energy saving trust

Phasing out the installation of fossil fuel heating systems in businesses and public buildings off the gas grid consultation

Energy Saving Trust's response

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1. The non-domestic off-gas grid building stock

1. Do you agree with the principle of using the natural replacement cycle to phase out the installation of fossil fuel heating systems in non-domestic buildings off the gas grid?

Energy Saving Trust strongly supports the UK Government's commitment to phase out the installation of fossil fuel heating systems in non-domestic buildings off the gas grid.

Energy Saving Trust agrees with the principle of working with the natural boiler replacement cycle as a key trigger to deploy low carbon heat. Natural boiler replacement should not however be the only or main trigger point that the UK Government uses to phase out the installation of fossil fuel heating systems in non-domestic buildings off the gas grid.

We have concerns that using the natural boiler replacement cycle as the only key trigger to deploy low carbon heat in buildings off the gas grid may not lead to sufficient numbers of fossil fuel heating systems being replaced with low carbon alternatives at the pace necessary to ensure that the non-domestic sector makes its necessary contribution to meeting the UK's climate change targets.

In addition, there are a large number of small non-domestic buildings that operate in ways similar to dwellings (for example B & Bs and small hotels) and for whom boiler purchases at the point of "natural replacement" will be, more often than not, distress purchases – ie the boiler has broken down and needs to be replaced quickly. As such many small business owners will not have sufficient time to research the different heating options that are available for their building(s), explore the different ways that they may be able to fund and finance the necessary work and have enough time to undertake any necessary preparatory work (including, where appropriate, major upgrades to the energy efficiency of their building(s)).

For this reason, it will be important that, for the SME sector, significant efforts are employed to encourage voluntary action in advance of the need for a distress installation. This should include:

1. The introduction of a boiler scrappage scheme for fossil fuel boilers over a certain age in areas of the gas grid. This could include grant funding for both the replacement heating system and for energy efficiency upgrades.
2. Major communications campaigns for both SMEs and supply chains should be developed and delivered to raise awareness of forthcoming regulation.

This will need to be backed up by:

3. The availability of consistent, comprehensive and personally tailored impartial advice and support that can help SMEs make decisions as they transition to low carbon heating.
4. Significant support packages for the supply chain (see response to question 26 below).
5. Additional ways of encouraging and incentivising SMEs to plan for heating system change. This could include providing a small amount of grant funding to fund or part fund the heat pump system design. This could be accessed by SMEs with boilers over a certain age and

would ensure that, when the time comes to replace their existing boiler, their new system is already planned and they can move straight to the installation stage.

In addition, consideration should be given to:

6. The introduction of regulation at other trigger points (see response to question 23 below).

2. Timelines for implementing the proposals

2. Do the 2024 and 2026 timescales for introducing this policy provide sufficient lead in time for non-domestic off-gas grid consumers to prepare for their transition to low carbon heat?

Yes, Energy Saving Trust believes that the 2024 and 2026 timescales for introducing this policy provide sufficient lead in time for non-domestic off-gas grid consumers to prepare for their transition to low carbon heat.

A phase out date of 2024 for large buildings and a phase out date of 2026 for smaller buildings would provide non-domestic off gas grid consumers with up to 2 years (2022-2024) and up to 4 years (2022-2026) respectively to prepare.

Non-domestic off gas grid consumers will however need appropriate support from the UK Government in order to help them to prepare and this should, as noted in our response to question 1 above, include significant awareness raising activity – it is impossible to prepare for something you don't know about – which must begin as soon as possible.

3. Would an implementation date of 2024 (for large buildings) and 2026 (for smaller buildings) provide sufficient lead in time for industry to prepare for the increase in demand?

Yes, Energy Saving Trust believes that an implementation date of 2024 (for large buildings) and 2026 (for smaller buildings) would provide sufficient lead in time for industry to prepare for the increase in demand.

A phase out date of 2024 for large buildings and a phase out date of 2026 for smaller buildings would provide industry with up to 2 years (2022-2024) and up to 4 years (2022-2026) respectively to prepare.

Industry will however need appropriate support from the UK Government in order to help them to prepare (see our response to question 26 below). It is important to note that this support will need to include significant awareness raising activity – it is impossible to prepare for something you don't know about – which must begin as soon as possible.

4. Do you agree with our proposal to introduce this policy for the largest buildings first?

Yes - Energy Saving Trust broadly agrees with the proposal to introduce this policy for the largest buildings first. However, given the importance of the public sector leading by example we think that this proposal should be expanded to include all public sector buildings irrespective of their size, so that:

- Larger non-domestic buildings and public sector buildings off the gas grid are, when their heating system comes to the end of its life, required to replace it with a low carbon one.
- All other non-domestic buildings off the gas grid are, when their heating system comes to the end of its life, required to replace it with a low carbon one.

As well as providing leadership, this approach will also help to build confidence in the UK Government's approach, help to build supply chains and showcase net zero heating solutions in communities across England and Wales. In addition, public sector buildings can be key to unlocking district heating network development as they can provide significant anchor loads.

3. Proposed low carbon technologies

5. Do you agree with our proposals to take a heat pump first approach to the replacement of fossil fuel heating systems in off-gas grid non-domestic buildings?

Energy Saving Trust broadly agrees with the proposals to take a heat pump first approach to the replacement of fossil fuel heating systems in off-gas grid non-domestic buildings. As the consultation notes the UK Government's approach must favour "technologies that are energy efficient and compatible with net zero" and in this regard "heat pumps are the current leading market solution due to being highly efficient and commercially available at scale". However, we think that businesses and the public sector should be required to improve their energy efficiency at the same time as replacing their heating system.

In the section on "favouring heat pumps", the text covers the fact that the electricity demand of a building (currently powered by oil, LPG or coal) will increase if a heat pump is installed and goes on to emphasise the important role that "smart systems" will play in shifting electricity demand away from peaks. There is however no mention of the role that energy efficiency can play in reducing overall electricity demand or in reducing the contribution that businesses and public buildings make to local peak demand.

Energy efficiency 'locks in' energy saving and makes buildings not only more comfortable to work in but makes them more economical to heat (because less heat is needed). Energy efficiency also reduces system costs as there is less demand (than would otherwise be the case) on the grid. Without such a requirement there is a real risk of sub-optimal outcomes.

However, for some small businesses (including those that operate in ways similar to dwellings) it may be difficult to undertake substantial amounts of energy efficiency work at the point that their existing boiler has broken down. This should not however mean that energy efficiency upgrades are not required. Rather, it should mean that new heating systems are installed first to deal with the immediate issue of having no heating and that significant energy efficiency upgrades (which would be part of the requirement) could be installed shortly afterwards. It is important to note that this would require an acceptance that the heating systems would function sub-optimally for a very short period of time as they would be sized for a building that had had energy efficiency improvements made to it before those improvements had actually been made, in these circumstances temporary additional measures (eg the temporary use of oil filled radiators) could help to ensure buildings were not underheated.

6. Do you agree that most non-domestic off-gas grid buildings will be suitable for a heat pump?

Yes -Energy Saving Trust agrees that most non-domestic off-gas grid buildings will be suitable for a heat pump. We have no evidence additional to that provided in the consultation itself.

7. What types of buildings are likely to fall into the 'hard to treat' category?

No response.

8. What low carbon heating systems do you foresee being used as alternatives to heat pumps in 'hard to treat' buildings?

No response.

9. Will these alternative low carbon heating systems align with the net zero, sustainability, air quality and consumer experience criteria set out in the 'Alternative low carbon systems' section?

No response.

4. Untreatable buildings

10. Are there instances where both heat pumps and alternative low carbon heating technologies will be unsuitable for meeting a building's space heating and hot water demands – i.e., 'untreatable buildings'? If yes, how and when do you foresee low carbon heating technologies developing to overcome these challenges?

No response.

11. How do you foresee the costs associated with installing a heat pump in non-domestic buildings changing over the next 10 years? Please consider a range of system sizes in your response.

No response.

12. How do you foresee the costs associated with installing alternative low carbon heating systems in non-domestic buildings changing over the next 10 years (i.e., other than heat pumps)?

No response.

13. How can the government support cost reductions in low carbon heating technologies suitable for non-domestic buildings, particularly heat pumps?

No response.

14. How accurate is our indicative modelling for the cost of transitioning to low carbon heat?

No response.

15. How can we support the green finance market to develop the products and investor demand that businesses will need to fund their transition to low carbon heat?

To date, mobilising capital has been one of the greatest barriers to overcome in the transition to low carbon heat. The newly established UK Infrastructure Bank (UKIB) provides an opportunity to support investment in this transition and crucially the roll-out of energy efficiency measures. Without an explicit recognition of the importance of investing in energy efficiency, meeting these upfront costs will be entirely borne by businesses and so present a significant barrier to taking action. Using the UKIB in this way would support local authorities, businesses and financial institutions to provide products and services to unlock greener buildings and lower energy bills, create green jobs across the country, and significantly reduce emissions.

The current lack of demand from businesses has resulted in only small-scale green finance products, which have mostly been for homes. Policy and financial levers, such as concessional funding and guaranteed financing, can help incentivise businesses and provide lenders confidence to enter the market. Examples of this exist around the world, including the New York State Energy Research and Development Authority's Loan Loss Reserve programme for clean energy. If a borrower defaults, the loan loss reserve will reimburse the lender up to an agreed amount to mitigate their losses (see: https://portal.nyserda.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt000000x5aidAAA).

Long payback periods on retrofitting projects can make traditional types of finance less attractive to homeowners. There is an opportunity for the UKIB to work with actors such as the Green Finance Institute to establish a 'demonstrator project' of Property Linked Finance (sometimes known as Property Assessed Clean Energy), which helps to overcome the payback challenge by linking the finance to the property rather than the property owner, enabling a longer pay-back period.

The bank's remit includes de-risking private sector investment and helping to deliver on 2050 'net zero' emissions target. Public investment spurs additional private investment which is why it is crucial for the public sector to take the first steps and be supported in doing so. For every €1 invested by Germany's infrastructure bank KfW to incentivise renovation through interest rates and subsidies, building owners were motivated to borrow and spend €6 – while the federal government has nearly recouped its outlay through increased VAT revenue alone (calculated from Calculated from Institut Wohnen und Umwelt & Fraunhofer Institut (2018) Monitoring der KfWProgramme „Energieeffizient Sanieren"und „Energieeffizient Bauen" 2016; BFM (2016) Haushaltsgesetz 2016).

The UK should look to learn from successful models in other countries build a comprehensive and practical UK-wide programme along similar lines and kick-start investment without a significant impact on government finances.

5. Back-up heating systems

16. In what situations are fossil fuel back-up systems common and how frequently are they used?

No response.

17. What low carbon back-up solutions are available for buildings with a heat pump as their primary system?

No response.

6. Consumer protection

18. Taking into consideration existing certification schemes, are businesses adequately protected when installing a low carbon heating system up to 45-kilowatts?

Yes, we believe the Microgeneration Certification Scheme (MCS) helps to protect businesses installing low carbon heating systems up to 45-kilowatts, but there are some areas where businesses may still be left unprotected which are difficult to manage.

Adequate protection for businesses relates to the following factors:

1. Design - MCS manage the design standards and run the auditing process for the bodies managing compliance with the scheme.
2. Equipment quality - MCS manage the product standards
3. Installation quality/ workmanship – this sits with the installer who demonstrates their competence in the renewable technology sector by being MCS certified and installing a certified product. They should also be audited on installation quality and compliance to the standards on at least one or two installations each year. It is also mandatory for MCS installers to be registered with a Consumer Codes organisation which promotes consumer interests by setting out the principles of effective customer service and protection. There is a risk in this process because installers often get to choose which installations are audited.
4. Resolution of problems relating to the steps above – if there is a problem, businesses can raise their issue to the relevant ombudsman or other bodies listed on the MCS website, see: https://mcscertified.com/complaints-compliance/
5. Installers going out of business or leave a substandard installation behind – MCS can support businesses who have received a poor installation, however MCS can only support where the installer is still trading. Where installers have ceased trading, support would otherwise be limited to insurance claims

19. Do businesses that install low carbon heating systems with a capacity over 45-kilowatts require consumer protection? If Yes, how should this differ from standards available for installations up to 45-kilowatts?

We believe that businesses that install low carbon heating systems with a capacity over 45-kilowatts already have protection in the form of trading standards and the competent persons schemes within the Building Regulations to protect against substandard work.

However, the ability for end users to deal with problem installations largely depends on the scale of their business; for example, farmers may be classified as “businesses” but may not have the time or other resources to pursue sub-standard installers. Biomass and PV installation businesses have historically been prone to ceasing trade as the incentive schemes ramped down in capacity, leaving end users with no means of recompense for any poor quality work.

One solution could be a contributary insurance scheme, that would recompense businesses for remedial work on installations that did not meet the MCS requirements where the installer ceased trading. This could form part of an increased MCS installation registration fee.

7. Managing compliance

20. Do you have any views on how best to ensure compliance with the proposed regulations laid out through this consultation?

Energy Saving Trust believes that the Building Regulations are the appropriate regulatory mechanism for requiring non-fossil fuel heating system installation at the point of boiler replacement. As such, local authorities would take the primary role in enforcing compliance but would need additional resourcing to meet this new requirement.

Mandatory replacement of heating systems that have not failed prior to the relevant deadline cannot be enforced through existing building regulation mechanisms, but local authorities are the obvious bodies to enforce such a requirement. They would have additional resources to fulfil the enforcement of any new obligation of this type.

8. Other trigger points to reinforce the policy

21. What is the typical lifespan of a non-domestic heating system used in an off-gas grid building? How does this vary by system capacity?

No response.

22. What are the potential implications for businesses of introducing an end date by which all buildings must have transitioned to low carbon heating (e.g. in the early 2040s)?

Energy Saving Trust supports the proposal to end the use of fossil fuel heating in all non-domestic buildings off the gas grid in the 2040s, but this should be at the latest and we would support this date being brought forwards.

To ensure all remaining fossil fuels systems in non-domestic buildings are replaced by this time, it is vital that businesses are made aware of this as soon as possible so they can start to prepare now.

23. What are the potential implications for businesses of introducing trigger points for installing a low carbon heating system, in addition to the natural replacement cycle, such as at the point of let or sale?

Requirements to replace functioning fossil fuel heating systems with non-fossil fuel systems at the point of let or sale will be essential to ensure widespread decarbonisation in the required timescale. These will also create a process for fossil fuel replacement that can be enforced with relative ease due to the potential to build on existing processes and requirements at point of let or sale.

Impacts will be felt primarily by landlords and building owners, with costs passed on to tenants in many cases. If this is viewed as a barrier financial support should be considered to mitigate the additional cost and prompt action.

9. Equality Act 2010

24. Do you have any 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 non-domestic buildings off the gas grid?

We do not have any evidence but would strongly encourage that consideration is given to all groups affected by the proposals.

25. Do you have any views on what more could be done to ensure businesses and communities affected by our proposals experience a smooth transition to low carbon heat?

To ensure a smooth transition to low carbon heat for businesses, we recommend that significant efforts are employed to encourage voluntary action in advance of any regulation. It is important that all types of businesses are made aware of any forthcoming regulation through major communications campaigns which give businesses sufficient lead in time to make the changes that need to be made. This is especially important for SMEs, as discussed further in our response to question 1.

26. Please use this space to provide any further views not already captured in your responses to the previous consultation questions.

In this section, we want to highlight the importance of encouraging appropriate investment and transition for supply chains, as the most significant barrier for supply chains is the absence of a clear and certain market signal on the future shape of the low carbon heating market. We draw on some of the recommendations made in the heat pump sector deal report for the Scottish Government (see: https://www.gov.scot/binaries/content/documents/govscot/publications/independent-report/2021/06/heat-pump-sector-deal-expert-advisory-group-interim-report/documents/heat-pump-sector-deal-expert-advisory-group-interim-report/heat-pump-sector-deal-expert-advisory-group-interim-report/govscot%3Adocument/heat-pump-sector-deal-expert-advisory-group-interim-report.pdf) that are also applicable to the rest of the UK to support the stimulation of supply chains.

Firstly, given the current underdevelopment of the market and the strategic need to meet the demand expected for low carbon heating deployment, the timescales outlined for buildings off the gas grid to transition to low carbon heating and green financing options (explored further in our response to question 15) must be ambitious and certain. Such assurances regarding the

pace and scale of heat pump deployment in non-domestic buildings and financial support in place will provide an attractive environment for manufacturers to invest and develop an early market advantage in understanding issues facing businesses and in innovative solutions to technical and deployment challenges.

It is also key that industry and government work together to ensure the growth in the skilled workforce required to support heat pump deployment – such as incentivising additional uptake of the relevant apprenticeship pathways, creating training programmes for those coming into the industry from other sectors with some transferable skills, along with financial support whilst they reskill to avoid the disincentive of a reduced income during conversion.

Supporting the workforce is particularly important for businesses in rural areas where there are potential issues related to access to installers. For example, in Scotland current demand for heat pumps is highest in rural areas off the gas grid and will continue to be with the introduction of proposed regulation and there is evidence that lack of capacity is already a problem in some of these areas. This highlights the urgency of addressing the issue and starting to work with SME installers to grow local heat pump markets, rather than drawing on larger regional or national installers, which will also strengthen local economies.

Additionally, a holistic approach to decarbonising buildings should be promoted by tying together the need for both heat pump installation and fabric efficiency measures which will help galvanise supply chains. Energy efficiency is already employment intensive and can start being rolled out while the heat pump market evolves and catches up. This will deliver benefits to local economies throughout the UK and stimulate export opportunities.

There is a considerable opportunity in engaging with the supply chain to help stimulate the market, as well as supporting other policy goals, such as jobs and levelling up, and decarbonising the built environment