Buckinghamshire Historic Environment Forum minutes

Minutes of the meeting of the Buckinghamshire Historic Environment Forum held on Thursday 14 September 2023 in Room 1.25, Civic Offices, Milton Keynes City Council, 1 Saxon Gate East, Milton Keynes, MK9 3EJ, commencing at 2pm and concluding at 3:45pm.

Members present

Cllr R Bradburn, Cllr P Brazier (Vice-Chairman), Cllr B Chapple OBE (Chairman), Cllr C Hall and Gary Marshall (Buckinghamshire Archaeological Society)

Others in attendance

E Alqassar, N Crank, J Horton, P Markham, S Peart

Agenda Item

1 Election of Chairman
RESOLVED

Members of the forum voted to confirm Councillor B Chapple OBE as Chairman for the ensuing year.

2 Apologies/Changes to membership
Members heard apologies from the following:

- Councillor Thomas Hogg
- Councillor Clive Harriss
- Briony Hudson (Amersham Museum)
- Charles Pugh (National Trust)
- Michael Woods (Buckinghamshire Conservation Trust)
- Wendy Morrison (Conservation Board for the Chilterns AONB)

3 Declarations of interest
There were none.

4 Minutes of the last meeting
RESOLVED

That the minutes of the meeting held on Thursday 9th March 2023 be agreed as a correct record.

5 Chosen Focus: Climate change measures and the historic environment in Buckinghamshire

Joanna Horton (Heritage & Archaeology Team Leader) and Eliza Alqassar (Historic & Built Environment Manager) gave a presentation to the forum detailing the efforts that have been undertaken to ensure that listed buildings were adapted to cope with new energy efficiency measures and flood defences, and how archaeological sites were being impacted by tree planting projects and solar farm installations. The slides would be appended to the minutes of the meeting. The following key points were raised in their presentation:

Solar Farms

The traditional installation methods for solar farms (involving grounding panels by driving poles into the ground, and running underground cables to carry electricity) created various opportunities to disrupt and damage sites of potential archaeological interest. The Heritage and Archaeology team recommended t geophysical surveys at solar farm sites, followed by targeted trenching to identify the location of buried archaeological remains.

This had been undertaken at the Fox Covert Solar Farm near Adstock and Great Horwood, following the granting of planning permission in June 2021, where a geophysical survey and subsequent trenching found Iron Age roundhouses on site. The identified area was then removed from the solar farm scheme in order to preserve it.

Alternative solar farm installation methods mitigate the risk of damage to archaeological sites. These include grounding solar panels with concrete slabs and weights as opposed to driving poles into the ground and suspending the electric cables underneath the panels as opposed to running them underground.

Tree Planting

Buckinghamshire Council had committed to planting 543,000 trees by 2025. Much of this planting would take place in rural areas where the archaeological potential was less well known, including on some sites featuring medieval ridge and furrow.

One such site included an area designated for planting as part of the Wing Woods project, where archaeological features were identified. Those areas were removed from the tree planting scheme, with a ten-metre planting buffer zone around the archaeological remains in a manner that was suitable for both the planting project team and the heritage team. The remains would be left preserved in situ.

Built Heritage

The presentation also highlighted examples of listed buildings which had undergone retrofitting to ensure their resilience in the face of new natural threats related to climate change, such as flooding. This included The Queens Head in Chesham, which

had had flood defences installed, as well as air source heat pumps.

The presentation also demonstrated how solar panels had been installed on a hidden area of the roof of a listed building in Brill, which allowed for easy maintenance without risk of damage to the building's original fabric, thus protecting the fabric and character of the building. It was suggested that crown roofs were best suited to this.

It was explained that high profile cases of this retrofitting, often on well-known historic and listed buildings, acted as the catalyst for the wider effort elsewhere, as the public became aware of it. One such example being the installation of solar panels across the roof of Kings College Chapel in Cambridge.

Embodied and Operational Carbon

Much of the media coverage of newer development had focused on operational carbon emissions, produced over the lifetime of an older building as compared with a newer building. It was the view of the heritage team that a more holistic approach, which also assessed embodied carbon produced prior to and during the construction of newer buildings would offer a means by which existing buildings could contribute towards the effort to reduce carbon emissions through retrofitting as opposed to demolition and reconstruction.

The Energy Performance Certificate (EPC) calculations used to assess the energy efficiency of buildings assumed that a building was constructed with a cavity wall, and was therefore disproportionally inaccurate for many historic buildings, which did not have them, but when considering other factors would perform as well as those which did. The use of Lime in particular was identified as a reliable, and sustainable material to use on walls where existing plaster was crumbling.

When looking to retrofit or renovate older buildings, the advice was to avoid shying away from the 'quick wins' such as basic maintenance and repair work that would compromise the physical appearance and character of the building. More involved improvements and upgrades included overhauling windows, replacing falling cement with lime render, and boiler upgrades.

Following questions, Joanna confirmed that historically, the Heritage team had not normally been asked to comment on sustainability factors relating to planning applications. Including them as a consultee, as well as the climate change team in future cases would facilitate the joined-up thinking required to preserve heritage sustainability moving forward.

Simon Peart (Conservation and Archaeology Team, Milton Keynes City Council) confirmed that embodied carbon policies would be included in the New City Plan.

Members thanked Joanna and Eliza for their presentation.

6 Update From Members and Partners

The forum received verbal updates from external partners on their ongoing work. The following partners updated the forum:

Phil Markham - Senior Archaeology Officer (Buckinghamshire Council)

Phil drew attention to the report circulated with the agenda pack which gave a detailed summary of the work his team were undertaking. And summarised the following key points:

Much of the fieldwork in relation to HS2/Fusion sites had been completed, with a number of sites continuing to be monitored during the construction phase.

The excavations at the site of the South-East Aylesbury link Road developments had now been underway for over a year, with the first phase due to be completed soon. Evidence of a Roman settlement had been found there.

A further phase of evaluation had been completed at the Hampden Fields development between Aylesbury and Weston Turville. Locations for excavation work had been identified, and this was likely to begin during the autumn.

A cache of 3 eggs was discovered in association with a basket, pottery vessels, coins, leather shoes and animal bone at the Berryfields excavation site a number of years ago, all dating to approximately the 3rd Century AD. One of the eggs was intact and scans confirmed that there was liquid still inside. The egg is currently at the British Museum.

Nick Crank - Archaeological Officer (Milton Keynes City Council)

Nick directed attention towards the update document circulated earlier with the agenda pack and reported the following:

A third phase of excavations was underway at the MK East Strategic Urban Extension. Findings were in keeping with expectations following earlier geophysical surveys, with a key find being evidence of a late Iron Age to Roman settlement complex to the east of the A509 Newport Road.

Following examinations of the roof structure at the Grade II listed Old Bakehouse, High Street, North Crawley, it emerged that it was likely that the house had been of open hall layout, and possibly built much earlier than the 17th Century, as had previously been thought. It was possible that the listing of the building would be revised in the wake of this discovery.

A late Roman building had been uncovered following excavation works by Oxford Archaeology at the Warrington Road site to the north of Olney. The site also included a large mosaic, which will be left in situ, and the planning permission will include a condition for its preservation.

Milton Keynes Archaeology Day would take place at the Central Library on Saturday 4th November. There would be talks related to ongoing excavation works as well as information stands, displays and activities.

Simon Peart - Conservation and Archaeology Team (Milton Keynes City Council)

Several schemes were being developed and implemented to retain and repurpose old buildings in central Milton Keynes as a means to mitigate the embodied carbon emissions caused by the development of new buildings.

Simon gave details on a few examples including Station House, and Saxon Court. It was explained that schemes such as these normally involved conversion to residential use, with an upgrading of their thermal performance.

Councillor Charlotte Hall - Milton Keynes Heritage Association

Charlotte gave an overview of the Heritage Association, explaining that seventy heritage groups were affiliated, and were given help to catalogue and archive their collections properly. Over two hundred and twenty events, open days and activities had been put on. The primary focus of the association was promoting education related to local heritage, and engaging with younger generations to develop a continuing interest in the future.

Gary Marshall - Buckinghamshire Archaeological Society

The Buckinghamshire Archaeological Society was working on volume 64 of their journal, which would be published in May 2024. The journal would cover reports of discoveries from recent archaeological excavations, historic buildings, local and industrial history and all aspects of times past across Buckinghamshire.

Efforts had been made to digitise and publish historic editions of the journal going back over 150 years. Many of the currently available editions were available on the BAS website

The Active Archaeology Group were excavating at the 'Ha-Ha', Gt Linford for a third year.

7 Date of the next meeting

It was noted that the date of the next meeting would be 16th April 2024. A venue for the meeting would be communicated in due course.

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Climate change measures and the historic environment in Buckinghamshire

Eliza Alqassar and Joanna Horton, Buckinghamshire Council

14th September 2023

How are climate change measures impacting the historic environment?

- Solar energy
- Tree planting projects
- Retrofitting historic buildings
- Embodied carbon

Solar farms

- Often large-scale, with landscape and archaeological impacts
- Panels fitted with piles, which can damage buried archaeology
- Associated infrastructure (electrical inverters, battery storage, buried cabling and access roads) can also be damaging
- Our approach – geophysical survey followed by targeted trial trenching
- Consider impact on historic landscape

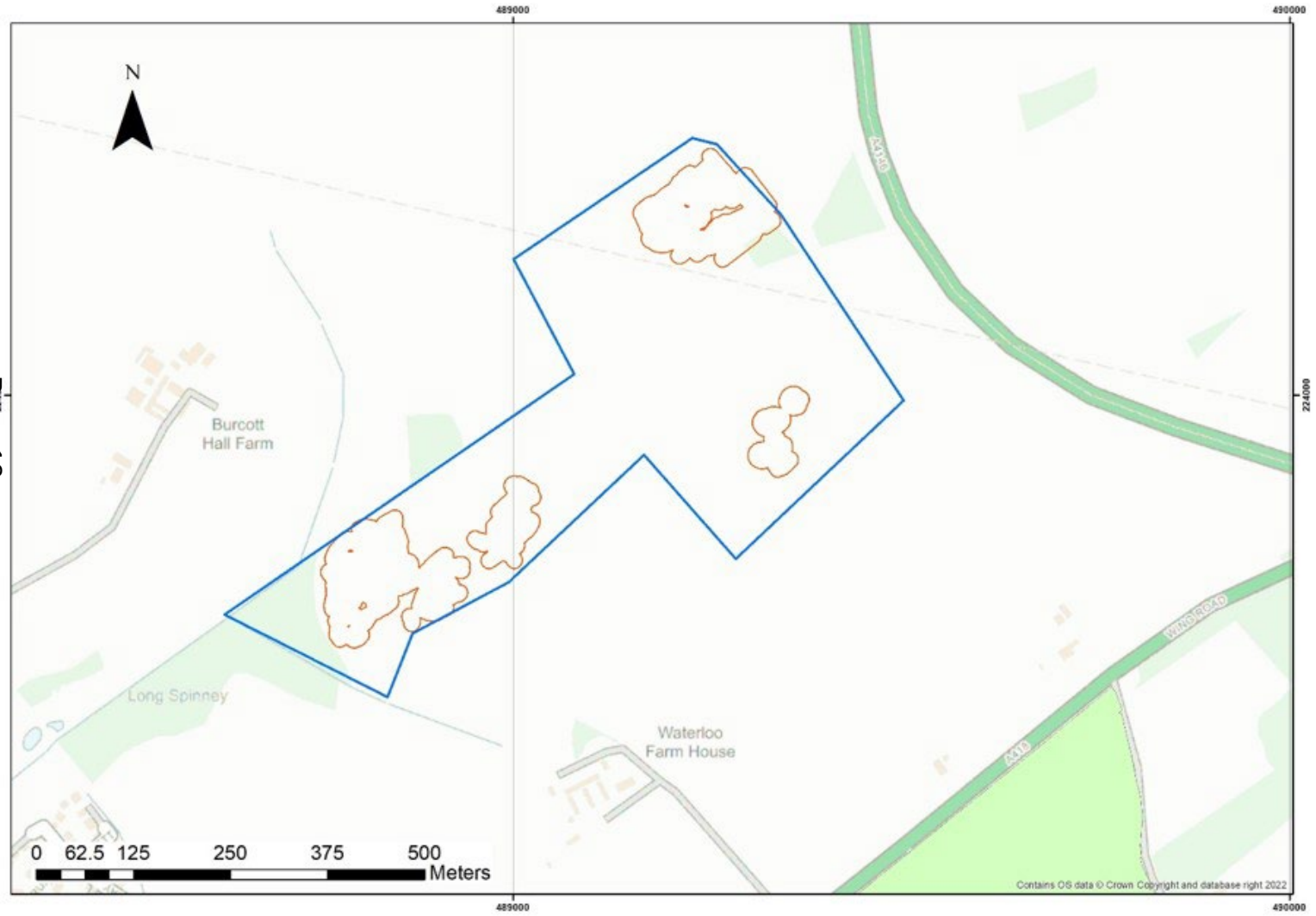
Fox Covert Solar Farm, Little Horwood Airfield, Adstock

- Archaeological work carried out as a condition of planning consent.
- Large site covering 46 hectares across six fields
- Geophysical survey of whole site followed by 4% trenching (342 trenches)
- An Iron-Age – Roman rural settlement including at least one roundhouse was discovered, which was excluded from the development area

Tree planting projects

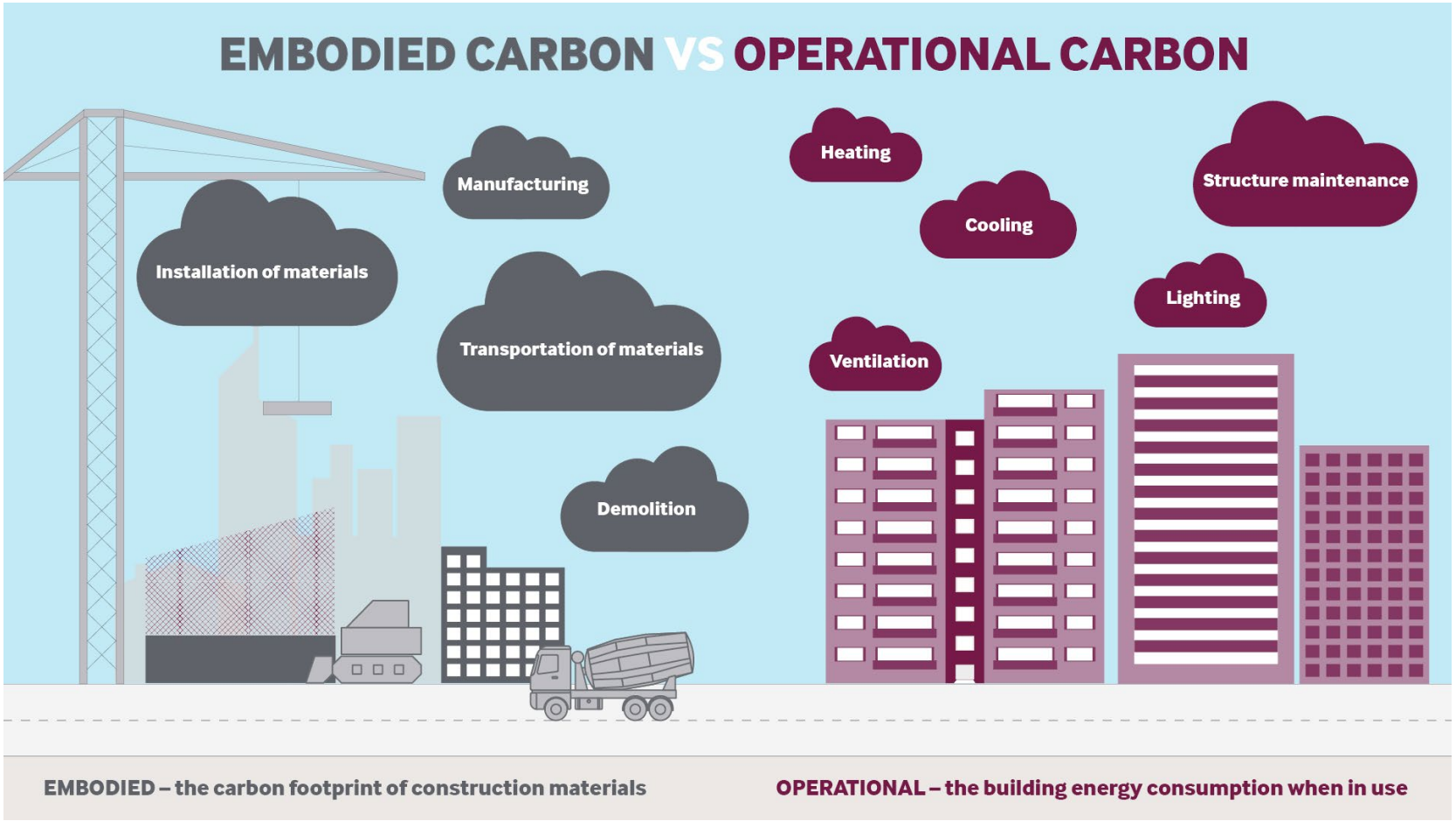
- Buckinghamshire Council target to plant 543k trees by 2025 – one for every resident at the time the target was set
- Projects vary in scale – can involve large blocks of woodland, or dispersed areas on large estates
- Often in rural areas, where archaeological potential is less well known
- Can impact on buried archaeological remains and historic landscapes
- Large areas of planting have been proposed on medieval ridge and furrow
- Often, a balanced judgement is needed due to other limitations

Wing solution



Built Heritage

Global 'boiling', increased rain fall and flooding



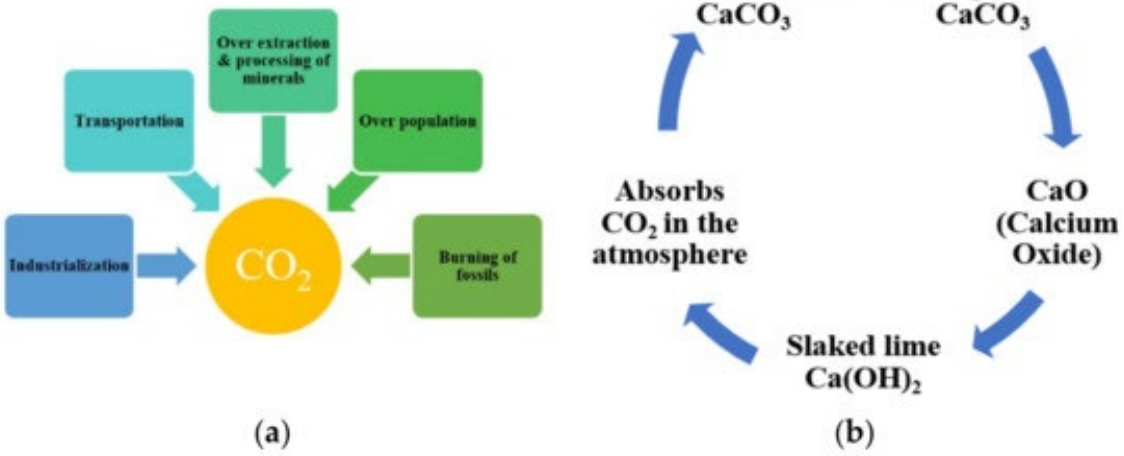
Whole Life Carbon
Recent Appeal decisions – M&S
EPC calculations – based on cavity wall assumptions

With existing heritage properties, when it comes to greenhouse gas (GHG) emissions, there is a question of whether the best way to reduce emissions is to retrofit or to demolish and rebuild. From a regulatory aspect, the focus is mainly on a building's operational emissions, through orientation, location and design[1]i.e., how it is used on a daily basis, rather than considering the lifecycle of a building and the embodied carbon within the building fabric. In a case of demolish and rebuild, by not including the embodied carbon of an existing building when calculating the GHG emissions of the project, it has been estimated that the lifetime emissions of that new build could be underestimated by up to one third[2]. This is demonstrated in the example of the proposal by M&S to demolish their flagship store on Oxford Street, which is a 94-year-old structure and would result in the demolishing of 3 existing buildings to allow for the construction of a new energy efficient store, part of a larger 10 story block. Following an investigation, it was highlighted in a report produced by SAVE Britain's Heritage that the demolition of the existing building for the new development would result in an additional 40 kilotonnes of embodied carbon within the building materials released[3]. Though the new building is projected to be operationally highly efficient and be "among the top 10% performing buildings in London"[4], this does not take into account the carbon that will add to the footprint of the new building, as the result of lost materials and disposal. This is further demonstrated in the paper, 'Considering Embodied Energy and Carbon in Heritage Buildings – A review[5]. The paper highlighted a Belgian heritage study, which demonstrated that the option of a retrofit package would be 57% better in lifecycle carbon emissions than a demolition/rebuild option. The latter requires a larger investment of embodied carbon in the present for a future of operational savings, which can have a negative impact, especially as energy sources decarbonise[6].

[1]Ministry of Housing, Communities & Local Government (2021) National Planning Policy Framework
[2]Historic England (2020) There's No Place Like Old Homes: Reduce and recycle to reduce carbon
[3]SAVE Britain's Heritage (2023) The Battle for M&S Oxford Street: Why this landmark case matters
[4]M&S (2022) M&S Position On Secretary Of State Decision To Call In Its Proposed Marble Arch Development - https://corporate.marksandspencer.com/media/press-releases/ms-position-secretary-state-decision-call-its-proposed-marble-arch-development
[5]: F Wise, A Moncaster, D Jones & E Dewberry (2019) Considering embodied energy and carbon in heritage buildings – a review. IOP Conf. Ser.: Earth and Environmental Science. 329 012002
[6]As above

Back to Basics

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." - Gro Harlem Brundtland



Lime is one of the most sustainable materials in existence today, it can be used over and over again without losing its integrity or quality. Lime mortars have proven themselves to be durable materials with great potential for longevity and lime absorbs CO2.

Listed and Traditionally Constructed Buildings - Useful guidance

Historic England
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/modifying-historic-windows-as-part-of-retrofitting-energy-saving-measures/

LETI Climate Emergency Retrofit Guide
https://www.leti.uk/retrofit

Climate Emergency Conservation Area Toolkit
https://www.architectscan.org/conservation-area-toolkit-retrofit-homes

Sustainable and Traditional Buildings Alliance
https://stbauk.org/

Cambridge City Council, retrofitting your Home
https://www.cambridge.gov.uk/media/11676/retrofitting-your-home-report.pdf

Cosey Homes Oxfordshire
https://cosyhomesoxfordshire.org/homeowners/

Quick wins

•Maintain and repair – lead flashing, windows, ground levels etc.
•Clear and fix drains and gutters – damp walls are cold walls
•New or additional loft insulation
•Draught-proofing windows, doors, floorboards etc
•Secondary glazing
•Fitting insulated curtains or shutters
•Chimney balloons to eliminate chimney draughts
•Energy-efficient lighting
•Switching to a 100% renewable energy tariff.

Upgrades

•Overhauling windows without loss of important historic features
•Replace failing cement render with lime render, consider adding breathable insulation
•Boiler upgrade, Renewable energy options may need to consider fabric improvements, underfloor heating or oversized radiators

Victorian town house (Manchester) - Europe's first Passivehaus Enerphit Plus:

- 60 KW hrs renewable energy
- 60m2 photovoltaic cells on roof
- Breathable insulation and ventilation
- Angled rear windows toward the sun
- Internal insulation to front elevation
- External insulation to side and rear

What can we do?

'Sustainability and Conservation go together like peanut butter and jam'

We will promote:

Retention of traditional building stock and use of local and sustainable materials

Understanding individual buildings / sites and their capacity for change

Brave decisions, innovation and well managed change

Getting the right experts involved with finding solutions

The need for better policies and guidance which address sustainability and consider impact on historic env eg. Good conservation, Householder guides, local policies