Historic England's response to the Energy Security and Net Zero Committee Call for Evidence: Workforce planning to deliver clean, secure energy

About Historic England

Historic England is the Government's statutory adviser on all matters relating to the historic environment in England. We are a non-departmental public body established under the National Heritage Act 1983 and sponsored by the Department for Culture, Media and Sport (DCMS). We champion and protect England's historic places, providing expert advice to local planning authorities, developers, owners and communities to help ensure our historic environment is properly understood, enjoyed and cared for. Historic England is firmly committed to supporting national and local government, and homeowners/occupiers and their advisors to deliver energy and carbon efficiency improvements in historic buildings.

Summary

This response will discuss Historic England's recommendations for building the workforce needed to deliver the Clean Energy Mission and to retrofit our historic built environment. The UK is home to the oldest building stock in Europe – in England, 21% of domestic and 32% of non-domestic buildings were built before 1919.[1] Therefore, the built environment cannot be decarbonised without including historic buildings. Historic England actively supports the need to retrofit our built assets and is identifying appropriate materials and techniques that benefit both building and occupant, and is working to ensure high standards of training, guidance, and regulations are in place.

The scale of the challenge is significant, and the public sector has a major role to play in driving the Clean Energy Mission and setting the national retrofit agenda. Both ambitions can only be achieved by increasing capacity in the construction sector and implementing appropriate training and standards which properly consider traditional construction methods and materials.

[1] Valuation Office Agency, 2023, Council Tax: stock of properties, Table CTSOP4.0: Number of properties by Council Tax band, property build period and administrative area as at 31 March 2023; Whitman et al, 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.

Historic England's retrofit recommendations

Historic England proposes the following recommendations to help the UK Government to build the skilled workforce needed to retrofit the UK's built environment:

- **(I) A National Retrofit Strategy** – This should be co-produced by DESNZ, relevant public sector bodies and industry stakeholders. It should cover skills, training, funding, standards, advice, research, and provisions for different methods and materials for traditional vs modern construction. 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 a well-trained retrofit workforce. The development of 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, and the 'Heritage and Carbon: Addressing the Skills Gap' report. [2] [3]

- **(II) Improve training and standards** – Current training, regulations, and standards are not fit for purpose and do not sufficiently recognise the differences between construction typologies. Understanding of traditional building performance should be embedded across construction qualifications. Building standards and competency requirements must be improved to prevent the delivery of abortive works, which result in a lack of confidence by homeowners and wasting of public finances, as seen in the works undertaken in Preston and Wales.[4] Certifying competence (through a kitemark approach or similar) would have a positive effect on customer confidence as well as the quality of works.

- **(III) Commit to upskilling** – Retrofitting will require new entrants to the construction industry and the upskilling of existing workers on a large scale; the skills gaps faced by the construction sector are particularly acute amongst those working on traditional buildings. The complexity of these barriers means that public sector intervention is required to produce upskilling opportunities that are designed and delivered locally and meet local needs.

[2] Construction Leadership Council, 2021, Greening Our Existing Homes – National retrofit strategy – A consultative document.
[3] Grosvenor, The Crown Estate, Historic England, The National Trust, Peabody, 2023, Heritage and Carbon: Addressing the Skills Gap.
[4] Historic England, 2024, Introduction to Retrofitting: When Retrofit Goes Wrong.

Question 1) Does the Government have an appropriate understanding of the skill needs to deliver the Clean Energy Mission by 2030 as well as decarbonise homes and businesses?

1a. Summary

Achieving the Clean Energy Mission is only viable if the workforce has the necessary capacity. Decarbonising the UK's energy system will require many workers who are needed both to meet the target of building 1.5 million new homes by 2030, and to deliver retrofitting. Resolving this issue will require striking a balance between priorities, and Historic England believes it would be best to focus on attracting and training the skilled workers needed to deliver on these ambitions over the next five years.

Delivering the Clean Energy Mission will require significant investment in skilled workers. Our answer to this question will include examples of significant skills gaps and how filling them will prove beneficial to the Clean Energy Mission.

1b. Heritage workforce skills needs

Several parts of the heritage industry must grow to support the development of the UK's renewable energy infrastructure. Decarbonisation will require capacity from planning officers, conservation officers, and archaeologists. Professionals in these fields are already at capacity, with many local authorities struggling to meet existing planning deadlines.

A Historic England report investigating the capacity of the historic environment workforce to deliver projects for national infrastructure development from 2015-2033 noted that the sector was already working at or near capacity, and that there was (in 2017) a projected shortage of 25-65% in the available workforce needed to service the archaeological needs of the proposed projects for this period.[5] The report used data from the *Profiling the Profession* research conducted by Landward research, and the 2020 version of this research particularly identifies skills gaps and shortages in archaeological fieldwork and post-fieldwork analysis, both required for the successful delivery of major infrastructure projects.[6]

The development of renewable energy generation and grid infrastructure in inshore and offshore marine areas for over two decades has been supported by a significant expansion of the marine heritage sector. The continued development of offshore renewables is leading

[5] Historic England, 2017, National Infrastructure Development and Capacity 2015-33: An Assessment.
[6] Landward Research, 2020, Profiling the Profession.

to shortages of marine archaeologists, geophysicists, and geoarchaeologists; ambitions to accelerate the deployment of offshore wind by 2030 will intensify skills gaps and shortages in marine heritage.

These facts demonstrate the importance of developing heritage skills to support energy infrastructure projects.

1c. Challenges of a stretched workforce

The lack of skilled professionals working in the historic environment is symptomatic of the UK construction industry's wider problem – its workforce is ill-prepared for the work that needs to take place over the coming decades. The lack of capacity in the sector is exacerbated by the competing demands on the limited number of workers. Achieving the Clean Energy Mission will require more skilled workers, such as electricians, mechanical engineers, project managers, and environmental specialists.

An insightful case study of this problem can be found in the field of building control, which needs both new entrants to the workforce and an upskilling of existing workers. The new building inspector competence framework required the registration of all building control professionals by April 2024. The numbers of Registered Building Inspectors (RBIs) at the end of the summer in 2024 highlights an imbalance among those able to certify works, since 43% are trainees that must be supervised by Class 2 or 3 Inspectors.[7] RBIs will be strained further by the 2030 housebuilding ambition because inspectors will be needed across both new homes and existing buildings.

Challenges like those facing RBIs are present across the construction industry, and demonstrate clearly that to deliver on national ambitions, the construction industry needs new entrants, funding, and time to upskill the existing workforce. In this context, it is advisable to consider which priorities are achievable over the next five years with the existing workforce capacity.

[7] Health and Safety Executive, 2024, Registration data reflects Building Control Profession's commitment to high standards.

Question 2) To what extent can the Clean Energy Mission and the retrofitting of homes and businesses be carried out by the existing workforce and to what extent will it require new entrants to the workforce?

2a. Summary

The construction sector must increase its capacity and provide opportunities to upskill the retrofit workforce, or it is unlikely that either the sector's decarbonisation targets or the 2050 Net Zero deadline will be met. This is particularly important when it comes to the retrofitting of historic buildings, as this specialist workforce does not have the capacity to meet the demand for retrofit works.

2b. Lack of historic building retrofit and planning skills

Fundamentally, the construction industry lacks the skills to effectively retrofit our historic buildings. In September 2024, Historic England published 'Skills Needs Analysis for the Repair, Maintenance & Retrofit of Traditional (pre-1919) Buildings in England'. Based on a survey of more than 700 contractors working on traditional buildings, the research found that nearly 46% of respondents were unsure if their existing skills and knowledge would be suitable for installing retrofitting measures in pre-1919 buildings.[8]

Historic England has also published regional data on the new workers needed to retrofit historic buildings across England which can be explored across regional and local authority levels via an interactive map. This tool uses data drawing on the building stock in each area, along with case studies of building typologies to show how the skills gap varies between regions, ranging from the c.5,000 workers that the Greater Manchester region needs to retrofit its pre-1919 buildings, to the 16,300 workers that Greater London needs.[9]

Historic England also recently produced the 'Historic Environment Management Training Needs Analysis 2024'. Early findings from this analysis survey of local authority planners and historic environment officers suggest that 52% of respondents required advanced, specialist or technical level training in adapting historic buildings for energy efficiency, and 41% requested training on renewable power generation. In addition to technical training, Historic

[8] Historic England and Harlow Consulting, 2024, Skills Needs Analysis for the Repair, Maintenance & Retrofit of Traditional (pre-1919) Buildings in England.
[9] Historic England, 2023, Delivering Net Zero for England's Historic Buildings: Local Data on the Demand for Retrofitting Skills and Economic Growth.

England has identified a training need for decision-making confidence in scenarios such as effectively assessing the harms and benefits of a retrofit intervention.

2c. Problems with training and building standards

The skill needs of the retrofit workforce cannot be met without addressing the shortcomings of Building Regulations, standards, and certification processes. As mentioned in our recommendation to improve training and standards, construction training is failing to meet the need for the repair, maintenance, and retrofit of historic buildings. Qualifications, standards, and training often contain little or no content on traditional building methods and materials. At the same time, specialist heritage-focused qualifications are not widely offered.

Embedding understanding of traditional building performance into mainstream construction training would help to ensure existing buildings are appropriately retrofitted. The Institute for Apprenticeships and Technical Education has been working to ensure 'green skills' are integrated into all construction route standards for some years, but despite the benefits of reusing existing buildings, this does not mean that content around traditional construction is included.[10]

While PAS2035 and 2038 acknowledge the need for understanding of traditional building performance, their overall competence requirements are low, risking the creation of two-tier entry pathways into important construction roles – for example, the established, professional chartership undertaken by surveyors compared with short courses for some retrofit roles.

Building Regulations require revision and updating, because at present they are often inappropriate for buildings of traditional construction. This issue is demonstrated by 'Approved Document L', which sets the prescribed u-value of 0.3 for external walls.[11] However, this prescription would likely cause negative consequences in a historic building, because a 0.3 u-value can only be achieved with modern materials that are inappropriate for buildings of traditional construction. This could result in decay of the building fabric and the risk of health issues for occupants.

[10] Institute for Apprenticeships and Technical Education, 2023, Green Toolkit.
[11] Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling up, Housing and Communities, 2023, Conservation of fuel and power: Approved Document L.

Many changes are needed to improve construction training and building standards, but of particular importance is the 'whole building approach', which involves holistically assessing a building's context, fabric, and usage to devise the most appropriate retrofit interventions.[12] This approach to every building must be at the centre of all standards and training related to retrofit.

2d. The need for new workers

New workers will be needed to retrofit buildings both historic and modern. As acknowledged in the Clean Power 2030 Action Plan Evidence Annex, there are risks of shortages across all key occupations, and these are exacerbated by the lack of trainers, assessors, and effective routes to competence.[13]

The demand for new workers to retrofit historic buildings in England will be particularly significant. Recent research has suggested that retrofitting pre-1919 buildings will require an additional 86,500 workers to be recruited, trained, and sustained from now until 2050, effectively doubling the existing workforce. Within this, 12,000 should be electricians, and 11,800 should be plumbers and heating/ventilation installers.[14]

Retrofitting buildings also requires more workers in Local Planning Authorities (LPAs) to approve works. In 2023, Historic England undertook a survey with local authority building conservation staff, which produced the following findings:

1. 59% of respondents said that the volume of casework involving decisions, advice, or pre-application enquiries about retrofit had increased over the last year.

2. In relation to specific measures, respondents said that solar panels (78%) and double/triple/secondary glazing (75%) had seen the largest increases in casework.

3. When asked on a scale of 1 to 5, where 1 is 'not at all confident' and 5 is 'very confident', only 16% said their staff were very confident in responding to retrofit casework.[15]

[12] Historic England, 2024, Energy Efficiency and Retrofit in Historic Buildings: Whole Building Approach for Historic Buildings.
[13] Department of Energy Security and Net Zero, 2024, Clean Power 2030 Action Plan: A new era of clean electricity – Assessment of the clean energy skills challenge – Evidence annex.
[14] Historic England, 2023, Delivering Net Zero for England's Historic Buildings: Local Data on the Demand for Retrofitting Skills and Economic Growth.
[15] Historic England, 2023, Series 2 Issue 3: Report on Local Authority Historic Environment Staff Resources 2023.

These results paint a clear picture of a growing retrofit workload for local planning authorities, but also of a lack of confidence in effectively managing these demands. More funding is needed for local authorities to recruit more staff, and for training providers to upskill existing staff. For example, Historic England has created a programme of climate-related training for local authorities to address the skills gap, but more funding is needed to expand this offer.[16]

2e. Recommendations

The scale of the retrofitting challenge means that we need to upskill the existing workforce and create a pipeline of new entrants to the sector. We have demonstrated how there are significant shortages of necessary workers in both construction trades and in local planning authorities, and this limited and less-skilled workforce will become even more stretched over the coming years.

Historic England is concerned that by not providing the correct resources or commitment to improve the retrofit sector, public finances will be wasted on abortive, inappropriate works and the sector will fail to meet the 2050 Net Zero target. Historic England wishes to ensure that best practice and appropriate materials are understood across the construction sector, as this will ensure that historic buildings are appropriately adapted. Historic England also has the technical understanding to support the review of regulations and standards, and to ensure that retrofit considers wider adaptation requirements to the changing climate.

Therefore, **(I) a National Retrofit Strategy** is needed to attract new workers. By demonstrating commitment, the public sector can boost demand which should lead to greater recruitment (although this projected recruitment must be considered alongside the requirements of decarbonisation and housebuilding). The proposed Strategy should also **(II) improve training and standards** and **(III) commit to upskilling** to produce the skilled workforce needed to deliver the retrofit of historic and modern buildings. By committing to fund upskilling programmes, the government can stimulate the uptake of effective retrofit education. Such programmes should include the different methods and materials of traditional vs modern construction, ensuring that existing buildings are retrofitted appropriately and that the retrofit demand can be met. Furthermore, this Strategy could contribute to the housebuilding ambition by planning for the workforce needed to adapt existing buildings for habitation. Historic England research in 2024 found that the repair and

[16] Historic England, 2024, Training.

repurposing of currently vacant historic buildings (pre-1919) in England could provide between 560,000 and 670,000 additional residential units of varying sizes.

Furthermore, one upskilling option could be the use of the new Growth and Skills Levy for a wider range of training by employers, so that it can be used for educating existing and new workers. We also recommend that local support is made available to enable place-based retrofit schemes that bring together skills and capital investment. The procurement of area-based schemes offers an effective way to build local demand and create skills pipelines that provide businesses with the certainty needed to build capacity. Such locally focused initiatives are explored in the 2023 Heritage and Carbon report.[17]

Question 4) How can the new Office for Clean Energy Jobs contribute to workforce planning in the energy sector?

Historic England has five recommendations for the Office for Clean Energy Jobs:

a) Provide greater funding and support for statutory bodies – Arm's-length Government Bodies such as Historic England and Natural England are likely to see an increase in demands on their time, knowledge, and skills over the coming years to support on energy infrastructure projects that affect the historic or natural environment. The new Office must recognise such bodies as essential stakeholders in the Clean Energy Mission and support them accordingly to grow their capacity.

b) Collaborate with accredited organisations – It will be important to work with the accredited organisations that support professions needed for decarbonisation. This is likely to include organisations such as CIBSE, RICS, IStructE, and others. The new Office should collaborate to ensure that all professionals are appropriately trained for the task and that their organisations are accountable for any inappropriate actions. This should also be the case for retrofit professionals, who often lack an overarching organisation.

c) Engage with employers – The success of new qualifications and training will depend significantly on the buy-in of the construction industry. The new Office should ensure that employers are supportive of changes and encouraged/funded to allow their employees the necessary time to upskill and train.

[17] Grosvenor, The Crown Estate, Historic England, The National Trust, Peabody, 2023, Heritage and Carbon: Addressing the Skills Gap.

d) Work with further and higher education providers – Universities, colleges, and apprenticeship providers are crucial for training the skilled workers needed for the Clean Energy Mission. Collaborating with these providers will ensure that new workers are suitably trained, and that the existing workforce has opportunities to upskill. A broad suite of qualifications should be considered, including heritage apprenticeships and heritage skills.

e) Encourage the creation of roles with transferable skills – Another way to ensure workforce growth is to avoid segregation of work, which results in fluctuations of activity. For example, flood resilience work only occurs before or after a flood, but such work includes many of the same skills needed for fire prevention or energy efficiency. If the new Office enabled workers to transfer their skills to different areas of work, supported by flexible and desegregated funding streams, demand for such workers would grow, creating more roles with increased job security.