The Future of Heat – BEIS workshops

Background

In January 2019, BEIS commissioned the National Centre for Social Research (NatCen) and Eunomia to undertake several workshops and a survey with the public on their views on a future transition to low-carbon heating. The survey was done by 2907 adults an focused around general understanding of the transition, as well as what support would be needed, including for off-gas grid homes. Similarly, the four workshops with 134 participants across England, Scotland and Wales looked at the drivers of change in greater depth, with two workshops focusing on on-gas grid, and two off-gas grid. BEIS has now published the findings of these workshops, in the form of a synthesis report, as well as a full research paper which looks at the findings in more depth. Below you can find a summary of the key findings.

Quick findings

- 90% said the full transition to greener heating systems was quite or very important.
- For on-gas grid workshop participants discussed hydrogen gas, district heat networks and heat pumps.
- For off-gas grid workshop participants discussed biomass boilers and heat pumps.
- Participants described biomass boilers as "full of toxins" and fast burning, giving out less heat than current technologies and incurring frequent blockages. This led to some participants considering them unreliable.
- Having choice over the timing of when they would have to transition was more important than the costs, they would be subject to as a result.
- Those on-gas grid were less concerned with the choice of technology they might use and more concerned that they should be offered the most efficient available.
- Those off-gas grid, who it argues saw the transition as more imminent, put choice as the main driver for acceptability, and favoured heat pumps over biomass boilers.
- All respondents supported financial support to be available for all, with no cap on earnings.

What factors drive attitudes?

- There was a sense of positivity from the respondents that they understood the need to act urgently due to the climate emergency, and given better public information about what is happening, they believed there would be a greater acceptability of disruption.
    - In general, concern about climate change was the strongest driver of a higher level of acceptance of a heating transition over and above other characteristics.
- Respondents very slightly preferred to have individual household choice over when to switch, compared to neighbourhood level switchovers – but on-gas grid participants in the workshops preferred limited disruption over individual choice.
- Respondents were more concerned with the day-to-day changes implied with any new technology than with the disruption related to installation.

Attitudes and Awareness of the Importance of Decarbonising Heat

- 90% said the full transition to greener heating systems was quite or very important.
- 24% said they knew 'a little' or 'a lot' about the UK ambition to eliminate all emissions from heating buildings.
- 46% of respondents correctly identified heating/cooling in buildings as one of the three highest contributors.
    - On average, respondents put heat in the same category as agriculture or non-heating energy use in buildings rather than transport and industry.
- 66% of respondents supported phasing out of gas boilers
- 44% of respondents supporting the prospect of phasing out gas cookers in favour of electric ones.
- Other than those already using low-carbon heating, the majority of people did not believe their current heating system was environmentally friendly:
    - Only 19% off off-gas grid properties believed their system was environmentally friendly, 28% for those using mains gas, and 36% for those using an off-grid electric system.
- Whilst respondents viewed a number of the low-carbon technologies as 'unusual', they generally believed that they would just want the system that was most efficient and environmentally friendly going forward.

Attitudes about the transition

- Survey findings indicated respondents tended to find a nationally managed transition more acceptable than a locally managed one. Participants felt less certain that Local Authorities would have the resources or capacity to oversee it at scale.
- However, in the devolved nations, as well as in rural areas there were concerns that the UK Government was too distant to understand the specific contexts.

Attitudes and Awareness of Biomass Boilers

- Biomass scored top in terms of awareness, with 51% of respondents having heard of them or knowing something about them. This was compared with 39% for ground source heat pumps, and 25% for air source heat pumps. People living off-grid were more likely to report knowing a 'little' or a 'lot' about heat pumps than other people. Furthermore, only 12% had heard of hydrogen boilers.
- Reservations to biomass boilers were due to the size and the challenges of fuel storage, with respondents also expressing concern whether they could be considered carbon neutral, with some noting the lack of trees in the UK, which means having to import from overseas.
- As stated above, biomass boilers were only presented as an option to the off-grid workshops. The participants were given the following information about biomass boilers:
    - *'Biomass boilers are boilers which burn sustainably grown wood and crops; as the amount of carbon dioxide emitted when wood is burned is the same amount that was absorbed over the months and years that the plant was growing; this fuel is carbon-neutral if new plants continue to grow in place of those used for fuel. Although there are*

some carbon emissions caused by the cultivation, manufacture and transportation of the fuel, as long as the fuel is sourced locally, these are much lower than the emissions from fossil fuels. Biomass boilers can be used in a similar way to existing boilers (such as LPG or oil) but require space for storage of (e.g.) wood pellets and property accessibility for deliveries'.

- Participants in the workshop questioned whether the technology would be considered low carbon due to cutting down trees, as well as concern over sourcing pellets from overseas. The space required for pellets was also considered an issue.
- Similarly, biomass boilers were described 'as "full of toxins" and fast burning, giving out less heat than current technologies, and incurring frequent blockages. This meant that some participants considered them unreliable as a heat source'.

Attitudes of people living off-gas grid

- People living off-gas grid with high-carbon heating systems, were more likely to be homeowners, older (over-50), as well as have higher levels of education and income on average.
- Whilst this group had similar concern about climate change and knowledge and support for the transition, they had higher than average awareness of low-carbon heating technologies, with 50% knowing 'a little' or 'a lot' about air of ground source heat pumps (compared to 23% of other respondents).
    - Similarly, 58% knew about biomass boilers, compared to 32% of remaining respondents.
- On replacing their heating system with a low carbon alternative, 53% agreed 'bills and maintenance costs could be affordable, and 61% said they believed their heating needs would be satisfied'. However, only 37% felt that the up-front costs of appliances and installation would be affordable, with 34% disagreeing with this statement.
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