as new radiators for heat pumps.

² BEIS (2020). Heat pump manufacturing supply chain research project – final report.

³ Committee on Climate Change (2019). UK housing: Fit for the future.

⁴ Element Energy (2021). Development of trajectories for residential heat decarbonisation to inform the Sixth Carbon Budget.

- It is therefore unlikely that the £5,000 grant currently offered as part of the Boiler Upgrade Scheme for airsource heat pumps, would go far enough in transitioning the number of consumers the Government is aiming for to the technology. According to BEIS's EPC data, in England 80% of existing homes were given EPC C or D energy efficiency rating (EER) from October to December 2020. Only 3% of these homes received an A or B EPC rating, highlighting the size of the challenge of improving the energy efficiency and low-carbon heating of existing homes. There is a clear need to link energy efficiency subsidies with low-carbon heat technologies installations.⁵
- We acknowledge and welcome the Government's commitment to providing an extra £950 million for HUG, £800 million additional money for its Social Housing Decarbonisation Fund and further funding for the Public Sector Decarbonisation Scheme. However, many households who fall under the 'owner occupier' category are in energy inefficient homes, BEIS has estimated that over 75% of properties are below EPC band C.⁶ Heat pumps work effectively in homes with high levels of thermal efficiency, so some customers will have to pay extra to make their home more energy efficient before installing a heat pump.

Compliance

- The consultation states that the Government will consult further on the penalties manufacturers that fail to reach the obligation will receive. We are of the view that the Government could introduce a 'trade' approach alongside the manufacturer obligation. Similar to the already established UK ETS scheme, manufacturers who fall short of reaching the obligated amount could 'trade' their way towards the obligated limit set by BEIS. It could be very hard for smaller boiler manufacturers who don't have the market size to comply with the obligation because they won't be investing a significant amount in R&D for heat pumps. Therefore, introducing a 'trade' approach alongside the obligation would help with compliance for these manufacturers. The additional trading approach would add a 'market principle' to the mechanism whilst helping manufacturers who are unable to reach the heat pump obligation limit.

The Government's alternative proposal: an obligation in the energy supply market

- We are strongly against the Government's alternative option. The average energy supplier does not provide heating appliance purchases as part of their service. Additionally, the average energy supplier does not install heat pumps, therefore the effectiveness of an obligation on these suppliers would be low.
- A supplier obligation would be more expensive than a manufacturer obligation because energy suppliers have to proactively generate/discover demand whereas demand comes into heating manufacturers via consumers who need new heating systems and existing installers. In contrast, manufacturers are able to use price signals to make heat pumps more attractive to consumers in ways that suppliers cannot – e.g. making boilers more expensive to subsidise cheaper heat pumps.

⁵ MHCLG (2021). EPC Statistical Release October to December 2020, England and Wales: Domestic Dwellings.

⁶ HM Government (2021). Green Home Finance Innovation Fund competition – successful bids.

- Supplier obligation costs will be recovered from all consumers bills, rather than from heating manufacturers who will recover costs through pricing of heating systems. With a supplier obligation those consumers who do not get new heating systems subsidise those that do, which is not cost reflective and is likely to be particularly regressive if better off customers are more likely to benefit. Funding through general taxation would be more progressive. Extra costs on bills will also push more families into fuel poverty, at a time where there is already a crisis in energy prices.
- Our view is also shaped heavily by our experience of the smart meter rollout. The smart meter programme is central to the clean economic recovery as it drives benefits for our customers (such as time of use tariffs for EV users) and is a critical part of Government's net zero carbon strategy.
- However, we have found that customer acceptance always has been, and remains, the biggest barrier to the rollout. There are different reasons for this, including lack of awareness of the benefits, the challenges and disruption some associate with the installation process (such as the need to be at home), safety concerns and some apathy.
- After 10 years of extensive customer engagement – we have achieved c.52% smart penetration, despite smart meters being the subject of repeated customer engagement and offered free of charge at point of installation. From c.5.3 million outbound contacts made in 2021, we only got c.200,000 appointments so 27 contacts per appointment booked. Our conversion rate now shows a tired and over contacted audience.
- The transition to low-carbon carbon heat will undoubtedly be a greater challenge than the Smart Metering roll out, although the benefits are more significant. There will need to be clear alignment between national, local governments, the business community, regulators, DNOs and GDNs in order for any national strategy to be delivered successfully. Local authorities will need to be sufficiently resourced to deliver some of their decarbonisation of heat programmes and will require assistance on coordinating action.⁷
- Additionally, our experience of ECO3 has demonstrated the high cost involved in finding customers willing to have ECO measures installed. A similar experience, where energy suppliers would have to find customers wanting a heat pump, could occur should the Government choose to pursue the alternative obligation pathway.

⁷ Energy Research Partnership (2017). The Transition to Low-Carbon Heat.