Historic England's response to the DESNZ consultation: Review of the Fuel Poverty Strategy

Question 5 – What are your views on adapting or implementing the Worst First principle, in order to maximise the number of fuel poor homes brought to Band C while ensuring that the worst homes are not left behind? Please provide any supporting evidence.

Historic England recommends that effective implementation of the Worst First principle must consider property age and nature of construction. The properties of traditional buildings are explained in detail on the Historic England website, but in general, traditional and modern buildings differ fundamentally in how they manage moisture, air and heat (Historic England, 2024a). Traditionally constructed homes require a considered and holistic approach to minimise risks of both a performance gap and unintended consequences to occupant and building health. Traditionally constructed homes can and should be improved in a way that maximises benefits for residents and protects the historic character of the building.

Recent data has been used to estimate how many traditionally constructed homes are fuel-poor. According to the updated annual fuel poverty data published by DESNZ, there were 2,733,000 households in fuel poverty in England in 2024, of which 30.5% were buildings built before 1919 (DESNZ, 2025). It can therefore be estimated that there are 833,565 fuel-poor households in pre-1919 buildings. Given the potential for under-representation of historic buildings in the English Housing Survey (which underpinned this DESNZ data), comparison of these results to Historic England's own data is of benefit. The 2025 DESNZ data reports that 17.1% of all pre-1919 buildings in the sample were fuel-poor households. Historic England's Heritage Counts indicator data reveals that 5.15 million of England's homes were built before 1919 (Historic England, 2024). When these two facts are combined, a slightly higher estimate of 880,650 fuel-poor households based in pre-1919 buildings is suggested. Therefore, an estimated 833,000 – 880,000 fuel-poor English households are in pre-1919 buildings, accounting for just under a third of all fuel-poor households.

Therefore, attempts to lift as many households out of fuel poverty as is reasonably practicable by 2030 will require a targeted approach for traditionally constructed buildings. Historic England recommends that a flexible strategy be developed, so that all homes identified through the 'Worst First' principle are assessed through the whole building approach. This approach will help to determine the best course of action for each property

and is described on the Historic England website (Historic England, 2024c). Traditionally constructed homes must be treated sensitively or attempts to solve fuel poverty with a 'one size fits all' approach could result in negative impacts, such as mould growth or damage to building fabric. However, it is also worth noting that the energy efficiency of traditionally constructed buildings is very often underestimated, particularly under the existing EPC system which is currently under review – therefore, the coming reforms to this system may change our understanding of fuel poverty in traditionally constructed buildings.

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Question 6 – What are your views on how we could better define or implement the cost effectiveness principle? Please provide any supporting evidence.

As described in Historic England's answer to Question 5, any effective attempt to tackle fuel poverty must consider that an estimated one third of fuel-poor households are based in

buildings of traditional construction (i.e., pre-1919). Historic England would like to emphasise the need to avoid a 'one size fits all' approach when it comes to the cost effectiveness principle.

There is a misconception that traditionally constructed buildings are too difficult or expensive to retrofit, with the term 'retrofitting' understood by Historic England to refer to the implementation of measures that reduce a building's carbon emissions and ensure that it is resilient to our changing climate. However, there are many ways to improve the energy efficiency and climate resilience of traditionally constructed buildings in a cost-effective manner. Effective energy efficiency interventions can include upgrading existing services, using efficient heating technology with responsive controls, fabric thermal upgrades, or installing new low or zero carbon technologies. In addition, the largest quantity of 'reasonably practicable' interventions and the best return on investment may be delivered by implementing measures in an order of priority that reflects the relative benefits, costs, and technical risks of interventions holistically, as set out on Historic England's webpage on improving energy efficiency through mitigation (Historic England, 2024).

It is essential that the cost effectiveness principle considers the fact that while retrofitting traditionally constructed buildings is sometimes seen as prohibitively expensive, many measures can be financially viable opportunities. Funding and support from government will be needed to ensure that the right resources and skills are in place to deliver these improvements. In doing so, retrofitting measures will serve to remedy the fuel poverty of those living in traditionally constructed homes, to safeguard occupant and building health, and to lower the emissions of the national housing stock.

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Question 8 – What are your views on how we could better define or implement the sustainability principle? Please provide any supporting evidence. Responses could include views on:

- **How the transition to net zero can be best implemented for fuel poor households**

- **The role of fabric first in alleviating fuel poverty**
- **The role of fossil fuels within government schemes addressing fuel poverty**
- **How smart technologies could be used to support fuel poor homes**
- **How home retrofit can support climate change adaptation**

Historic England is highly supportive of the language used in the consultation to describe the "dual challenges" and "inseparable" ambitions of tackling both fuel poverty and climate change. It is essential that these two parallel goals are connected and aligned, to ensure that measures taken to improve the energy efficiency of fuel-poor households are also contributing to the net zero mission and the climate resilience of the built environment, while not increasing the whole life carbon of buildings in the process (whole life carbon defined as the sum of a building's operational and embodied carbon emissions). Therefore, a sustainability principle is a crucial part of the Fuel Poverty Strategy.

An additional compatible goal when improving the energy efficiency of traditionally constructed buildings (i.e., pre-1919) is to protect their unique qualities. Historic England supports the development of improved regulations and standards for existing buildings, including heritage buildings and those of traditional construction, to ensure that appropriate energy efficiency measures are recommended for all buildings, while also ensuring that they are resilient to climate change hazards such as flooding and overheating.

We have provided the following views which would inform a well-designed sustainability principle:

(a) How the transition to net zero can be best implemented for fuel poor households

There are various aspects of the transition to net zero that can help lift households out of fuel poverty.

Household support is key, as increased awareness of and engagement with aspects such as the effective use of smart and low carbon technologies, as well as the importance of repair and maintenance for keeping bills to a minimum, will help to make homes more energy efficient and reduce fuel poverty. Grants for fuel-poor households should also factor this in.

The transition to net zero should also consider the embodied carbon of retrofitting measures installed to tackle fuel poverty (embodied carbon defined as the carbon emissions released during the construction, repair, maintenance, alteration or demolition of a building, including through the extraction, processing and transportation of materials). Failure to consider embodied carbon could mean that measures installed to help fuel-poor households might end up raising whole-life carbon emissions. When considering insulation options, for example, a 2021 review of the embodied carbon of insulation materials found that some emerging insulation materials can hold as much as 11.6 to 18.7 kg CO_2eq/FU (kilograms of carbon dioxide equivalent per functional unit of material) (Grazieschi et al., 2021).

To address this, the sustainability principle should include consideration of the whole life carbon of materials and systems in relation to their expected lifetime in the building and disposal and replacement, to ensure that the carbon associated with manufacturing, installation, and use will be offset. For example, a 2018 study found that the installation of an air-source heat pump will generate 1,563kg of CO_2e, but that a heat pump will save about 1,313kg of operational emissions per annum – meaning the embodied carbon debt from manufacturing and installation will have been completely offset after 18 months, so the heat pump installation will not increase the whole life carbon of the building over the long term (Finnegan et al., 2018). However, fuel-poor households should be supported in the switch to low-carbon heating, and reforms should be introduced that lower the price of electricity so that fuel-poor households do not pay more for having a low emission home. For example, Nesta has proposed that levies on electricity bills be removed, to be replaced by funding raised from general taxation – this would make electricity less expensive, thus redressing the imbalance between gas and electricity prices and making heat pumps cheaper to operate. (Nesta, 2023)

(b) The role of fabric first in alleviating fuel poverty

The term 'fabric first' is often used to describe the prioritisation of thermal upgrades to building fabric over all other interventions. In buildings of traditional construction, this is often an undesirable approach if it is not considered carefully. Upgrading fabric through the installation of insulation without considering moisture compatibility or ventilation can lead to unintended consequences such as mould growth and damp. Such risks are relevant to both traditional and modern construction when insulation is not appropriately considered or installed, as seen in the widely publicised ‘insulation scandal’ that was caused by the recent ECO4/GBIS insulation schemes (BBC, 2025) and in retrofit schemes in Preston and Wales (Historic England, 2024a).

There are many ways to improve the energy efficiency of a building, and it is best to consider all proposals in a holistic manner to ensure the building is resilient, well-adapted, and able to provide a healthy internal environment in our changing climate. Historic England advocates adopting a whole building approach (Historic England, 2024b), which is a systematic process for devising and implementing suitable, balanced, and well-integrated solutions, based on a thorough understanding of the building in its context and how it performs. This will minimise the risks of negative or unintended consequences and ensure a healthy and comfortable internal environment. It will also ensure that appropriate improvements are put forward that will be the most effective at tackling fuel poverty, while providing the best return on investment. Taking a whole building approach will produce better outcomes for both buildings and occupants, and will ensure that thermal comfort, ventilation, and air quality are all considered.

Taking this approach does not mean that all the work needs to be carried out at the same time. Some building owners will seek to make changes incrementally to their properties, while others may prefer to make several alterations at once. However, the whole building approach will ensure that the interventions are properly appraised. In all cases, a well-considered approach tailored to the needs of occupants, owners, and the building itself will ensure that the cost-effectiveness, efficacy, and durability of interventions are maximised, and that unintended negative consequences can be avoided.

Above all, regular maintenance and repair of the building fabric is essential because a building in good condition will use less energy and will therefore enjoy lower bills (Historic England, 2024c). Research undertaken by Ritson examining works carried out on twenty pre-1919 homes demonstrated that regular repair and maintenance and conservation-focused refurbishment have the potential to save between 30% and 50% of carbon emissions and up to 40% of energy consumption (Ritson, 2020). This study also found improvement of the hot water and heating system, not insulation, to be the most effective kind of “benign intervention”.

In summary, Historic England recommends adopting a whole building approach as the guiding methodology of any sustainability principle, instead of fabric first. Details about how to take this approach are available on the Historic England website (Historic England, 2024b). Whether energy efficiency measures are introduced incrementally or as a package, taking action based on a clear understanding of the building (its context and setting, performance,

usage, etc) is an approach that is more likely to produce positive outcomes than a 'one size fits all' adherence to fabric first.

(c) The role of fossil fuels within government schemes addressing fuel poverty

Historic England believes that fossil fuels and sustainability are concepts at odds with each other, especially when considering the instability taking place daily due to the climate crisis. Prioritising and encouraging the switch to low-carbon heating is a crucial part of reducing fossil fuel usage and the emissions of the built environment, and fossil fuel heating systems should only be seen as an interim measure, and ideally not given a role at all. As discussed in section (a), heat pumps can be an effective option for traditional and modern buildings alike, and they ought to be encouraged over fossil fuel heating systems for suitable fuel-poor households.

Fuel-poor households should be supported in the switch to low-carbon heating wherever possible, and reforms should be introduced that lower the price of electricity so that such households do not pay more for having a low emission home. An example of how such bill support could be delivered was explored in section (a), but support for fuel-poor properties that are difficult to decarbonise should also be considered, such as rural or traditionally constructed properties that lack the necessary connection to the grid to have a heat pump. The process of sufficiently connecting such properties to the grid will take time, but interim measures could be introduced. For example, the opportunity provided through the community benefits scheme to support low-income households to transition to low carbon heating should be considered (DESNZ, 2025).

(d) How home retrofit can support climate change adaptation

To effectively retrofit the national building stock, we must both reduce carbon emissions (mitigation) and ensure that buildings are resilient to our changing climate (adaptation). Domestic retrofit has the potential to either support or undermine climate resilience. Using a combination of mitigation and adaptation interventions can have a powerful multiplier effect and understanding how these interventions perform and interact with buildings and occupants is therefore crucial. By taking a whole building approach, as discussed in section (b), wider climate change adaptation measures can be appropriately considered and implemented.

Adaptation measures can facilitate maintenance and prevent faults developing into major defects, which lead to larger, more costly, and invasive repair works. As discussed in section (b), a building in good condition uses less energy and thus enjoys lower heating bills – repair and maintenance can therefore help to remedy fuel poverty. An example of this can be seen by adapting rainwater good systems to cope with impacts of climate change, such as more frequent and intense rainfall events or shorter but more concentrated wind-driven rain spells, especially in winter months (Historic England, 2024d). An adequately designed and installed rainwater system will keep the building dry, prevent fabric deterioration, and contribute towards optimising the building's thermal performance, and so will enable lower heating bills. Water harvesting measures could also be implemented to minimise water bills and treatment costs.

Such adaptation measures should be implemented in tandem with mitigation measures where possible, e.g., the upgrading of rainwater goods while solar panels are being installed. Taking a broader approach and considering what other works can be done while energy efficiency measures are being installed (such as adaptation measures, general repair and maintenance, etc) will ensure that more measures can be installed on fuel-poor buildings in a cost-effective way – this comprehensive approach should be encouraged where appropriate.

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Question 10 – What are your views on the factors set out above which will determine what is 'reasonably practicable' in relation to meeting the fuel poverty target? Are there any additional factors that should be considered in analysis of the number of homes that can achieve the target level by the target date? Please provide any supporting evidence.

Historic England believes that fuel-poor households in traditionally constructed buildings (i.e., pre-1919) should be included in the definition of what is 'reasonably practicable'. As discussed in our answer to Question 5, by examining 2025 DESNZ annual fuel poverty data and Historic England's own Heritage Counts indicator data, we can estimate that 833,000 – 880,000 fuel-poor English households are in pre-1919 buildings, accounting for just under a third of all fuel-poor households (DESNZ, 2025) (Historic England, 2024a).

Therefore, attempts to lift as many households out of fuel poverty as is reasonably practicable by 2030 will require a targeted approach for traditionally constructed buildings. This approach should consider how best to attract and upskill the workers needed to deliver energy efficiency measures in traditionally constructed buildings, as there is currently a lack of capacity in the sector. This conclusion is supported by recent research, which suggests that retrofitting pre-1919 buildings in England will require an additional 86,500 workers to be recruited, trained, and sustained from now until 2050, effectively doubling the existing workforce (Historic England, 2023).

Furthermore, as discussed in Historic England's response to Question 6, effective energy efficiency interventions can include upgrading existing services, using efficient heating technology with responsive controls, fabric thermal upgrades or installing new low or zero carbon technologies. The largest quantity of 'reasonably practicable' interventions and best return on investment may be most effectively delivered by implementing measures in an order of priority that reflects the relative benefits, costs, and technical risks of interventions holistically, as set out on Historic England's webpage on improving energy efficiency through mitigation (Historic England, 2024b).

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Question 11 – What are your priority recommendations for an updated plan to improve the energy performance of fuel poor homes?

To ensure that the government is able to work towards multiple goals at once when retrofitting the national building stock (tackling fuel poverty, transitioning to net zero, protecting built heritage, etc), and to ensure that the numerous pieces are in place to enable retrofitting at scale (e.g., funding, workforce, local authority support, etc), Historic England recommends the creation of a cross-cutting National Retrofit Strategy. The term 'retrofitting' is understood by Historic England to refer to the implementation of measures that reduce a building's carbon emissions and ensure that it is resilient to our changing climate.

This National Retrofit Strategy should be co-produced by DESNZ, relevant public sector bodies, and industry stakeholders. It should explain the many motivations for retrofitting the built environment (e.g., carbon emission mitigation, tackling fuel poverty, etc), and should cover skills, training, funding, standards, advice, research, and provisions for different methods and materials that recognise the properties of both modern and traditional construction (i.e., pre-1919). The Strategy should include a clear timeframe and commitment to provide certainty of investment and public focus. This approach will encourage businesses, training providers, and local authorities to build capacity and invest in both retrofit delivery and in a well-trained retrofit workforce.

The development of such a Strategy is supported by many retrofit stakeholders, including the National Retrofit Hub, and the groundwork has been laid in resources such as the 'Greening our Existing Homes' consultative document (Construction Leadership Council, 2021), and the 'Heritage and Carbon: Addressing the Skills Gap' report (Grosvenor et al.,

2023). The Mission Zero Coalition's 'Mission Retrofit' report also calls for a National Retrofit Strategy, as well as a National Retrofit Delivery Agency (Mission Zero Coalition, 2023). Historic England supports the development of a comprehensive approach to retrofit in the UK and is ready to be part of government engagement and discussion on the topic to ensure that buildings of traditional construction are part of the national retrofit vision.

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Question 16 – How could access to quality advice be improved to support the fuel poor? Where should advice be targeted?

Historic England recommends that better signposting to advice and resources is provided to help those living in fuel poverty to understand their options for improving the energy efficiency of their homes. Many living in traditional buildings (i.e., pre-1919) may not know where to start to retrofit their homes, but Historic England has plenty of free-to-access advice which can be a useful starting place, such as our 'Energy Efficiency and Your Home' webpage (Historic England, 2023).

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