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Climate Change Adaptation and Retrofit

Katie Parsons, Team Leader
Development Advice London



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The role of heritage in supporting adaptation to climate change

Historic buildings are sources of embodied carbon. The reuse, refurbishment and retrofit of existing buildings, rather than their demolition, can optimise embodied carbon. The longer we use our existing buildings for, the less carbon needs to be omitted through the construction of new buildings.

The trades associated with retrofitting and maintaining historic buildings can nurture the skills needed for a green economy.

Looking after and learning from the historic environment, can contribute positively to overall global sustainability and can help us adapt to and mitigate for climate change.



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Risks of doing nothing

Not harnessing the historic environment to support the fight against climate change and to support the adaptation to a changing climate risks:

- Adversely impacting the resilience, longevity, and usability of heritage assets.
- Contributing to the build up of carbon dioxide in the atmosphere which is leading to increased extreme weather events such as heavy rainfall and drought, as well as rising sea levels. Both factors are already impacting on heritage sites in England.



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Misconceptions

- That heritage is a barrier and you can't retrofit listed buildings.
- That approaches/theories/principles of conservation are incompatible with adaptation.
- That Listed Building Consent is difficult to get.
- That any retrofit measure is a good one. They need to be the right ones for the building, the source of inefficiency, and long-term vulnerabilities e.g. overheating.
- That once a measure is installed that is enough. Retrofit measures need to be maintained and monitored to stay effective. It is also helpful to consider reversible measures so as not to prejudice the potential for future adaptations as technologies evolve and improve.



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Common mistakes made in retrofitting historic buildings

- Lack of specialise consultants and contractors who understand how historic buildings and materials function.
- Making assumptions about the building and how it operates.
- Lack of a long term vision for the building or evidence based solutions .
- Considering only operational emissions and savings.
- Fabric first vs Whole House approach: Old buildings are very variable and there is no 'one-size-fits-all' solution to retrofit traditional buildings. The 'whole house' approach considers the interrelationship between the occupants, the building fabric and the services of individual buildings. It aims to find bespoke balanced solutions that save energy, sustain heritage significance and maintain a healthy indoor environment. Historic England has produced a webinar on the Whole House approach to retrofit which can be found here: [\(https://historicengland.org.uk/advice/technical-advice/retrofit-and-energy-efficiency-in-historic-buildings/\)](https://historicengland.org.uk/advice/technical-advice/retrofit-and-energy-efficiency-in-historic-buildings/)



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Risks of poor retrofit:

The maladaptation of historic buildings caused by poor retrofit solutions can:

- Harm building fabric and heritage significance.
- Harm human health.
- Fail to achieve predicted savings or reductions in environmental impact.
- Increase fuel poverty.



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Positive Action

- Good maintenance and repair is crucial. Many retrofit measures success depends on good maintenance, both prior to installation and afterwards.
- Consider light touch, inexpensive solutions first.
- Take the time to plan efficient measures and don't rush, especially when it comes to deep retrofit. It is better to get it right once and avoid the waste of time, money and carbon involved in removing work.
- Early engagement with Local Authority and Historic England.
- Monitoring of retrofit measures. This will provide invaluable data as to what works well and what measures fail.
- And, consider occupier behaviour.



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What Hackney can do:

- Develop detailed and specific local plan policies based on effective, sound, locally specific evidence.
- Encourage reuse/retrofit/repair of existing buildings and resist demolition.
- Make use of Historic England's extensive guidance and existing evidence bases (see following slides).
- Produce additional supplementary guidance for home and business owners. One of the biggest demands we see from the public and applicants is the need for guidance.
- Explore the use of multi-disciplinary, cross-representative working/steering groups (e.g. private sector architects, local residents groups, Council housing team/building control/sustainability/planning/conservation officers) to share perspectives and understanding, nurture innovative solutions.



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Other planning mechanisms

- **Local Listed Building Consent Orders:**

Historic England supports the production of LLBCOs. These can be helpful tools to manage common changes to listed buildings if they are well-crafted, have adequate detail, and are based on sufficient evidence. It is important that they have limited conditions requiring the submission of details in order to make it easier for building owners to upgrade their buildings appropriately, and to reduce the number of applications that local authority staff have to deal with. They will be an upfront resource implication to set these up, but in the long-term should save resources by reducing application numbers.

- **Heritage Partnership Agreements:**

These are similar to LLBCOs, but are instead instigated by applicants. They can be used over wider areas (such as the Kings Cross regeneration development), large estates, or large buildings that see repetitive applications e.g. historic department stores.



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Historic England emerging Climate Change guidance

Historic England recently published a draft Advice Note for consultation: [climate change historic building adaptation consultation draft](#). It aims to provide clarity and to support consistent decision-making for proposals to reduce carbon emissions and improve the energy efficiency of historic buildings, while conserving their significance and ensuring they remain viable places to live in the future. It reflects current national planning policy.

The consultation closed in late December. We hope to have a finalised draft shortly.



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Historic England resources

We already have an extensive collection of material to support building owners and the heritage sector. This includes:

- recorded webinars on a range of technical issues relating to heritage and climate change: [webinars](#).
- Energy Efficiency and Your Home: [energy efficiency](#).
- Historic England Local Data on the Demand for Retrofitting Skills and Economic Growth [delivering net-zero demand for retrofitting skills](#).
- Heritage Counts – research and data on carbon and the built environment : [carbon in built historic environment](#).
- Our Climate Change and the Historic Environment training programme aims to deepen understanding of the role that the historic environment can play in climate action, aiding the deployment of existing and emerging government policies, legislation and good practice on climate change. It is aimed primarily at local authority historic environment services, planning officers, other professionals and heritage organisations whose advice-giving or decision-making affects the historic environment. It can be found [here](#).



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Sustainable Traditional Buildings Alliance (STBA)

Historic England is one of the supporting organisations that make up the STBA, a forum for sustaining and improving traditionally constructed buildings.

- The [STBA's website](#) offers guidance on:
- [Planning Responsible Retrofit of Traditional Buildings](#). This guidance looks at the complexity in the way older buildings, new technologies, nature and people all perform and interact. By taking a whole-building approach risks and liabilities can be reduced.
- [The Responsible Retrofit Guidance Wheel](#). The guidance wheel is an interactive tool which lets you look at how over 50 measures interact and the risks to consider before installing.
- [STBA Whole House Approach](#). This guidance outlines the whole-building approach to retrofit which takes a holistic approach based on the context of the building taking account uncertainty, the complexity of interactions and conflicting values.