

Historic England response to consultation Private Rental Sector Energy Efficiency

December 2020

Historic England acknowledges the efforts needed to minimise the impacts of the climate crisis and is investing in research and guidance to support the built historic environment to reduce its carbon footprint; we welcome the opportunity to respond to this consultation. Working alongside fellow government departments and agencies, Historic England is committed to improve energy efficiency and reduce fuel poverty by using our research and expertise to help improve the effectiveness of the current SAP and EPC for traditionally constructed buildings.

Responses to specific questions are set out below but we would like to make some overarching comments, particularly with regard to concerns about the effectiveness of the current SAP and EPC for traditionally constructed buildings (c. 20% of homes) and draw your attention to the growing body of research on the topic. We have expertise that can help fellow government departments and agencies address these concerns and develop an approach that would support improvements in energy efficiency and carbon reduction for all buildings.

Overall comments:

The PRS energy efficiency measures represent a huge investment for landlords and it is important that that investment is as effective as it can be in reducing carbon emissions, reducing fuel poverty and improving energy efficiency. The measures supported need to 1) represent the best path to reducing carbon emissions overall, 2) should not be harmful to the building occupants, and 3) should not result in maladaptation to future climate challenges (e.g. flooding, increased precipitation and overheating). As currently proposed the measures do not meet these requirements. However, Historic England would be happy to work with other government departments and agencies to develop approaches that do achieve this. The main issues currently identified are as follows:

Current SAP, Rd SAP and EPC approaches are not suitable for effective assessment of, and making recommendations for, traditionally constructed buildings. In their current form EPCs are incompatible with the holistic building approach advocated in the Bonfield review (2016) where a audit of complete buildings, rather than one based on running costs of space heating, hot water and lighting, is supported. The importance of a holistic approach is further supported by research commissioned by Historic England where it is described as a ‘whole house approach’ – this is an approach that considers the fabric, services, and occupants of a building (the building performance triangle) as well the environment (STBA 2018). It is important to note that in the PRS consultation document the term ‘whole house approach’ is used quite differently to mean carrying out a number of measures at a time across the whole building rather than a comprehensive assessment of a building’s performance. The incompatibility of EPCs and a ‘whole building’ approach is explored in detail in the STBA 2018 report jointly commissioned by Historic England and the National Trust.

It is desirable to improve energy efficiency of historic and traditional buildings in a way that is compatible with the way they perform and their historic interest. Historic England and others have extensive research over many years demonstrating that improvements in energy efficiency and reductions in carbon can be made in traditionally constructed buildings (e.g. Rhee Duverne and Baker 2013, 2015; Heritage Counts 2019; Historic England 2020, 2018, 2017, 2015; Newman 2017). Often these measures are low cost and involve minimal alterations to building fabric (e.g. see Pender and Lemieux 2020). Refurbishment of a Victorian end terrace property in New Bolsover, Derbyshire by Historic England and Glasgow Caledonian University, and associated research and monitoring of energy efficiency demonstrated that measures such as secondary glazing, loft and internal wall insulation, and insulation of the suspended timber floor could significantly reduce heat loss (Rhee Duverne 2015, 2017).

The full carbon impacts of any proposed measures should be considered. There is an opportunity and a necessity to better consider embodied carbon in buildings and factor this into assessments. The carbon cost of materials, their manufacture, transportation and installation is not currently considered. Repairing and maintain existing buildings avoids the carbon cost of new construction. Including embodied carbon in consideration of the wider carbon impacts

of measures for energy efficiency would effectively change the measure of environmental performance between modern and traditional buildings and the relative extent of further decarbonisation required. Historic England research shows that embodied carbon (i.e. generated through construction, use, maintenance, demolition or reuse) is significantly underestimated in calculations of the carbon footprint of new buildings (Heritage Counts 2019). When one considers the whole life of a building, the relative carbon footprint of an existing traditional building can compare extremely favourably against the alternative of demolition and new build. The removal of environmental impact metric removes the current limited ability to do this. Moreover, carbon calculations should include the carbon cost of measures as well as their impact upon operational carbon. When the whole life carbon cost of materials is considered, including their manufacture, transportation, installation and ability to be repaired or recycled the carbon costs may not outweigh the operational carbon benefits (Heritage Counts 2019; Duffy et al 2019). One such example is the installation of triple glazed windows, while they may improve energy efficiency of the building the carbon cost of their manufacture would increase the overall carbon footprint (Jones and Fulford 2013)

Maintenance is an essential part of improvements in energy efficiency, carbon reduction and reduction of fuel poverty and should be incentivised as part of measures to support energy efficiency. There is a growing body of evidence that maintenance is important for improving energy efficiency and reducing fuel poverty as well as increasing resilience and improving buildings' (and their occupants') abilities to cope with the challenges of a changing climate (e.g. flooding, increasingly intense rainfall and overheating) (e.g. Whitman et al 2016; APEC 2019). A building with damp walls will be less energy efficient than one with dry walls, a draughty building will feel colder than one that is not draughty (Pender and Lemieux 2020). Well repaired and maintained buildings recover more quickly from flooding (Ridout and McCaig 2017a,b). Insulating buildings without first addressing maintenance can lead to problems with damp, mould and poor air quality. Incentivising good maintenance is therefore an essential component of any measures to reduce carbon, to improve energy efficiency and reduce fuel poverty.

Maladaptation of buildings presents a real risk if SAP, Rd SAP and EPC are not improved to include appropriate understanding of traditionally constructed buildings. The application of energy efficiency measures without holistic consideration of the building performance triangle (the relationship between the building fabric, the services (electricity, water etc) and the occupants) and the building's environmental context, risk causing harm to building fabric, occupant health, and undermine its resilience to future climate challenges such as overheating and flooding (Agbota 2014; Fouseki and Cassar 2014; NDM Heath 2014; Shrubsole et al 2014; Whitman et al 2018; Pender and Lemieux 2020). While we recognise the need to act quickly to reduce carbon, many quick delivery options drive poor quality and lead to unintended negative consequences, such as the introduction of moisture (Gorse et al 2017). Increased moisture can harm building fabric, cause damp and make buildings harder to heat, it can also contribute to poor air quality and mould and be harmful to human health. As temperatures are set to rise and the temperature of the hottest summer days is set to increase at least 5 degrees (UK CP18) keeping cool in summer will become even more important and energy efficiency for cooling needs to be considered as much as energy efficiency for heating. 80% of the buildings we will have in 2050 are already built (Heritage Counts 2019) and so ensuring that work specified now does not undermine the viability of these buildings for the future is vital.

Historic England is actively researching ways to most effectively reduce carbon the built historic environment and could support government in development of EPC and energy saving measures that work for those 20% of traditionally constructed homes. Current research for Heritage Counts 2021 (due for publication Feb 2021) has reviewed SAP and EPC approaches and considered carbon reduction scenarios for the built historic environment by looking at different building archetypes and how their characteristics affect energy efficiency and the most effective measures to improve energy efficiency. Historic England is keen to work with partners, BEIS, and MHCLG to develop ways to effectively reduce the carbon footprint of the 20% of homes that date to before 1919.

Current principles for exemption for listed buildings are sound and all buildings can and should take steps to reduce their carbon footprint. Historic England is committed to working to support carbon reduction in the historic environment. Historic England would be happy to support development of approaches and the necessary skills that

ensure consistency in the application of exemptions, and improvements in EPC that made it suitable for a greater number of buildings, thus reducing exemptions.

Adequate training and standards for assessors, designers and installers. Any forthcoming PRS Regulations should incorporate a requirement for PAS 2030 certified installers and a 'retrofit coordinator' in accordance with PAS2035 for all traditionally constructed buildings whether designated or not. Listed and traditional buildings are considered to be 'hard to treat', something that is not necessarily the case but often a consequence of a lack of understanding of the way in which traditional buildings perform and the range of measures that could be implemented to reduce occupational energy use. The successful delivery of improvements in energy efficiency, therefore, requires improving the understanding of how these buildings perform and the range of measures that can be implemented to improve their energy efficiency through better training, and increasing knowledge, skills, and support.

General bibliography

Agbota, H. (2014), Anticipating the Unintended Consequences of the Decarbonisation of the Historic Built Environment in the UK, *The Historic Environment: Policy & Practice*, Vol. 5, No.2, pp.101-115, DOI: 10.1179/1756750514Z.00000000049

APEC Architects for Historic England (2019). *The Value of Maintenance? Project Report*.

Duffy, A., Nerguti, A., Engel Purcell, C. and Cox P. 2019. Understanding Carbon in the Historic Environment. Report for Historic England

Fouseki, K. and M. Cassar. 2014. Energy efficiency in Heritage Buildings – future challenges and research needs. *The Historic Environment: Policy and Practice* 5(2)

Gorse, C.A., & Glew, D., Johnston, D., Fylan, F., Miles-Shenton, D., Smith, M., Brooke-Peat, M., Farmer, D., Stafford, A., Fletcher, M. and Thomas, F. (2017) *Core cities Green Deal monitoring project – Leeds*, 2017, Department of Energy and Climate Change.

Heritage Counts 2019. *There's no place like old homes: Re-use and recycle to reduce carbon*.

<https://historicengland.org.uk/content/heritage-counts/pub/2019/hc2019-re-use-recycle-to-reduce-carbon/>

Historic England 2020. Energy Efficiency and traditional Homes. Historic England Advice Note 14

<https://historicengland.org.uk/images-books/publications/energy-efficiency-and-traditional-homes-advice-note-14/>

Historic England 2018. Energy Efficiency and Historic Buildings: How to Improve Energy Efficiency.

<https://historicengland.org.uk/images-books/publications/eehb-how-to-improve-energy-efficiency/heag094-how-to-improve-energy-efficiency/>

Historic England 2017. Energy Efficiency and Historic Buildings – Application of Part L of the Building Regulations to historic and traditionally constructed buildings <https://historicengland.org.uk/images-books/publications/energy-efficiency-historic-buildings-ptl/>

Historic England 2015. Energy Efficiency and Historic Buildings: Energy Performance Certificates.

<https://historicengland.org.uk/images-books/publications/eehb-energy-performance-certificates/>

Hurst, W. 2020. RICS urges new chancellor to slash VAT on refurbishment work. *Architects Journal* 18 Feb 2020.

<https://www.architectsjournal.co.uk/news/rics-urges-new-chancellor-to-slash-vat-on-refurbishment-work>

Jones, C and Fulford, M. 2013. Choosing low-carbon windows. *Building*, 4 Sept 2013

<https://www.building.co.uk/focus/choosing-low-carbon-windows/5060079.article> [Accessed 30 June 2020]

Kaminski, I. 2020. VAT chance: Can tax reform spur a retrofit renaissance? *Architects Journal* 16 Jan 2020.
<https://www.architectsjournal.co.uk/news/vat-chance-can-tax-reforms-spur-a-retrofit-renaissance>

NDM Heath Ltd 2014 *EXTERNAL WALL INSULATION IN TRADITIONAL BUILDINGS: Case studies of three large-scale projects in the North of England*. English Heritage Research Report

Newman, C. 2017. Reducing Energy Use in Traditional Dwellings: Analysis of Four Solid Wall Houses in Reading
Historic England Research Report Series 9/2017
<https://research.historicengland.org.uk/Report.aspx?i=15562&ru=%2FResults.aspx%3Fp%3D1%26n%3D10%26ry%3D2017%26t%3DReducing%20Energy%26ns%3D1>

Pender, R and Lemieux, D. 2020. The Road Not Taken: Building Physics, and Returning to First Principles in Sustainable Design. *Atmosphere* 11(6), 620. <https://doi.org/10.3390/atmos11060620>

Power, A. 2008 Does demolition or refurbishment of old and inefficient homes help to increase our environmental, social and economic viability? *Energy policy* 36.¹
https://www.london.gov.uk/sites/default/files/ad_52_anne_power_-_does_demolition_or_refurbishment_.pdf

Rhee Duverne, S and Baker, P. 2013. Research into the Thermal Performance of Traditional Brick Walls Historic England research Report Series 70/2013 <https://research.historicengland.org.uk/Report.aspx?i=15741>

Rhee-Duverne, S. and Baker P. 2015. A retrofit of a Victorian terrace house in New Bolsover: A whole house thermal performance assessment. Historic England research report. <https://doi.org/10.5284/1046427>

Ridout, B. and McCaig, I. 2017a. An Analysis of Drying Data from a Medieval Hall after Flooding. Historic England Research Report 14/2017.

Ridout, B. and McCaig, I. 2017b. A Preliminary Study of Flood Remediation in Hebden Bridge and Appleby. Historic England Research Report 11/2017.

Shrubsole, C. , Macmillan, A. and M. Davies 2014. 100 Unintended consequences of policies to improve the energy efficiency of the UK housing stock. *Indoor and Built Environment* 23 (3)

STBA 2018. *EPCs and the Whole House Approach. A scoping study*. A report prepared on behalf of Historic England and the National Trust.
<http://research.historicengland.org.uk/redirect.aspx?id=7341%7C%20EPCs%20and%20the%20Whole%20House%20Approach:%20A%20Scoping%20Study>

Summerfield, A. J., Raslan, R. Lowe, R. J. and Oreszczyń, T. 2011. How useful are building energy models for policy? A UK perspective. *Proceedings of Building Simulation 2011: 12th Conference of International Building Performance Simulation Association, Sydney 14-16 November*. http://www.ibpsa.org/proceedings/BS2011/P_1776.pdf

Whitman, C. Prizeman, O. and Lacey Marnacle, M. 2016. *Correlating maintenance, energy efficiency and fuel poverty for traditional buildings in the UK*. A scoping study funded by Cadw, Historic Environment Scotland and Historic England. https://www.cardiff.ac.uk/_data/assets/pdf_file/0008/1318364/Maintenance-energy-fuel-poverty.pdf

Improving the energy performance of privately rented homes – consultation questions

Introduction

Question 1: We would welcome views on possible impacts of the policy on the size of the PRS sector, the effect this could have on vulnerable households, and suggestions to mitigate this effect where it does occur, including any evidence.

Not answered

Question 2: Do you foresee any impacts for protected groups? Please provide evidence to support your answer.

Not answered

Question 3: We would welcome views on any possible long-term impacts of COVID-19 that could impact on making the required energy efficiency improvements from April 2025 and suggestions to mitigate this effect where it does occur, including any evidence.

Historic England is aware of emerging evidence for an increased loss of skills from the heritage construction sector as a consequence of COVID-19 (Guest, K. 2020. Heritage and the Pandemic: An Early Response to the Restrictions of COVID-19 by the Heritage Sector in England. *Historic Environment Policy and Practice*

<https://www.tandfonline.com/doi/full/10.1080/17567505.2020.1864113>)

Chapter 1

Question 4: Do you agree with the government's preferred new target of EER C as a minimum energy performance standard in the PRS?

There are a wide range of issues and inaccuracies with the current system that prevents Historic England (HE) supporting it in its existing form as a method to deliver effective and high-quality energy efficiency and decarbonisation of the built environment. We recognise that the EPC action plan outlines many of these and that EPC's need to provide a trusted, accurate and reliable measure of a building's energy performance, engage consumers and supports action to reduce energy use in buildings and enable consumers and third parties to access the data they need to make decisions. Current tools for assessment (EPC and SAP) are not effective at accurately measuring building performance, particularly for traditionally constructed buildings (c. 20% housing stock). HE could assist in the development of improved SAP and EPC to address the current challenges and ensure that appropriate energy efficiency improvements are made to all buildings. With more suitable tools HE would support the EER C minimum energy performance standard.

We believe the current use of the EER on EPCs as the primary tool for baselining, measuring and incentivising property owners to improve carbon emissions and decarbonising homes is not appropriate or effective for a number of reasons:

- SAP/RdSAP does not measure building performance reliably. The inbuilt assumptions on traditional building performance and occupant use are incorrect. Evidence shows that with the correct assessment methods, approach, training and support the performance of traditional and listed buildings can be considerably improved (Rhee-Duverne and Baker 2013, 2015; Newman, 2017), however, the modelling to understand their energy efficiency and the interventions to make these improvements are not included in current EPCs.
- Some recommendations (especially solid wall insulation) carry real potential for physical dangers to buildings and their occupants (Shrubsole *et al.* 2014; Agbota 2014; NDM Heath 2014) The Core Cities Green Deal Monitoring project undertaken by Leeds Beckett University demonstrated that moisture issues were overlooked or made worse in 50% of the sample (Gorse *et al.* 2017);
- Importantly, especially in the context of a policy based on a 2050 net-zero-carbon target, the carbon benefits of EPC recommendations are usually overstated, and sometimes actually negative, because SAP does not take account of the carbon cost of the measures themselves (materials, manufacture, transportation, installation) and their limited lifespan and poor reparability (e.g. many measures will need to be replaced as they cannot be repaired and often cannot be recycled or reused) (e.g. Jones and Fulford 2013; Power 2008)
- The current approach ignores the importance of good maintenance/repair and the whole life cycle of materials (circular economy, and the ability to repair rather than replace). Maintenance, repair and refurbishment are widely acknowledged in use stages of a building including in EN15978 and addressed in

documents such as the RICS professional statement 'Whole life carbon assessment in the built environment', but are absent in the context of PRS;

- The cost of measures recommended by the EPC are inaccurate and misleading as they do not include wider project costs, such as more in depth surveys, scaffolding and requirements for planning consents (Historic England could provide a case study to illustrate this);
- The new EPC does not take account of the 'building performance triangle', what Historic England and others in the heritage sector refer to as the 'whole house approach', (building services, building fabric, people and the environment. E.g. STBA 2018) and is inconsistent with the holistic approach 'set out in the 'Each Home Counts' report 2016 and subsequent new BSI standard for domestic retrofit PAS 2035 released in 2019. 'Every home Counts' 2016:20 *'Recommendation 17: All retrofit projects will have an appropriate design stage process which takes a holistic approach and adequately considers the home, its local environment, heritage, occupancy, and the householders' improvement objectives when determining suitable measures.'*
- The new EPC downgrades the existing limited focus on the EIR (Environmental Impact Rating) and omits the EIR table. The EER is an estimate of energy cost rather than carbon and disadvantages off-grid properties in a way that installation of low carbon options can result in a lower EER, thereby potentially encouraging the use of high carbon options such as oil.
- Current EER rating drives the installation of high carbon heating options in off grid properties due to the cost of oil being lower than that of LPG. Historic England and the National Trust are compiling a case study to demonstrate this. Off-grid properties on oil can reach EPC D but may not then be able to move up another EPC band without high risk, inappropriate or unfeasible interventions. Current research for Heritage Counts 2021 (due for publication Feb 2021) identifies tipping points for traditional buildings both on and off gas grid which will aid the identification of where EPC's are driving high carbon heating measures or measures that are not practicable.

Historic England would confidently support the EER C minimum standard if the tools for assessment (SAP and EPC) were:

- 1) effective in accurately measuring building performance,
- 2) accompanied by appropriate training , and
- 3) supported by a high-quality toolkit that recognised the ways in which different building types performed and could be safely, and effectively, improved.

HE could support and assist other government agencies and departments in the development of updated SAP and EPCs that would provide accurate, effective, and safe recommendations for all buildings, in particular traditionally constructed buildings. Evidence shows that with the correct approach underpinned by suitable assessment methods, training and support, the performance of traditional and listed buildings can be considerably improved (Rhee-Duverne and Baker 2013; 2015; Newman, 2017). However, neither the modelling to understand their energy efficiency, nor the interventions to make these improvements, are included in current EPCs. We can offer existing knowledge and research, and could commission further research, to assist with delivery of policy objectives (reducing carbon and decreasing fuel poverty) without negative unintended consequences.

References:

Agbota, H. (2014), Anticipating the Unintended Consequences of the Decarbonisation of the Historic Built Environment in the UK, *The Historic Environment: Policy & Practice*, Vol. 5, No.2, pp.101-115, DOI: 10.1179/1756750514Z.00000000049

Historic England 2020. *Energy Efficiency and traditional Homes*. Historic England Advice Note 14

<https://historicengland.org.uk/images-books/publications/energy-efficiency-and-traditional-homes-advice-note-14/>

Historic England 2018. *Energy Efficiency and Historic Buildings: How to Improve Energy Efficiency*.
<https://historicengland.org.uk/images-books/publications/eehb-how-to-improve-energy-efficiency/heag094-how-to-improve-energy-efficiency/>

Historic England 2017. *Energy Efficiency and Historic Buildings – Application of Part L of the Building Regulations to historic and traditionally constructed buildings* <https://historicengland.org.uk/images-books/publications/energy-efficiency-historic-buildings-ptl/>

Historic England 2015. *Energy Efficiency and Historic Buildings: Energy Performance Certificates*.
<https://historicengland.org.uk/images-books/publications/eehb-energy-performance-certificates/>

Jones, C and Fulford, M. 2013. Choosing low-carbon windows. *Building*, 4 Sept 2013
<https://www.building.co.uk/focus/choosing-low-carbon-windows/5060079.article>

NDM Heath Ltd 2014 *EXTERNAL WALL INSULATION IN TRADITIONAL BUILDINGS: Case studies of three large-scale projects in the North of England*. English Heritage Research Report

Newman, C. 2017. *Reducing Energy Use in Traditional Dwellings: Analysis of Four Solid Wall Houses in Reading*
Historic England Research Report Series 9/2017
<https://research.historicengland.org.uk/Report.aspx?i=15562&ru=%2FResults.aspx%3Fp%3D1%26n%3D10%26ry%3D2017%26t%3DReducing%20Energy%26ns%3D1>

Power, A. 2008 Does demolition or refurbishment of old and inefficient homes help to increase our environmental, social and economic viability? *Energy policy* 36.

Rhee Duverne, S and Baker, P. 2013. *Research into the Thermal Performance of Traditional Brick Walls* Historic England research Report Series 70/2013 <https://research.historicengland.org.uk/Report.aspx?i=15741>

Rhee-Duverne, S. and Baker P. 2015. *A retrofit of a Victorian terrace house in New Bolsover: A whole house thermal performance assessment*. Historic England research report. <https://doi.org/10.5284/1046427>

Shrubsole, C. , Macmillan, A. and M. Davies 2014. 100 Unintended consequences of policies to improve the energy efficiency of the UK housing stock. *Indoor and Built Environment* 23 (3)

STBA 2018. *EPCs and the Whole House Approach. A scoping study*. A report prepared on behalf of Historic England and the National Trust.
<http://research.historicengland.org.uk/redirect.aspx?id=7341%7C%20EPCs%20and%20the%20Whole%20House%20Approach:%20A%20Scoping%20Study>

Question 5: We would welcome your views on the pros and cons of these alternative metrics, in relation to our overall policy goals around reducing carbon emissions, fuel poverty, and energy bills; please provide evidence with your answer.

The EER does not measure carbon emissions and therefore is unable to provide a measurement of the contribution of these measures to the UK's ambitions to reduce carbon.

Question 6: Do you agree with the government's preferred policy scenario of requiring 'new tenancies' to reach EER C from 1 April 2025 and 'all tenancies' to reach EER C by 1 April 2028? If not, do you have alternative suggestions; please provide evidence with your answer.

Not answered

Question 7: Do you agree with increasing the cost cap to £10,000 inclusive of VAT as our preferred policy proposal? If not, please explain why not and provide evidence with your answer.

Not answered

Question 8: Should the £10,000 cost cap be adjusted for inflation?

Not answered

Question 9: Should a requirement for landlords to install fabric insulation measures first be introduced? If yes, when, and how should such a requirement be implemented? If no, what are the alternative installation methods that maximise energy efficiency outcomes? Please provide evidence to support your answer.

Historic England (HE) has concerns about the efficacy and implications of a ‘fabric first’ approach, the misapplication of which can cause harm to buildings and their occupants, and decrease buildings ability to adapt to future climate challenges such as overheating and flooding. Rather than a fabric first approach HE would support a ‘maintenance first’ approach, and would support fiscal measures (e.g. VAT equalisation) that would incentivise that. HE would prefer landlords ensure good maintenance regimes and consider those measures that are most appropriate for their buildings to achieve genuine reductions in carbon and improvements in energy efficiency. HE could support fellow government agencies and departments in developing the skills, knowledge and tools to facilitate approaches that would deliver these outcomes for historic and traditionally constructed buildings.

The ‘fabric first’ approach has been developed primarily for new builds and is not always the best option for existing buildings; moreover, for all buildings fabric improvements are only part of the solution. HE would recommend that landlords should be required to properly maintain buildings, and assess them for the best way to achieve genuine energy efficiency and carbon reduction outcomes. Every home is different and needs proper assessment to avoid unintended consequences from the application of inappropriate measures such as moisture related problems (damp, mould) and poor air quality)(e.g. see NDM Heath 2014; Historic England 2020; Agbota 2014; Shrubshole *et al.* 2014; STBA 2018).

The poor performance of traditional buildings is not inherent in their construction but rather more often due to their poor condition and lack of maintenance (Jehed *et al.* 2020). Encouraging fabric insulation measures first misses the first step where important gains that can be achieved through good and regular maintenance and fuel switching. Where insulation measures are required it is important to consider both efficacy and cost effectiveness, as well as the overall carbon cost and whole life sustainability of measures. *“Traditional houses present a unique set of energy efficiency challenges. Therefore, the energy hierarchy should not be applied in isolation. Instead, it should be regarded as an integral element of the ‘whole building approach’”*(Historic England 2020).

‘Fabric first’ measures should not be considered in isolation. We are concerned that legislating a requirement for installing fabric measures first will lead to inappropriate measures, compromising the potential gains (improvements in energy efficiency, reductions in carbon) and increasing the incidence of unintended consequences which can be harmful for occupants as well as the buildings themselves (Agbota 2014; Shrubshole *et al.* 2014). This can occur for all buildings not just those of traditional construction. Studies such as The Core Cities Green Deal Monitoring project undertaken by Leeds Beckett University showed that the ‘whole house approach’ as recommended in PAS2035 was largely missing from projects along with underlying defects, with existing damp issues remaining unaddressed (Gorse *et al.* 2017), this can lead to health problems for occupants and mean that projected improvements in energy efficiency are not attained as well as causing long term problems for the integrity of the structure itself.

The requirement of fabric measures first has the potential to obfuscate the benefits of fuel switching in some properties. The opportunity to install PV or Air Source on domestic buildings will be considered as a second option yet can bring greater benefits than internal or external wall insulation for similar investment. According to the Energy Saving Trust the average domestic solar PV system is 3.5kWp and costs around £4,800 (including VAT at five per cent).(<https://energysavingtrust.org.uk/advice/solar-panels/>). In comparison typical costs for solid wall

insulation vary from £7,400 for internal and £13,000 for external. (Based on typical semi-detached house in GB; <https://energysavingtrust.org.uk/advice/solid-wall-insulation/>)

Alternative installation methods that maximise energy efficiency outcomes:

A well-maintained property of any age performs better than a poorly maintained one. (Historic England 2020; Rhee Duverne and Baker 2014, 2015; Newman 2017). Poor maintenance minimises energy efficiency outcomes and Government should consider the wider impacts of other policies on improving energy efficiency. Effective fiscal tools that incentivise repair and maintenance could be part of this; Historic England is undertaking research that could inform development of such approaches, in particular around VAT equalisation.

The role of maintenance in ensuring an energy efficient household is often underestimated (Whitman *et al.* 2016). Ensuring a home is well maintained and in good repair is an essential first step in the 'whole house' approach (STBA 2018), and should be completed prior to (or in conjunction with) the installation of fabric measures such as insulation. The condition and performance of the existing fabric as well as services such as heating controls, ventilation, windows, and guttering, directly impacts on the ability of that building to be warm and dry. Furthermore, if these are neglected, the performance of additional energy efficiency improving measures is likely to be impacted upon (Gorse *et al.* 2017)

On the basis that the high cost of repair and maintenance for existing buildings is currently a major driver for neglect (Jehed *et al.* 2020), there would be substantial benefit to change current incentives that favour demolition and new build and level the playing field (Power 2008) to encourage those that . Renovation, repair and upgrading are acknowledged across the sector as the most significant contributor to net zero targets with professional bodies such as the RIBA and RICS are supporting this message (Hurst 2020; Kaminski 2020).

References:

Agbota, H. (2014), Anticipating the Unintended Consequences of the Decarbonisation of the Historic Built Environment in the UK, *The Historic Environment: Policy & Practice*, Vol. 5, No.2, pp.101-115, DOI: 10.1179/1756750514Z.00000000049

Historic England 2020. *Energy Efficiency and traditional Homes*. Historic England Advice Note 14 <https://historicengland.org.uk/images-books/publications/energy-efficiency-and-traditional-homes-advice-note-14/>

Historic England 2018. *Energy Efficiency and Historic Buildings: How to Improve Energy Efficiency*. <https://historicengland.org.uk/images-books/publications/eehb-how-to-improve-energy-efficiency/heag094-how-to-improve-energy-efficiency/>

Historic England 2017. *Energy Efficiency and Historic Buildings – Application of Part L of the Building Regulations to historic and traditionally constructed buildings* <https://historicengland.org.uk/images-books/publications/energy-efficiency-historic-buildings-ptl/>

Historic England 2015. *Energy Efficiency and Historic Buildings: Energy Performance Certificates*. <https://historicengland.org.uk/images-books/publications/eehb-energy-performance-certificates/>

Hurst, W. 2020. RICS urges new chancellor to slash VAT on refurbishment work. *Architects Journal* 18 Feb 2020. <https://www.architectsjournal.co.uk/news/rics-urges-new-chancellor-to-slash-vat-on-refurbishment-work>

Jehed, N and Aktas, Y. 2020. Policy Framework for Energy Retrofitting of Built Heritage: A Critical Comparison of UK and Turkey *Atmosphere* 2020, **11(6)**, 674; <https://doi.org/10.3390/atmos11060674> Accessed 22.12.2020

Kaminski, I. 2020. VAT chance: Can tax reform spur a retrofit renaissance? *Architects Journal* 16 Jan 2020. <https://www.architectsjournal.co.uk/news/vat-chance-can-tax-reforms-spur-a-retrofit-renaissance>

NDM Heath Ltd 2014 *EXTERNAL WALL INSULATION IN TRADITIONAL BUILDINGS: Case studies of three large-scale projects in the North of England*. English Heritage Research Report

Newman, C. 2017. *Reducing Energy Use in Traditional Dwellings: Analysis of Four Solid Wall Houses in Reading* Historic England Research Report Series 9/2017
<https://research.historicengland.org.uk/Report.aspx?i=15562&ru=%2FResults.aspx%3Fp%3D1%26n%3D10%26ry%3D2017%26t%3DReducing%20Energy%26ns%3D1>

Power, A. 2008 Does demolition or refurbishment of old and inefficient homes help to increase our environmental, social and economic viability? *Energy policy* 36.¹
https://www.london.gov.uk/sites/default/files/ad_52_anne_power_-_does_demolition_or_refurbishment_.pdf

Rhee Duverne, S and Baker, P. 2013. *Research into the Thermal Performance of Traditional Brick Walls* Historic England research Report Series 70/2013 <https://research.historicengland.org.uk/Report.aspx?i=15741>

Rhee-Duverne, S. and Baker P. 2015. *A retrofit of a Victorian terrace house in New Bolsover: A whole house thermal performance assessment*. Historic England research report. <https://doi.org/10.5284/1046427>

Shrubsole, C. , Macmillan, A. and M. Davies 2014. 100 Unintended consequences of policies to improve the energy efficiency of the UK housing stock. *Indoor and Built Environment* 23 (3)

STBA 2018. *EPCs and the Whole House Approach. A scoping study*. A report prepared on behalf of Historic England and the National Trust.
<http://research.historicengland.org.uk/redirect.aspx?id=7341%7C%20EPCs%20and%20the%20Whole%20House%20Approach:%20A%20Scoping%20Study>

Whitman, C., Prizeman, O. and Lacey Marnacle, M. 2016. *Correlating maintenance, energy efficiency and fuel poverty for traditional buildings in the UK*. A scoping study funded by Cadw, Historic Environment Scotland and Historic England. https://www.cardiff.ac.uk/_data/assets/pdf_file/0008/1318364/Maintenance-energy-fuel-poverty.pdf

Chapter 2

Question 10: We would welcome views on the alternative of a dual metric target to reach both EER Band C cost metric and also EIR Band C carbon metric, with an increased cost cap of £15,000 inclusive of VAT.

See previous answers for Q9 and Q4s on the appropriateness of current EPC and SAP for assessing building performance for traditional buildings.

Question 11: Should government introduce an affordability exemption? If so, we would welcome views on how such an exemption should be designed and evidenced, and any potential impacts on the PRS market.

Not answered

Question 12: What should the eligibility criteria be for an affordability exemption if it is introduced, and how can the criteria accommodate fluctuations in a landlord's finances and/or in the value of a property? Please provide evidence to support your answer.

Not answered

Question 13: Should we incorporate TrustMark into energy performance improvement works? If not, please explain why not and provide evidence with your answer.

Historic England support quality assurance for energy performance works. The Green Homes Grant with its requirement for Trustmark accreditation and PAS certification should be a helpful pilot, however the GHG is already exposing the lack of registered installers and qualified retrofit installers. Historic England would recommend that any forthcoming PRS regulations incorporate a requirement for PAS 2030 certified installers and an appropriately trained

'retrofit' coordinator in accordance with PAS 2035 for all traditionally constructed buildings (whether designated or not) and for all listed buildings.

Question 14: What role can the private rented sector play in supporting the rollout of smart meters and what are the barriers and possible solutions to achieving this?

Not answered

Question 15: We would welcome views on whether the PRS Regulations may need to be tightened further for the 2030s? Please provide evidence with your answer.

Not answered

Chapter 3 Compliance

Question 16: What are the other steps government could take to increase awareness and understanding of the PRS Regulations?

Historic England could support fellow government agencies and departments in exploring ways to improve understanding of how PRS regulations apply to traditional buildings.

Question 17: Is the introduction of a PRS property compliance and exemptions database necessary to help local authorities to proactively enforce minimum energy efficiency standards? If yes, should we include the per-property registration fee within the cost cap? If not, what alternatives to a PRS property compliance and exemption database would you suggest?

Historic England could support fellow government agencies and departments in helping create consistent approaches to exemption across local authorities.

Question 18: Do you agree that government should set a maximum total registration fee for landlords with a very large portfolio? If yes, how many properties should qualify as a "very large" portfolio? What should the maximum fee be? If you do not agree to a maximum total registration fee proposal, do you have alternative suggestions?

Not answered

Question 19: Should government seek primary powers to place a requirement on letting agents and online property platforms to only advertise and let properties compliant with the PRS Regulations? If not, please explain why not and provide evidence with your answer.

Not answered

Question 20: Should government remove the seven to twenty-one day exemption period on landlords making all reasonable efforts to provide a valid EPC prior to a property being marketed or let? If not, please explain why not and provide evidence with your answer.

Not answered

Question 21: Should government increase the level of the fixed civil penalty fine for offences under the EPB Regulations (currently set at £200)? If yes, how high should the fine be?

Not answered

Enforcement

Question 22: Should government enable LAs to inspect properties for PRS compliance? If not, please explain why not and provide evidence with your answer.

Not answered

Question 23: Should government permit local authorities to use EPC Open Data for some phases of PRS enforcement? Please provide evidence with your answer.

Not answered

Question 24: Should there be a requirement for post-improvement EPCs (and for the cost to be included within the cost cap)?

Not answered

Question 25: Should a valid EPC be in place at all times while a property is let?

Not answered

Question 26: How can the most consistent set of recommendations in the EPC be assured? Does using only the most recent SAP methodology allow this?

Using the most recent SAP methodology does not guarantee correct or successful recommendations. Much more extensive changes to SAP are required so that the EPC is based upon accurate assessment of building performance for historic and traditionally constructed buildings, and recommendations are appropriate, achieve reductions in carbon and energy efficiency, reduce fuel poverty and are compatible with a healthy building. Historic England could support fellow government agencies and departments in developing a revised SAP and EPC methodology that delivers this and is currently discussing with sector and other stakeholders how this could be achieved.

The need for SAP to measure buildings correctly is of fundamental importance. Government's new EPC Action Plan states that EPCs and their recommendations should be "accurate, reliable and trusted", "engage consumers", and "drive action". However, it is very clear from the 2018 EPC consultation, in which only 3 per cent thought EPCs reliable (Action Plan, 1.1), and only 6 per cent thought they were effective at encouraging action (Summary of Responses, 4.1), that this is not currently the case. In order to improve the recommendations in the EPC, and for them to be consistent and appropriate, they need to incorporate an understanding of traditional building performance with appropriate data and models.

Historic England has undertaken research into energy efficiency of traditionally constructed buildings in support of the Heritage Counts report (due for publication February 2021) produced for the Historic Environment Forum. This includes a review of SAP assumptions and methodology and a report from the University of the West of England 'Carbon reduction scenarios in the built historic environment' to be published February 2021.

HE is currently developing a holistic approach to reducing the carbon footprint of historic buildings. This includes changes to EPC and SAP as well as consideration of fiscal policies such as VAT equalisation. The objective is to change households' behaviour for improved energy efficiency and carbon reduction. HE would be happy to support BEIS and MHCLG in the development of SAP Methodology and EPCs that provide accurate, effective, and safe recommendations for all buildings see (Q4), and accompanying high quality training and design tools. HE is currently discussing with the heritage sector and other stakeholders how this could be achieved so that the EPC can deliver appropriate and consistent recommendations. We would welcome ways that this work could be integrated with future changes to SAP and EPC.

Question 27: Should listed buildings and those in a conservation area be legally required to have an EPC?

There are problems with the current EPCs that mean that they do not (currently) accurately reflect the energy efficiency performance of historic and traditionally constructed buildings. Historic England (HE) welcomes the improvements outlined in the EPC action plan and if EPCs and SAP are improved to reflect the performance of historic and traditionally constructed buildings HE could support a legal requirement for an EPC for all buildings. HE is already exploring (with other stakeholders including the National Trust) how best to support the creation of an updated EPC suitable for these buildings and could work with other government agencies and departments to update the existing models and assessment, and create appropriate training and toolkits for historic and traditionally constructed buildings. Having an EPC is itself not an issue but any requirements to meet certain EPC bands (without improvements to the EPC and SAP). The current principle of exemption is sound and HE could work with other government agencies and departments to provide clarity and guidance to support consistency in approach.

With an appropriate methodology, accurate assessment, appropriate recommendations (see answers to Q4, 9 and 26), and managing impact on historic significance we believe that all properties should have an EPC and should aim for energy efficiency. Our guidance and research demonstrate that energy efficiency measures can be added without negative impact on historic significance, or character of place (e.g. Historic England 2020; Historic England 2018; Rhee Duverne and Baker 2015, 2017). Further research is underway by Historic England (due for publication February 2021) into carbon reduction scenarios for the built historic environment, and the assumptions and methodology underlying SAP. This research will help inform the development of holistic approaches to energy efficiency for traditionally constructed buildings that deliver genuine reductions in carbon emissions, and improvements in energy efficiency.

While having an EPC is in itself not an issue, being legally required to meet EPC bands (without updating the assessment tools), where the measures required may place the significance of the building at risk and have negative impact upon building performance and occupant health, is. The current principle of exemption is sound, and compatible with that which underlies the Building Regulations, namely that traditional and heritage buildings should comply, but only up to the point at which compliance would 'unacceptably alter their character or appearance'. This is a sound principle and Government should not depart from it in MEES (or in Building Regulations). Historic England could support fellow government agencies and departments in providing clarity and guidance to enable consistency and transparency in the application of this principle.

As with all work to listed buildings existing guidance and standards should be followed (Building regulations, BS7913, NPPF, PAS2035) and listed building consent sought. The process of seeking and advising on listed building consent for certain interventions can provide a valuable opportunity to support the best options for the long term sustainability of the building and are not incompatible with improvements in energy efficiency and carbon reduction. Historic England could support other government agencies and departments in developing approaches that best deliver improvements in the energy efficiency of listed buildings consistently.

Currently there is a degree of uncertainty and confusion about the legal requirement for a listed building, or one in a conservation area, to have an EPC, including amongst conservation and planning officers in terms of EPC and MEES regulations. Some believe that a listed building or a building in a conservation area is automatically exempt from the need for an EPC (and therefore the need to comply with MEES). For landlords this can make it difficult to plan, undertake works swiftly and get properties back into use in areas where housing is in short supply.

Historic England believes that there is an opportunity for a new clearer and consistent approach which ensures these buildings benefit from energy efficiency improvements whilst respecting their historic significance. As our research and Technical Guidance documents show it is possible to improve the energy efficiency to some degree of any building and we support achieving the maximum possible improvement in-line with existing standards and guidance for the historic environment, rather than a rigid standard that does not accommodate the needs of traditionally constructed and historic buildings and that may drive harmful change. Achieving energy improvements requires a clear understanding of the significance of the asset, and skilled, knowledgeable practitioners within Local Authorities to guide building owners and architects. There is an overlap here with the proposals in the Planning White Paper to improve the people resources within Local Planning Authorities that could work well but it needs to be matched by improved training for Conservation Officers and Building Inspectors within Building Control Departments.

There must be a clear mechanism to ensure that all involved (landlord, tenant, Local Authority) are clear on what measures are suitable and when compliance has been met.

Question 28: Should government seek primary powers to increase the maximum fine level to £30,000 per property for each breach of the PRS Regulations? If yes, should it be adjusted for inflation? If not, what would be an alternative, appropriate maximum fine level? Please provide evidence with your answer.

Not answered

Question 29: Should government introduce powers for tenants to request that energy performance improvements are carried out where a property is in breach? If yes, how could a redress mechanism be devised?

Not answered

Question 30: Should government introduce some form of local authority disclosure or benchmarking where a property is in breach of PRS Regulations?

Not answered

Exemptions

Question 31: Do you agree that the updated exemption regime should come into force on 1 April 2025? If yes, do you agree that the property compliance and exemptions database should be opened six months prior to commencement of exemptions? If not, please explain why.

Not answered

Question 32: Should the 'new landlord' temporary exemption be simplified so that it applies to any person who has become a landlord within the last six months? Please provide evidence with your answer.

Not answered