

Written evidence submitted by OFTEC

About OFTEC

Established in 1991, OFTEC is a 'not for profit' trade organisation for the liquid fuel heating and cooking industries in the UK and Republic of Ireland. We also manage a competent person scheme for technicians working on a wide range of non-gas heating technologies. Our aim is to promote the highest professional and technical standards for technicians and businesses working in the industry and, by doing so, support the needs of heating users.

Submission to Inquiry

Reason for submission

OFTEC's member serve rural off-gas grid households, which gives us a significant insight into this niche area and the energy efficiency challenges they face. While the Committee is rightly concerned with the energy efficiency of all the UK's homes, we would submit that rural homes deserve special attention for reasons set out below.

Rural homes - a neglected area

Approximately 1.5 million homes in the UK are currently not connected to the gas grid and depend on oil for heating. A further 200,000 use LPG stored onsite in tanks. Except for in Northern Ireland (NI), these fuels are mainly used in rural areas. In NI, the gas grid is less well developed and the use of oil heating is common even in urban areas. Approximately 437,000 (56%) of homes in NI currently depend on oil heating¹.

Taken collectively, these homes are some of the UK's least energy efficient. In October 2018, the then BEIS Minister Claire Perry stated in response to a question in the House of Commons that only 3% of oil heated homes in Great Britain achieved EPC Band A - C, while 65% were in the poorer performing EPC bands E - G².

This is significantly worse than homes on the gas grid where 30.6% of homes connected to the gas grid are in EPC bands A - C, 53% were in band D, and only 16% were in the poorest E - G bands. This pattern is broadly comparable to other parts of the UK².

EPCs take account of both building fabric and heating costs and it is often assumed that the reason for the poor EPC ratings of rural homes is due to high fuel costs. This is only partially true. While LPG is an expensive fuel, based on an average cost over the last five years³, heating oil has been among the cheapest fuel options in the UK - comparable to mains gas. The more significant reason for the poor energy performance of rural homes is inadequate insulation and, in some cases, reliance on older, less efficient appliances.

Compared to urban dwellings, these homes are extremely diverse in character, age, design and construction. They have been built using a wide range of materials and have been subject to varying levels of modification and improvement over time. Many have period features that are valued by their owners or have listed status - which can make modernisation difficult - or are in National Parks and other protected areas where planning constraints exist. Analysis of oil heated homes in England reveals that:

- 46% were built before 1919 and have solid walls
- 51% are detached and typically larger than average²
- 40-50% are thought to have heating systems over 12 years old with lower efficiency (typically 65-85% compared to modern condensing boilers which have typical efficiency performance of more than 90%)⁴

These challenges are exacerbated by various socio-economic factors that affect rural households. The income and expenditure profile is significantly different to other areas. For example, average weekly household expenditure is 17% higher than the national average for England, while the proportion of disposable income fell from 29% to 26% between December 2013 and March 2017. Median workplace-based earnings in rural areas are lower than those in predominantly urban areas (excluding London) while fuel poverty levels are significantly deeper for households off the gas network⁵.

While not specific to rural homes it is also worth noting that unsecured household debt across the UK is also at a record high at over £14,000, putting increased pressure on consumer finances. Almost 70% of households have less than £1,500 in savings, while over 55% have no savings at all⁶. This suggests there is little scope for households to fund energy efficiency work.

Whilst we cannot point to a reliable data source, there is strong anecdotal evidence to suggest that rural households have largely missed out on funding from retrofit energy efficiency schemes. We believe this is due to their greater geographic isolation and lack of homogeneity. For retrofit businesses or local authorities there are significant practical benefits such as ease of planning, coordination and deployment, and obvious economies of scale, associated with targeting energy efficiency measures at homes of a similar type that are close to each other. Consequently, those working in this field are much more likely to target homes in urban and suburban locations, leading to a dearth of support for rural households.

The wider policy context

The government already has a stated ambition for all homes to be EPC rated 'C' by 2035 where cost effective, affordable and practical. In addition to the need to address inequalities arising from energy efficiency issues, which affect running costs, quality of life and health, the need to target support to these homes is given added urgency by the need to address the emissions that contribute to global warming as part of the net zero agenda. In this respect, rural homes have been identified as a priority for attention by government.

In its 2017 Clean Growth Strategy the government set out its intention to phase out the installation of high carbon fossil fuels in homes off the gas grid by 2030. This aim was most recently reaffirmed in the supporting documentation for its 'Future support for low carbon heat' consultation, a key element of which is grant support for the deployment of heat pumps and, in certain limited cases, biomass appliances.

The consultation made clear that heat pumps remain the government's preferred technology solution for off-gas grid homes and the proposals are geared towards driving heat pump deployment. The recently announced Green Homes Grant scheme has also prioritised a narrow range of technologies, including heat pumps, biomass and solar thermal. This approach is a continuation of the technology-led strategy that underpins the Renewable Heat Incentive (RHI), launched in 2014, which provides incentive payments following the installation of the same low carbon heat technologies.

Heat pumps are a highly efficient low carbon heat technology and their deployment at scale, alongside other technologies, is likely to be needed if the UK is to meet its net zero target. However, some policy thinking appears based on the idea that off-gas grid homes offer the opportunity to build heat pump supply infrastructure and installer expertise ahead of wider deployment. We are convinced this idea is seriously misplaced.

At present there is little evidence that off-grid households see heat pumps as a viable choice. Although generous, the RHI has consistently performed below expectations and although the scheme has been in operation since 2014, less than 1% of existing oil heated homes have switched to a heat pump via the scheme.

OFTEC believes there are two key reasons for the poor take up of heat pumps in rural homes:

1. Capital cost of the appliance remains a significant barrier, and this applies both to heat pumps and biomass boilers. Even with the current RHI, Green Heat Grants, or the proposed Clean Heat Grant grants, an air source heat pump installation is on average between two and three times the price of a conventional boiler (the average installation cost declared for RHI-funded work is currently over £10,000⁷ while a boiler costs only around £2,500). Unlike when central heating was originally introduced, heat pumps offer little functionality or running cost gains over existing heating types, making them a hard sell to consumers with existing modern heating systems. In some cases, new hot water storage tanks are also required and the old heating equipment and fuel storage tank also needs to be removed. There is also evidence that current support mechanisms have led to price increases well above the rate of inflation.
2. The retrofit of heat pumps in off-grid homes is often difficult due to the high cost and disruption caused by the thermal efficiency improvements that are needed. Good insulation is necessary for optimum heat pump performance and to avoid high running costs, and many oil heated homes present a significant challenge in this respect, as previously noted. The energy efficiency retrofit costs associated with successful heat pump deployment in these homes are likely to be in the tens of thousands of pounds per property, with costs as high as £50,000 possible in cases solid wall and floor insulation, and upgraded glazing, are required⁸.

Other issues, such as poor consumer awareness of heat pumps, the lack of installer support, and uncertainty over outcomes are secondary factors that also currently inhibit heat pump deployment.

A further potential barrier to heat pump deployment in rural areas is that it is not always cost effective to upgrade the local electricity network, an issue highlighted recently by the National Grid⁹. In the three successful net zero scenarios National Grid modelled, between 619,200 and 1,008,215 off-gas grid homes, currently heated by oil or LPG, would require an alternative non-electric heat solution, with biofuels being recommended.

Other options that have been proposed, such as hybrid heat pump and boiler systems, also suffer from high up-front cost.

We would also highlight the economic impact of Covid-19 which, while as-yet uncertain and difficult to calculate, is very likely to further suppress the ability of rural households to invest in expensive low carbon heating.

These issues cause significant friction in the deployment of low carbon heating to off gas grid households and there is a risk that if current policy thinking remains unchanged that both energy efficiency and carbon reduction targets will continue to be missed.

Consumers are most likely to adopt energy efficiency and low carbon measures that are affordable and cause little disruption. This point was highlighted in the recently published report of the UK citizen climate assembly, in which assembly members emphasised their support for tailored solutions for local areas and individual households, and increased choice, including through steps to promote competition. They also stressed that changes need to work for all income groups and housing types. On home retrofits, the need to minimise disruption in the home, put in place support around costs, and offer flexibility and

choice to homeowners were highlighted. There was also very strong support (94%) for smaller organisations to offer energy services¹⁰. OFTEC would strongly endorse these views.

Conclusion and recommendations

From the above, we conclude that the energy efficiency of many rural households is unlikely to be upgraded without funding support. We also think it unlikely that sufficient funding will be available to support the majority of oil and LPG using households to switch to heat pumps cost effectively, and some may never reach EPC Band C. Consequently, we recommend that the Committee explore the following options for improving the energy efficiency of off-gas grid rural homes:

- 1) The development of specific programmes of support for insulation measures targeted towards rural households
- 2) For households that already have high levels of insulation - or where it can be easily and cost-effectively installed - and where the electricity network can be cost-effectively upgraded, policy measures to encourage the installation of heat pumps
- 3) For dwellings with the poorest energy performance (e.g. EPC band E – G) and those where the local electricity network would be too expensive to upgrade, policy measures to provide cost effective insulation improvements combined with subsidised boiler upgrades to facilitate the deployment of biofuels which, in the case of liquid fuels and gas, offer a near drop in solution that would deliver carbon reductions comparable to electrification.

References

- 1) Northern Ireland Housing statistics
- 2) UK National Housing Surveys
- 3) The Sutherland Tables
- 4) Oil heating industry data
- 5) DEFRA Statistical Digest of Rural England, March 2020
- 6) Office for National Statistics
- 7) Data submitted by installers as part of the MCS reporting process for RHI applications 2019
- 8) BEIS data on installation costs
- 9) National Grid Future Energy Scenarios 2020
- 10) UK citizen climate assembly report

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