The voice of the energy industry

BEIS – PHASING OUT THE INSTALLATION OF FOSSIL FUEL HEATING IN HOMES OFF THE GAS GRID

Energy UK response (January 2022)

Energy UK is the trade association for the energy industry with over 100 members spanning every aspect of the energy sector – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership.

Energy UK represents the diverse nature of the UK's energy industry with our members delivering nearly 80% of the UK's power generation and over 95% of the energy supply for the 28 million UK homes as well as many businesses.

1. Do you agree with the principle of working with the natural boiler replacement cycle as the key trigger to deploy low carbon heat? Please provide evidence to support your response.

Energy UK welcomes the additional ambition and clarity provided by the Heat and Buildings Strategy and by the potential introduction of phase out dates for polluting technologies. Boiler replacement cycles should be only one part of a number of levers utilised to trigger low carbon heat deployment. Energy UK supports the use of this approach so long as other triggers and frameworks are utilised alongside the measure.

Whilst replacement of the natural boiler cycle is a sensible trigger point, this won't necessarily incentivise early transition to low carbon heat. It would be remiss to simply wait until the transition is only 'necessary'. Moving to a heat pump, for example, can be a time-consuming process (noting all of the concurrent home improvements that need to take place pursuant to heat pump installation). As such, getting ahead of the curve before the natural boiler replacement cycle comes to an end would spread the impacts on the heating sector and avoid consumers being without heat if they wait until their current boiler breaks down essentially.

As far as possible, consumers should be engaged with on the options available to them, and the market should be enabled to develop attractive customer propositions to give consumers the ability to make an educated decision about moving to low carbon heating ahead of any phase out mechanism. Otherwise, if early transitioning to low carbon heat is not incentivised, there are risks that homes could be left without a heating system altogether for a period of time, while bespoke design work is completed (with consequent negative media, consumer and political consequences for the policy) – or, perhaps more realistically, many consumers will opt to extend the life of their aging boilers, creating a market for continual refurbishment of fossil fuel boilers – defeating the object of the policy.

Energy UK
26 Finsbury Square
London EC2A 1DS

T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

2. Would a 2026 end date for the installation of fossil fuel heating in homes off the gas grid give industry and consumers sufficient time to prepare for the regulations? Please provide evidence to support your response.

Energy UK agrees that 2026 would provide sufficient time to prepare for the regulations. However, until the cost to the consumer starts to decrease, Government support for the upfront cost will play a critical role in the early transition to heat pumps. Currently the BUS runs until 2025, and the impact of the market mechanism is difficult to quantify with any certainty. The UK Government could consider working with the installer industry to ascertain whether a 2026 end date is realistic.

In addition, there must also be trusted and impartial advice to consumers on how to transition to low carbon heat, the costs, and benefits, well before any deadlines for ending the installation of fossil fuel heating in the off-grid sector. The challenge with setting a 2026 end date is that the installer industry may not have enough skilled workers in order to reach this target, which could then lead to supply issues for consumers. In order to meet the increase in demand for heat pumps created from these policy proposals, Government will need to address the current skills gap between fossil fuel and low carbon heating engineers/installers.

Government will need to mobilise investment and policy to produce a skilled low carbon workforce and prevent sub-standard installations. To help reduce such installations, heat pumps should be installed in accordance with PAS 2030/2035 and MCS standards to ensure customers are guaranteed a new low carbon heating system that is compatible with their property to a high standard.

In addition, government should consider introducing one body that is easily recognisable for consumers which is the equivalent to Gas Safe that mandates heat pump installers to register and comply with the Building Regulations. It will be important to prevent sub-standard installers creating negative attitudes towards the transition to low carbon heat as this policy area is already politically sensitive.

Furthermore, there must also be long term financial incentives via operational cost savings from heat pumps. A number of options to address this exist, including removal of VAT and addressing current major imbalances in the charging of policy and carbon costs between fossil fuels and electricity. Currently an electricity-based heating system (such as heat pumps) is significantly more expensive to operate compared to a fossil fuel-based system and also has higher installation costs at the outset. It is critical that consumers off the gas grid are not asked to pay more for a heat pump compared to an equivalent fossil fuel heat source while consumers on the gas grid will be able to obtain lower cost, fossil fuelled heating systems.

Government should maintain an open perspective on all low carbon technologies, and those that demonstrate genuine compatibility with net zero (e.g. bio-fuel hybrids). Consumers, informed by retrofit coordinators, are well-placed to make a decision about the suitability of different net zero compatible systems.

3. Do you agree with a heat pump first approach to replacement heating systems in fossil fuel heated homes off the gas grid that can reasonably practicably accommodate a heat pump? Please provide evidence to support your response.

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

Energy UK members broadly agree with the 'heat pump first approach', given the fact that heat pumps are the most efficient low carbon heating option available and the market-leading solution, alongside the importance of moving swiftly to deliver on the UK's net zero target.
The fabric upgrade of homes will play a central role in heat decarbonisation, and is especially important for a 'heat pump first' approach, in order to help keep running costs down. The Government should aim to ensure that as many off grid homes as possible receive fabric upgrades before the phase out commences.

The detail of these regulations, how they are enforced, and the framework for applying the heat pump first approach must be easy to understand if implementation is to be successful.

Note, however, that to develop the heat pump market in the transitional period following the regulations coming into place, this should not rule out other appropriate heating systems, such as bi-valent systems, smart hybrids or direct electric, because these options may be the most appropriate for some consumers. Maintaining a level of optionality will create greater consumer choice and is likely to benefit the overall transition to lower carbon heating solutions by delivering positive customer experiences and cost efficiencies.

The confirmed Government funding for heat pumps via the Boiler Upgrade Scheme (BUS) is welcome, but the longer term approach, beginning with the future market mechanism, will be required to incentivise effective uptake at scale.

4. Do you have any views on the design or content of guidance that will help households and installers determine whether it is reasonably practicable to install a heat pump? Please provide evidence to support your answer.

Guidance must be clear, concise and easy to follow, with transparency on alternatives to heat pumps when a heat pump is not reasonably practicable to install. The Retrofit Co-ordinator should produce a Medium-Term Improvement Plan which details the recommended measures and should discuss the content with the householder.

Based on research from the Energy Systems Catapult, heat pumps are suitable for all housing types in the UK, so the guidance will need to effectively explain the likely factors impacting cost and complication based on common building attributes and circumstances. A definition or threshold of what determines 'reasonably practicable to install' should be provided to provide greater clarity for consumers when considering alternative options.

The guidance should be produced by an authoritative source, for example the UK Government, Ofgem or CIBSE, as opposed to the market, in order to provide consistency and prevent different messaging to consumers from different companies.

As mentioned above, heat pumps should be installed in accordance with PAS 2030/2035 and MCS standards to ensure customers are guaranteed a new low carbon heating system that is compatible with their property to a high standard. In addition, government should consider introducing one body that is easily recognisable for consumers which is the equivalent to Gas Safe that mandates heat pump installers to register and comply with the Building Regulations. Monitoring and audits should be undertaken to assess installations to hold installers accountable should high standards not be met.

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

This should reduce the risk of sub-standard installers incorrectly installing heat pumps or installing heat pumps in properties where it is not reasonably practicable. It will be important to prevent such sub-standard installers creating negative attitudes towards the transition to low carbon heat as this policy area is already politically sensitive.

5. Do you have any additional evidence on the size and characteristics of the cohort of homes off the gas grid that have the greatest deployment potential for ground source heat pumps?

N/A.

6. Do you agree that the performance of replacement heating systems in homes off the gas grid that cannot reasonably practicably accommodate a heat pump should reflect the current high standards of performance that can be delivered through high temperature heat pumps and solid biomass systems? Please provide evidence to support your answer.

Yes, homes which cannot reasonably practicably accommodate a heat pump should still be required to install a low carbon high performing heating system, such as a high temperature heat pump.

Some Energy UK members recommend that high temperature heat pumps are a more appropriate comparator technology and should be the main or indeed only technology used to reflect high standards of performance for alternative solutions. It is likely that the performance of high temperature heat pumps will vary slightly between manufacturers, therefore, to create a sound framework for alternatives, more detail on the standards expected of alternatives that would allow them to match high temperature heat pumps will be required.

It should be noted that there is likely to be a greater proportion of solid wall properties that are not connected to the gas grid. The cost of upgrading these properties is likely to be high, and would potentially involve the installation of internal or external wall insulation, which may not always be feasible. This underlines the need to address the way policy costs are currently allocated. Given considerations around sustainability, air quality, and sourcing fuel for biomass installations, it is likely that some form of electrification may be the most suitable solution for a number of these properties. Rebalancing policy costs will avoid penalising households who switch to electrically driven heating solutions, including heat pumps, and particularly where these technologies are installed in homes with lower levels of fabric efficiency.

For a short transition period, smart bi-valent systems with a guaranteed high percentage of heating provided by the heat pump and a small percentage of heating provided by the boiler aspect should be considered as suitable alternatives to heat pumps because they will still deliver CO2 emission reductions. These assets should be able to switch to low carbon fuels over time, and could offer high standards of performance in the appropriate homes, and offer consumers more choice based on the properties of their home.

Direct electric heating is stated to be discouraged in the consultation, but this could be overly restrictive for some consumers where this option could be the most applicable for homes, especially if

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

they are well insulated. Direct electric heating should be considered for a short transition period along with smart hybrids.

Offering more consumer choice and allowing smart hybrids and direct electric heating for a short transition period is likely to benefit a smoother transition, while still achieving the overall target of reduced emissions from heating.

7. Do you agree that future use of solid biomass to decarbonise heat in homes off the gas grid should be limited to rural, off-gas grid areas where air quality can be better controlled, and in 'hard to treat' properties that are not suitable for other low carbon heating technologies? Please provide evidence to support your response.

Yes - for the reasons outlined in the consultation, the use of biomass should be limited to homes that are not suitable for other low carbon heating technologies. It is important air quality can be controlled, and widespread uptake of biomass can also harm air quality in rural areas. However, note that in many rural, off grid locations, housing density is low. This will help to mitigate the impact of associated air quality issues. Alternatively, net zero compatible technologies with marginal impacts on air quality, such as bio-LPG hybrid heat pumps, should be deployed.

A high temperature heat pump is still a very efficient heating system and for the reasons set out in the above question, and as such it may be appropriate to promote high temperature heat pumps over biomass in the guidance while remaining open to their use in certain circumstances.

8. Do you have any views on the development of heating fuels and systems which will be consistent with wider government objectives on net zero emissions, environmental sustainability and air quality, and offer a secure and affordable fuel supply to consumers, from 2026? Please provide evidence to support your answer.

Under all low carbon heat scenarios, it will be necessary to increase the deployment of heat pumps in the 2020s to deliver carbon budgets and set the UK on course for meeting net zero. The technology exists now, and when combined with energy efficiency measures, offer a cost-effective route to heat decarbonisation.

There may also be a role for bio-fuels can play a role in decarbonising off grid homes, where sustainability and air quality requirements are met.

Government has signalled that 2026 will be the date from which home owners will be required to invest in low carbon alternatives at the point of asset replacement. However, other policies such as the market delivery mechanism (set to be enforced from 2024), as well as latent market demand in the off-grid sector will drive an uptake in low carbon heating installations well in advance of 2026. 2026 should not, therefore, be viewed as a "cliff edge" date. Rather there will be a progressive ramp up of low carbon heating installations in the off-grid market from now through to 2026 and beyond.

9. Do you agree with an end date for the use of remaining fossil fuel heating in homes off the gas grid by the late 2030s? Please provide evidence to support your answer.

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

Government's ambition to phase out fossil fuel heating in homes off the gas grid by the late 2030s is welcome and, in principle, Energy UK supports this ambitious carbon reduction target aligned with the UK's net zero target and carbon budgets.

It is important to note, however, the transition to low carbon heat will require a smooth transition for consumers and, if the approach is to be a success, there must be the right level of incentives and appropriate support. Only once an effective policy and regulatory framework is set out to be implemented from 2026 would the energy sector be able to fully support a total phase out by the late 2030s.

As stated earlier in our response, consumers need to be incentivised to transition before their existing heating system reaches the point of break down. One way to achieve this incentivisation will be to continue the BUS beyond 2024 and into 2026 when the regulations are implemented to make the transition more attractive for consumers. It would be very prudent to keep the end date of the BUS under review depending on the success of the transition to low carbon heating technologies. Government have previously said appliances will 'never be ripped out', and without appropriate support and engagement, there remains a risk firm end dates could lead to such extreme measures.

10. Do you have any views on measures the Government could introduce to ensure that fossil fuel heating will no longer be used in homes off the gas grid by the late 2030s? Please provide evidence to support your answer.

Government should use a range of policy levers to ensure that fossil fuel heating will no longer be used in homes off the gas grid, including regulations, incentives, and subsidies, balancing policy costs on bills, public engagement campaigns and advice.

The proposed obligation on mortgage lenders, if extended beyond 2030 and revised to focus on low carbon heating, could be a powerful lever here.

The various obligations based on Energy Performance Certificates (minimum standards for rental which have the potential to be extended to sale/ purchase) would also support a phase out but would require a fairly fundamental revision of EPC so that it focusses on thermal measures, low carbon heating (and associated enabling measures – larger heat emitters, pipework changes). Product standards may be a better route for electrical measures such as lighting upgrades.

Using these tools, combined with setting a clear end date, will give the certainty needed to industry (and consumers), in order to build a strong market for heat pumps and other low carbon solutions. Currently an electricity-based heating system (such as heat pumps) is significantly more expensive to operate compared to a fossil fuel-based system and also has higher installation costs at the outset. Therefore, the imbalance of charging carbon and policy costs on consumer bills must be addressed to offer operational savings on the installation of heat pumps and send price signals in this regard.

Net zero hybrid systems which are in the market today, for example those formally recognised in Scottish policy, should be fully considered for inclusion in support schemes. Hybrid schemes can be cheaper than alternatives, and HMG could consider a differential support rate reflective of the actual carbon impact of these technologies.

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

In addition, the Government recently announced its intention for the electricity system to be net zero by 2035. This will result in direct electric heating generating lower carbon emissions and therefore should continue to be considered as an additional alternative option alongside smart hybrids in a short transition period.

Energy efficiency measures should be encouraged in combination with installation of all heating technologies to ensure the efficiency of the system is maximised.

It will be crucial for a clear and supportive framework beyond 2026 to incentivise switching in the first instance if the UK is to deliver a total phase out in the late 2030s. Low interest loans, heat as a service or other incentives could be used to encourage the move to low carbon heat appliances.

11. Do you have any views on how best to ensure compliance with the proposed regulations laid out through this consultation? Please provide evidence to support your answer.

Energy UK would welcome a separate consultation on compliance to create a pragmatic approach. One area the consultation must cover is the potential for the policy to be delivered through changes to the Building Regulations. There will need to be clear guidance for homeowners and the low carbon heating industry around which alternative options are acceptable and in which circumstances, clarity on the consequences of non-compliance by home owners or heating system installers, and the process and responsibility for enforcement.

When looking at the Boiler Plus regulations introduced in 2018, (set out in the Domestic Building Services Compliance Guide); whilst this avoided the need for new legislation, the legal status of the requirements was ambiguous and compliance has been low as a consequence (particularly when considering there was also no enforced sanction regime for non-compliance.) There should ideally therefore be legislation for the off-grid sector, and some form of sanctions policy, (e.g. the ability to remove installers from the gas-safe register if they continue to install non-compliant heating systems). This will need to be communicated clearly to the installer community, which is very fragmented.

12. Do you have any views on what more could be done to address financial barriers to heat pump deployment? Please provide evidence to support your answer.

Fiscal support will be crucial to incentivise timely uptake of low carbon heating technologies. There are various measures to address financial barriers, such as:

- An urgent focus on upgrading the energy efficiency of all homes, building on the success of the Energy Company Obligation, to ensure low carbon heating systems work effectively.
- Extending the BUS beyond 2026 to provide financial support to consumers to incentivise demand for low carbon heating technologies;
- Providing operational cost savings to consumers by addressing policy cost imbalances on energy bills. Energy UK welcomes the commitment in the Heat and Buildings Strategy to launching a call

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

for evidence on Fairness and Affordability that will include options for energy levies and obligations in order to help rebalance gas and electricity prices;
- Reforming the Energy Performance Certificate (EPC) to account for carbon emissions;
- Ongoing support and incentives available for the entire housing stock and not solely the financially vulnerable (aka, a Green Homes Grant successor scheme/able-to-pay focussed support);
- Amending current tax levels to incentivise heat pump uptake because of savings elsewhere, for example, a lower VAT rate and reduced Stamp Duty rate on homes with low carbon heat technology.
- Allowing smart hybrids (with a high percentage of heating provided by the heat pump and a small percentage of heating provided by the boiler aspect) and direct electric heating as an alternative to a full heat pump only system when it is not reasonably practicable to install one. This would provide greater consumer choice to suit the wide variety of properties of homes and benefit the overall phase out of fossil fuel heating. A heat pump first approach is required given the current state of the market, but this should not rule out other technical solutions or the ability of consumers to choose a low carbon solution suited to their needs.

13. Do you have any views on how we should encourage smart-enabled heating in homes off the gas grid? Please provide evidence to support your answer.

Encouraging the uptake of technologies which enable smart or flexible use of energy would be wise. Success has been seen in the EV Home-charge Scheme, where smart controls are required for EV charging technologies to be eligible for the grant. A similar approach would be just as effective for heating, but must enable continued innovation by applying an outcomes-oriented approach to those standards. Energy UK would welcome full consideration of requiring smart controls in existing support schemes for heat.

Not only do smart controls enable a wider range of attractive customer propositions and support the energy system, they also ensure a level of service that will ensure a high rate of satisfaction in this market segment, giving the mass market consumers' confidence in the effectiveness of the technology.

Energy UK supports the inclusion of smart enabled heating in homes, including bi-valent systems that ensure high a percentage of heat is provided by the heat pump and a small percentage of heat from the boiler aspect. Heat pumps and Hybrid systems can respond to changing price signals and enable the use of increasingly popular time-of-use tariffs and smart energy platforms to optimise heating in order to keep bills down. This approach would, however, be somewhat reliant on the ongoing reform of the energy retail market and energy balancing / flexibility markets in order to pass on the system value of activities on to the customer.

14. Do you have any views on what more could be done to galvanise supply chains for low carbon heating? Please provide evidence to support your answer.

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

As above (Q12), Energy UK recommends some measures to address financial barriers and incentivise uptake, by increasing demand for low carbon heat technologies the supply chain will grow and benefit from economies of scale and learning by doing.

Markets will deliver investment, innovation and cost reductions if there is policy and regulatory certainty, and if there is a level playing field across all net zero compatible technologies. Overly prescriptive rules and bureaucracy have proven to stifle investment, and in the case of the Green Homes Grant, create a crisis in market confidence.

There is also the potential to use a carbon trading approach to obligate manufacturers to support or deliver the manufacture of low carbon heat technologies. Such an approach would be effective but should be carefully approached to ensure effective delivery aligned with customer needs and maximum carbon reductions.

Increasing focus from industry on skills and training should be monitored by government, and where possible existing skills funding should be assessed and redirected to these critical sectors for green growth.

A key objective in successful decarbonisation of heat across the UK is to galvanise the non-subsidised, able to pay, customer segment. That will require attracting financial investors to provide competitive customer financing, as well as innovative new models, such as Heat as a Service. That can only be achieved if there is a clear policy framework that is open to all net zero compatible technologies.

15. Do you have any additional evidence on how groups protected under the Public Sector Equality Duty may be affected by our proposals to phase out high carbon fossil fuel heating in homes off the gas grid?

The consultation document mentions that there are more elderly people in the off-gas grid, this group could benefit from very clear guidance on replacing their existing heating system and greater flexibility on alternatives to low temperature heat pumps.

16. Do you have any views on what more could be done to ensure households, and communities, affected by our proposals experience a smooth transition to clean heat? Please provide evidence to support your answer.

Ensure that there is the right level of trusted and impartial advice on installing low carbon heat. The Government should communicate the advantages other than cost savings (e.g. carbon emission and air quality improvements) of transitioning to low carbon heat to motivate consumer participation in the transition and prevent reliance on solely the financial incentives for consumer uptake.

It is important to incentivise early switching from existing heating systems (ahead of system failure) to support sector growth and ultimately prevent a backlog of energy efficiency improvements and heat pump installations that hamper a smooth transition to clean heat.

Note there is concern that a blanket approach, which requires heat pump and insulation installation in most households – based on technical characteristics, rather than allowing some flexibility based on

Energy UK
26 Finsbury Square
London EC2A 1DS
T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms

personal circumstance, could lead to situations where off-grid families are unable to find an appropriate installer, cannot afford the upgrades, or are in-distress and need a replacement system immediately. It is therefore important that government work alongside industry to monitor uptake and customer experiences to ensure the UK is able to address these issues swiftly.

17. Do you have any further comments to make on our proposals to phase out high carbon fossil fuel heating in homes off the gas grid? Please provide evidence to support your answer.

Energy UK
26 Finsbury Square
London EC2A 1DS

T 020 7930 9390
www.energy-uk.org.uk
t @EnergyUKcomms