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*The authors are submitting this together as members of the Fuel Poverty Evidence project, an academic collaboration co-led by the University of Leeds and Sheffield Hallam University to conduct research into fuel poverty, energy efficiency, and net zero transitions.*

**Question 1 - What policy changes are needed to deliver energy efficient homes across the UK?**

- 1. Provide more financial support to cover some/all of the purchase and upfront capital costs of insulation and other energy efficiency measures.** This is particularly crucial for households with low and moderate incomes. Budgets are now extremely stretched, and there is no capacity to invest in changes in the home. The number of new energy efficiency installations has fallen rapidly following reductions in financial support <sup>1</sup>.

Improving the energy efficiency of the UK's housing has the potential to save at least £136 billion in today's prices over 30 years <sup>2</sup>, more than offsetting the financial cost of providing a highly-subsidised insulation scheme. Taking a "whole street" approach to retrofit and following good practice developed through the Decent Homes programme would also increase the efficiency and cost-effectiveness of energy efficiency retrofits.

- 2. Expand the provision of trusted, in-person advice about energy efficiency and low-carbon heating.** Even when motivated and financially able to invest in energy efficiency, households require (a) access to trusted advice to design and cost their home's best solution (b) practical support to make those improvements happen, such as storage or alternative accommodation during implementation.

Research has shown that advice is often most effective when delivered in-person and tailored to individual circumstances <sup>3</sup>, but simple and accessible online resources are also important. Delivering advice at "points of change", such as when a boiler breaks, is also known to increase its effectiveness.

Local authorities and established not-for-profit or community organisations are among the most trusted sources of advice <sup>4</sup>, and so should be prioritised and empowered to deliver advice schemes.

Advice provision is currently very fragmented and uneven across the UK, leaving some people with limited access to such support. Advice agencies such as Citizens Advice do brilliant work, but lack the resources to provide widespread, personalised advice and are often reliant on short-term funding. The **establishment of a National Energy Advice**

**Service** would help to provide consistent, coordinated, long-term and trustworthy advice across the country, ensuring that guidance is accessible regardless of a person's geographical location <sup>5</sup>.

- 3. Make changes to planning policy and building regulations to make it more difficult to alter an existing building with attention to energy efficiency.** There are tensions between building regulations on energy efficiency and on ventilation which can make it difficult for construction firms to translate policy intentions into practical work <sup>6</sup>.
- 4. Develop and enforce specific policies for the private rented sector (PRS),** where many of the least energy efficient homes and most vulnerable people are concentrated. The current Minimum Energy Efficiency Standards for the PRS are the right idea, as for various reasons market mechanisms and information provision alone are not sufficient to drive up standards in the PRS (see answer to question 2 below). It is therefore concerning that the government is considering delaying updates to the MEES.

However, whilst the MEES regulations are a good idea in principle, recent and ongoing research suggests that in practice they are not being sufficiently enforced locally <sup>7</sup>. Interviews with key stakeholders suggests that this is largely because local authorities have not been sufficiently resourced to build the staff teams necessary to effectively monitor and inspect properties and take enforcement action <sup>8</sup>. Therefore, **providing further resources to LAs** to enable enforcement of existing and future MEES regulations is crucial. Furthermore, **introducing a National Register of Landlords** would help to speed-up enforcement of MEES, and reduce costs and time for local authorities <sup>9</sup>.

It is also crucial to **strengthen tenant rights**, to ensure that they can request energy efficiency improvements without fear of this leading to rent increases or eviction. Currently there is strong evidence to suggest that many tenants, especially the most vulnerable, are reluctant to ask for improvements due to concerns about landlord retaliation <sup>10</sup>. Practical steps that could be taken here include:

- bringing forward the ending of Section 21 no-fault evictions,
- providing tenants with clearer sources of advice on their legal rights, and
- increasing the availability of legal aid to allow people to act against unscrupulous landlords (the value Homes Act 2018 is very limited without this change).

Under the Housing Act 2004, tenants cannot be evicted for 6 months if their Local Authority issues their landlord with an improvement notice on a hazardous or dangerous property (e.g. requiring them to install insulation due to excess cold or mould in a property). Increasing this period to 12 months or longer would provide tenants with additional security and confidence in approaching their LA housing team to report faults and enforce minimum standards.

These measures could be accompanied by the provision of **further financial support or incentives to make large-scale energy efficiency retrofits economically viable for landlords**. One promising option is to allow landlords to offset energy efficiency investments against capital gains tax <sup>11</sup>. Currently, landlords may offset costs for property management, legal fees, replacement furniture, ground rent and utility bills. Allowing energy savings improvements to be included would incentivise retrofit.

Question 2 - What are the key factors contributing to the under-delivery of the UK's government-backed retrofit schemes?

1. **A lack of financial resources, especially among low- and moderate-income households**
2. **Poorly designed and targeted, and under-resourced, funding schemes.** The Green Deal is an exemplar example of this <sup>12</sup>, but energy efficiency installations have fallen dramatically since the end of the Warm Front programme in 2012 <sup>13</sup>. There are important lessons from the relatively successful Warm Front that could be applied to future retrofit schemes <sup>14</sup>.
3. **A lack of attention to the non-financial barriers and enablers of energy efficiency retrofit.** Rather than financial savings, most people are more likely to be motivated to install energy efficiency measures by comfort or aesthetics <sup>15</sup>. It is therefore important to promote and communicate the enhancements to comfort, wellbeing and home aesthetics that can be achieved through retrofit. Further barriers may relate to aversion to disruption <sup>16</sup> and lack of confidence in relation to new technologies <sup>17</sup>.
4. **A lack of awareness of an access to trustworthy, reliable advice** (see response to [Question 1](#))
5. **A lack of trusted installers.** The bureaucratic burden for contractors in energy efficiency schemes is a significant barrier, since most construction firms who are trusted for local, private householder work, are already very busy without taking on retrofit projects <sup>18</sup>.
6. **Private rented housing faces particular challenges, especially at the lower-end of the rental market that houses low-income and vulnerable groups** (see response to [Question 1](#))

Question 3 - Which standards and assessment frameworks are needed to deliver a reliable, skilled workforce capable of transitioning UK homes to modern heating solutions?

1. International analysis of vocational education required for the low carbon energy transition identified that a **broad, cross-trade understanding of how buildings work in terms of energy and ventilation was a foundational need** for every construction professional <sup>19</sup>. This is important to ensure the right materials are used for different building types, thus avoiding energy efficiency improvements leading to unintended consequences such as condensation and damp.

To ensure that training programmes value practical experience, there should be routes for **on-site learning and accreditation of existing expertise** <sup>20</sup>. The governance of the Construction Industry Training Board (CITB) could also be updated, to allow the CITB levy on helping existing construction firms upskill to be deployed in support the domestic energy transition.

There is evidence that, if a gas or oil powered boiler breaks, heating engineers are frequently recommend like-for-like replacement rather than a shift to heat pump or other low-carbon source <sup>21</sup>, and so **training on low-carbon heating technologies should be a priority**.

#### Question 4 - How might the Government support innovation in delivering local solutions?

1. National government could do better at **identifying best practice by local authorities** and sharing this. There is lots of excellent practice to learn from, but it often gets “stuck” in local areas. The **“Net Zero Go” platform** developed by Energy Systems Catapult is an excellent example of a tool that could be used to enable this. There is also opportunity to build on Innovate UK's recent place-based Net Zero Living competitions (Pathfinder Places, Pioneer Places and Fast Followers) as well as Innovate UK's extensive 'knowledge transfer network' to create a sustained community of innovation in delivery and peer learning. This programme currently focuses on local public sector actors and their target communities; it could be enhanced by finding ways to incorporate local construction supply chains.
2. Developing a National Energy Advice Service (see answer to [Question 1](#)), with offices in each region, could act to coordinate and share best practices between local authorities, installers, third-sector actors.

#### Question 7 - How will the public be able to afford the switch to decarbonised heating?

1. There is substantial diversity in the population in terms the ability to afford decarbonised heating. It is therefore better to think of "publics" in the plural rather than singular, and to develop a suit of policies that can meet the requirements of different groups.
  - a. **Subsidise the upfront capital cost of low-carbon heating technologies.** The upfront cost of purchasing and installing an air source heat pump are substantial, estimates of between £7.5k and £13k <sup>22</sup>. However, the UK government's boiler upgrade scheme only provides grants up to £5k for air source heat pumps. People on low and moderate incomes are unlikely to be able to afford the difference, especially in a context of other cost-of-living pressures. Therefore, a system of financial support that covers 100% of the upfront cost of heat pumps (including for associated works, such as new radiators) for those on lower incomes is likely to be necessary to make decarbonised heating affordable for the majority <sup>23</sup>. For the able-to-pay market, it is still important to ensure that long term affordable financing

options are available, such as “green mortgages”. As noted, this would be likely to yield cost savings to the government in the medium to long term.

- b. **Reforming energy tariffs to reduce the unit cost of electricity.** Whilst heat pumps are far more efficient than gas boilers, and so theoretically should have lower running costs if properly installed, the current system of residential energy pricing in the UK means that electricity is far more expensive than gas per kWh - partly due to various policy choices that mean taxes and levies are applied more heavily on electricity bills than gas bills <sup>24</sup>. This means that, even when consuming less energy, switching to a heat pump can actually lead to an *increase* in energy bills. Reforming energy tariffs is necessary to help reduce the cost of electricity relative to gas and thus strengthen the economic case for heat pump adoption among households and businesses <sup>25</sup>.

Options to do this include:

- (i) shifting a greater proportion of environmental and social levies onto gas;
  - (ii) removing levies from energy bills entirely and funding these costs through taxation;
  - (iii) specifically exempting the electricity used for running heat pumps from levies. It is important to note that the option of shifting levies entirely onto gas carries risks for people vulnerable to fuel poverty who currently use gas heating, and may be late adopters of heat pumps for various reasons <sup>26</sup>.
- c. **Reduce household energy demand through insulation and energy efficiency.** Reducing energy demand before switching to low-carbon heating helps to minimise running costs <sup>27</sup>. However, while insulation is ideal, it is not always essential for successful and cost-effective heat pump installation. This emphasises the aforementioned importance of ensuring households can access trustworthy expert advice to make a decision that suits their circumstances.
- d. **Remember that financial costs are not the only barrier.** Other requirements are having access to sufficient advice and support, having the legal right to install new technologies (PRS tenants need landlord permission, which they may be reluctant to ask for), and having sufficient outdoor space (ASHPs need an outdoor space with sufficient air flow). Cultural norms and ideas around “comfort” can also be important, with some ongoing research suggesting a public preference for the fast, intense heat provided by gas central heating due to familiarity <sup>28</sup>.

### Question 8 - How will decarbonisation plans be drawn up in each area?

1. **The Local Area Energy Plans** developed by Energy Systems Catapult provide a solid foundation from which to build. However, there are 3 shortcomings in how LAEP's are being developed at present:
  - a. the scenarios developed do not necessarily prioritise decarbonisation;
  - b. there is no element of co-producing these plans with consumers, and especially vulnerable consumers;
  - c. there is no read across from the LAEP to the capacity to deliver the plan in the local industry supply chains.

### Question 9 - Do the current EPC frameworks help consumers make informed decisions on transition?

1. The EPC framework has been effective in bringing energy considerations into housing discussion, and in communicating some of the main aspects of energy efficiency in homes, but it is arguably **not sufficient to support a mass step change in understanding and delivery**. If an EPC rating was complemented by a full survey dealing with ventilation/air tightness as well as thermal conductivity/insulation then consumers who are considering home improvements would be better able to take decisions which would improve energy performance. As noted in response to [question 2](#), it is also important that the benefits of energy efficiency improvements are framed in terms of comfort, liveability and aesthetics as these are the major motivators of retrofit among households.
2. However, **the ability to use EPCs and incorporate them into decision-making is currently a privilege that many people in society do not have**. Research has shown that, in the private rented market, some of the most vulnerable people in society are not able to factor EPC ratings into their decision-making. In the context of rising rent levels nationally, requirements to pay landlords upfront deposits, and reductions in housing benefit and other forms of state welfare, people on low- and modest incomes find that there is a limited spectrum of rental housing available within their budget - and competition is often fierce to acquire this. In such circumstances, checking the EPC of a property is a luxury they cannot afford, and they feel compelled to accept almost any rented home available within their budget regardless of its EPC rating <sup>29</sup>. **If EPCs are to be a meaningful and useful tool for everybody in society, more needs to be done to tackle deeper inequalities in society.**

### Question 10 - Do standards need to differ for different types of housing?

1. **Potentially, yes.** There are differences in terms of regional buildings stock and across tenancy types. Currently, up to 25% of the housing stock comprise "hard-to-treat" properties that may require different solutions and expectations in comparison to

homes that are easier or more cost-effective to retrofit <sup>30</sup>. It may be, for example, that fabric insulation is not viable or desirable in some cases and so priority should be on the correct installation of air-source heat pumps capable of high flow temperatures. As a general point, it is crucial for there to be further investigation into best-practice solutions for “hard-to-treat” properties.

2. The **social housing sector should set the gold standard** for energy efficiency and the benefits of low carbon domestic energy systems, because it is easier to influence and houses a large proportion of the most vulnerable households.

### Question 11 - What is the role of different levels of government in developing, funding and implementing schemes?

1. **Local authorities are by far the best placed to target and deliver energy efficiency and decarbonised heating programmes**, including through partnership with third-sector organisations, social landlords and community groups, due to their unique insights into their community’s needs and characteristics <sup>31</sup>. LAs have detailed knowledge of the local housing stock (including heritage considerations), connections with local trades, an understanding of the areas with high proportions of vulnerable and disadvantaged residents, and established communication mechanisms with households. This is particularly important given the value of street-by-street approaches to retrofit. Lessons can be learned from mass schemes like Decent Homes and the Retrofit Streets programme (<https://www.mcscharitablefoundation.org/retrofit-streets>).
2. **National government should nonetheless play a role in providing funding, coordination of a national energy advice service, the development of national training schemes**. National government should also develop local procurement quality-based frameworks, that can be used by private householders as well as public sector actors. This would reduce barriers to entry for new SMEs to participate in the market, provide local economic benefits, and support the development of skills and career paths.

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