

Edge Debate 135 - Heritage & Net Zero: A wicked problem?:

17th October 2022 – Online

- Chair:** **Steven Bee**, Consultant and former chair of The Academy of Urbanism
- Speakers:** **Paul Norman**, Clarion Housing Group
Esther Robinson Wild, Robinson Wilde Consulting
Crispin Edwards, Historic England
Peter A. Cox, Carrig Conservation International
Anna Beckett, Symmetrys
Chris Jofeh, Consultant to Arup and Chair of the independent Decarbonisation of Homes in Wales Advisory Group

Introduction

In England alone there are over 400,000 listed buildings as well as many hundreds of thousands more undesignated buildings in over 10,000 conservation areas and areas identified as being of particular national and local significance. Many of these buildings are not iconic individual properties but everyday homes and business premises in private, public or housing association ownership. Extending the definition slightly leads to almost a third of UK buildings being of what is commonly termed traditional construction, all of which are affected by the potentially wicked problem of reconciling the net zero goal with their form of construction and heritage value in a context compounded by high energy costs and risks to human health and wellbeing.

The debate brought together six key speakers from across the professions under the chairmanship of Steven Bee to consider this multifaceted topic, further informed by contributions from knowledgeable professionals and stakeholders attending online. Individual presentations, Q&A session, summarised meeting chat and additional reading and links can be found at <https://edgedebate.com/edge-events/edge-debate-135-heritage-amp-net-zero-a-wicked-problem-17th-october-2022>.

Several themes were identified during the debate together with a handful of recommendations for how the concerns raised could be addressed. These are outlined in the following paragraphs.

Main themes

Obtaining approval – a key barrier encountered by most participants seeking to upgrade heritage or traditional buildings is lack of consistency in the response to planning and listed building development applications in different parts of the UK, even between adjacent authorities. Lack of familiarity with the local process and considerations for a planning application introduces uncertainty and increased expense for applicants, whether they are a social housing provider seeking to improve the living conditions of their residents or a homeowner wanting to install PV and/or low-carbon heating. The process of obtaining consent has also become increasingly adversarial with conservation officers (and other specialists) required to advise on proposals in isolation from other policy considerations, with insufficient time or resources available for contributing their knowledge and expertise to the balanced consideration of a proposal, or, even better, to the development of an appropriate solution taking all relevant factors into account. Timescales extending substantially beyond that stipulated for determining planning applications, and further time taken up with iterations arising from requirements to amend proposals in response to Planning feedback can add many months to the determination process.

Crispin Edwards pointed out that the conservation officer resource at Local Authority level has shrunk by 49% since 2009, with 6% of Local Authorities now having no in-house access to conservation advice. He also suggested that where conservation professionals were able to be involved, bolder decisions on the treatment of heritage assets were often forthcoming. Chris Jofeh further highlighted the impracticality of expecting planning authorities to be able to handle, in a helpful and consistent manner, the enormous number of applications for consent to upgrade heritage buildings that will be

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necessary for these buildings to contribute to the UK's net zero commitment. He referred, as an alternative, to examples of locally convened multi-agency approaches such as the Local Listed Building Development Order in Port Sunlight village aimed at streamlining approvals.

Building Regulations can also be a barrier to property upgrades, as explained by Anna Beckett in her contribution. Satisfying current requirements for access, for example, may not be feasible without affecting the fabric of a heritage building and the unacceptability (or lack of financial viability) of an adaptation can lead to abandonment and the total loss of its heritage value. A balance must be found to enable buildings to stay in active use to avoid the wider loss of heritage value.

Preservation/conservation

Participants discussed the source of heritage value, including the setting and contribution to community memory and shared history. It was agreed that all buildings change and need to be allowed to change over time, with each step in their evolution adding a layer to their heritage. Preserving any individual building at a point in time is likely to lead to it being increasingly less fit for its evolving purpose, leading to decline and a consequential negative impact on its setting. Esther Robinson Wild made reference to a project in the heart of Whithorn in Dumfries and Galloway, where the high cost of heating traditional buildings had repeatedly seen young families moving away from the town's historic heart to new housing on the periphery. The project successfully returned the former Grapes Hotel to use as new energy efficient homes, bringing families back to the town centre. Although only a small example, the project offered a positive response to the risks to community and our historic urban centres of not allowing buildings to evolve to meet current needs.

Accepting that the best way to retain the historic significance of our heritage buildings and their settings is to keep these buildings in use, participants

debated the extent to which occupants should be required to modify their expectations of comfort and low running costs against modernising improvements to the energy performance of heritage and traditional buildings.

For some, living in a heritage (maybe listed) building is an aspiration and, provided they can afford it, occupants are willing to carry the extra heating costs and possibly some reduced comfort, at the risk of perpetuating higher carbon emissions. For many occupants, however, the higher cost of heating is not affordable, leading to risk of an unhealthy indoor environment and associated financial and health stress. This is particularly the case for all tenures in areas of lower property value, with private renters and low-income owner-occupiers being the least able to improve their living conditions. Whether by choice or circumstances, living or working in heritage or other traditional buildings currently results in higher CO₂ emissions, and only where all the energy required to use the building effectively is generated from net zero (or better) sources, can those buildings be net zero in use.

Embodied and operational CO₂

This led the debate to consider the relationship between embodied and operational carbon and whether it is better to keep an existing building in use (maybe without significant performance improvements) or to replace it with a new building with new embodied carbon and lower/net zero operational carbon. However, with a growing population and overall housing shortage both new (net zero ready) and existing homes are needed and all existing buildings will have to contribute, as far as they are able, to the net zero target by reducing the peak and total energy required to support the reasonable needs of their occupants. Keeping existing buildings in use is a key part of the mix, to retain their embodied carbon as well as for heritage value, but, with about a third of our buildings falling into the traditionally-built category, participants agreed that improving their energy performance is necessary to achieving a net zero future.

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Upgrading heritage and traditional buildings

The debate heard that there is a UK-wide shortage of suitably skilled tradespeople and professionals able to advise on the suitability and practicality of modifications to the fabric of heritage buildings. Tools such as RdSAP (Reduced details SAP), used to derive the Energy Performance Certificate or EPC of a building and any proposed improvement to it, do not recognise the specific character and considerations of heritage and traditional buildings and an ageing workforce, coupled with several decades where skills required for maintaining and improving older buildings have not been taught, has led to a worrying skills gap. With about 7 million older homes needing to be upgraded to meet the UK's net zero commitment, this is a huge challenge and also presents a substantial risk of inappropriate works being undertaken that result in detriment to the buildings and human health. Whilst all buildings are different and it is not always clear what the 'right' solution is for a particular building, we need to improve substantially these capabilities if the net zero challenge is to be met. Paul Norman explained how Clarion is working to upskill its Tier 2 supply chain (those engaged as subcontractors by the main contractors managing construction and retrofit projects) and Peter Cox referred to a 'massively oversubscribed' 10 unit CPD course developed by the Heritage Council in Ireland focusing on 'energy retrofitting' of traditional buildings.

Impact of climate change on heritage buildings

Finally, Peter Cox outlined the need for heritage and traditional buildings to be adapted to improve their resilience to climate change. Coastal effects and changes in ground conditions, as well as higher temperatures and more extreme weather events including higher winds, rain and snowfall, will threaten many towns and cities in the UK. Responsive adaptation measures need to be included in any guidance, training and approvals processes.

Potential solutions

- Short-term advice for reducing energy use in traditional buildings including public information on energy saving – e.g. heavy curtains, draughtproofing
- Clarifying what can be done (and is sensible to do from a building pathology perspective) without planning consent or building regulations approval – e.g. installation of electric heaters, radiant/convective/storage, loft insulation (in most cases), floor insulation, window shutters and stopping up unused chimneys. Guidance is required on circumstances and constraints. There are several sources already but may be too many and difficult to navigate. Can a decision tree/route map be produced that takes this advice as far as is safe from a building and human health perspective?
- Going beyond this to guidance for buildings in conservation areas through Local Development Orders, defining what can be done without individual permission. These should be developed collaboratively at a local level using multi-agency professionals to ensure that conservation/heritage expertise helps shape the proposals rather than simply responding to proposals presented by others. This would enable individual property owners and portfolio holders to upgrade within such areas without overloading the local planning authority. It would also enable such properties to be brought 'in-scope', practically as well as theoretically, for grant support and inclusion in programmes such as the Social Housing Decarbonisation Fund, Energy Company Obligation and Home Upgrade Grant.
- In cases where planning/listed building consent for modification is required and/or building regulations present barriers to upgrade, adopt a more collaborative approach amongst statutory consultees and include building energy/carbon performance as an additional consultee.

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- Shift the conservation mindset away from the avoidance of harm to constructive adaptation to keep existing buildings in use (reference circular economy principles and the waste hierarchy favouring re-use as the first option) whilst also reducing energy consumption, providing good indoor environment and contribution to net zero commitment. Enabling this may require a revision to the Building Regulations to provide some latitude (e.g. wrt access requirements) in the case of traditional and heritage buildings, especially where these are private homes or business premises.
- Make modifications to RdSAP (and SAP for property conversions) to better reflect the performance of elements of traditional buildings and the appropriateness/impact of certain measures. Shift from using the Energy Efficiency Rating to using the Environmental Impact (CO₂) Rating chart of EPCs as a basis for assessing contributions towards net zero.
- Modify the tax regime to remove VAT on conversion and retrofit/upgrade to existing buildings. Ideally this should be for all upgrades that keep existing buildings in use and hence reduce the risk of losing existing embodied carbon and avoid the additional embodied carbon of replacement buildings. As a minimum or first step, this could be applied to all electric heating and hot water technologies and other improvements that contribute to net zero, improved operating affordability and/or healthier indoor environment, full building conversion or to bring an unused building back into use. In the case of upgrade of dwellings, this may be qualified by a requirement for this to be a PAS2035 approved upgrade. To encourage improvements in the private rented sector the Enhanced Capital Allowances should be extended to enable private landlords to offset capital spent on upgrading residential properties and in respect of plant or machinery (e.g. heating plant) installed in them.

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