



PROVISION OF PROFESSIONAL ADVICE & GUIDANCE TO INFORM NET ZERO CARBON PLANNING POLICIES

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Ricardo ref:

ED18289

Contact:

Ellie Voke Bright Building, Manchester Science Park, Pencroft Way, Manchester M15 6GZ, UK

T: +44 (0) 1235 753 272

E: ellie.voke@ricardo.com
salesupportteam.ee@ricardo.com

Author(s):

Harper Robertson, Ellie Voke, Eleri Paterson Hughes, Katharina Schmitt

Approved by:

Guy Hitchcock

Signed



Date:

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1. INTRODUCTION

1.1 PURPOSE OF THE STUDY

Local planning authorities (LPAs) are important players in the race to net zero. A significant majority of UK local authorities have declared climate emergencies, in many cases setting area-wide net zero targets in advance of 2050. While the public sector is only responsible for around 2-3% of emissions nationally, the influence of local councils can extend far beyond that, with the CCC estimating that they can directly or indirectly influence around 33% of emissions.^{1,2} One of the most significant ways that local authorities can have an impact on GHG emissions is via the planning system.³

East Hampshire District Council (EHDC) has already taken the commendable step of announcing an intention for all new developments in the District to be “energy efficient, zero-carbon homes”. The Net Zero Evidence Base Study (January 2023), produced by Ricardo, set out a variety of recommendations for policy options to support this ambition. The current study represents the next step forward, as its purpose is to provide EHDC with guidance on how to design and implement planning policies that will achieve a “radical reduction” in GHG emissions compared with standard practice.

Building on the recommendations set out in the previous report, this project has:

- Developed specific Local Plan policies aimed at ensuring net zero emissions from new developments;
- Set out policy options for mitigating emissions from other forms of development, such as extensions, refurbishments and heritage assets; and
- Provided detailed advice on the approach to implementing and monitoring these policies, along with information on the potential policy risks EHDC should be aware of.

1.2 LIST OF POLICIES

The table below lists the set of core policies for new development that have been examined in-depth as part of this study, i.e., those that are focused solely on tackling the climate emergency. A selection of additional policies with a broader focus on climate change mitigation have also been reviewed for consistency with the core policies.

Table 1. Policies related to climate change mitigation and adaptation

Ref. #	Title	Refer to Section...
<i>Core policies – solely focused on tackling the climate emergency</i>		
CLIM1	Tackling the Climate Emergency	3.1
CLIM2	Net Zero Carbon Development: Operational Emissions	3.2
CLIM3	Net Zero Carbon Development: Embodied Emissions	3.2
CLIM4	Renewable & Low Carbon Energy	3.3
CLIM 5	Climate Resilience	3.4
<i>Additional policies – broader focus on sustainable development</i>		
S26	Protection of Natural Resources	3.5.1
DES1	Well-Designed Places	3.5.2
DGC1	Sustainable Transport	3.5.3
NBE8	Water Quality, Supply and Efficiency	3.5.4

¹ DESNZ, ‘UK local authority and regional greenhouse gas emissions national statistics’ (2022). Available at: <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2020>

² CCC, ‘Local Authorities and the Sixth Carbon Budget’ (2020). Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf>

³ RTPi and TCPA, ‘The Climate Crisis: A Guide for Local Authorities on Planning for Climate Change’ (2021). <https://www.rtpi.org.uk/media/14719/tcpa-rtpi-climate-guide-4th-edition.pdf>

2. BACKGROUND AND CONTEXT

LPAs do not just have an opportunity to influence emissions – they are required to do so. Section 19 of the **Planning and Compulsory Purchase Act 2004** places a legal duty on local planning authorities (LPAs) to ensure that development plans ‘include policies designed to secure that the development and use of land in the LPA’s area contribute to the mitigation of, and adaptation to, climate change.’ The **Planning and Energy Act 2008** enables local authorities to impose ‘reasonable requirements’ for:

- a) a proportion of energy used in development of their area to be energy from renewable sources in the locality of the development;
- b) a proportion of energy used in development in their area to be low carbon energy from sources in the locality of the development;
- c) development in their area to comply with energy efficiency standards that exceed the energy requirements of building regulations.

Paragraph 152 of the **National Planning Policy Framework (NPPF)** states that the planning system ‘should help to shape places in ways that contribute to radical reductions in greenhouse gas emissions.’ Paragraph 153 of the NPPF, read in conjunction with footnote 53, requires that, ‘plans should take a proactive approach to mitigating and adapting to climate change’ in a way that is ‘in line with the objectives and provisions of the Climate Change Act 2008’. These messages are reiterated in the **National Planning Practice Guidance (NPPG)**, which provides examples of how the planning process can contribute to climate change adaptation and mitigation.

To date, most LPAs that have set GHG performance requirements in their Local Plans (which is their only mechanism for doing so) have done so with reference to the **UK Building Regulations**, requiring developments to achieve a minimum (%) improvement over the minimum standards. The performance requirements in Building Regulations have become more stringent over time, and the Government has indicated that future updates will require buildings to be ‘zero carbon ready’.⁴

However, that target only encompasses a sub-set of GHG emissions from new buildings. Only ‘regulated’ energy (building energy consumption resulting from fixed building services and fittings including heating, cooling, lighting and hot water) is covered by Building Regulations, but in order for the UK to reach net zero, it will also be necessary to address ‘unregulated energy’ use (e.g. energy use from cooking and other appliances).⁵ Additional policies or regulatory mechanisms are therefore needed to secure truly net zero carbon development.

Despite the Planning and Energy Act 2008, in the past decade there has been some uncertainty as to whether Local Authorities are permitted to set standards that exceed Building Regulations.⁶ At the time of writing (autumn 2023), the Government’s current position, as expressed in the January 2021 Response to the Future Homes Standard Consultation and re-affirmed in June 2022 by the Department for Levelling Up, Housing and

⁴ The term ‘net zero ready’ refers to buildings where ‘No further energy efficiency retrofit work will be necessary to enable them to become zero-carbon as the electricity grid continues to decarbonise.’

Ministry of Housing, Communities & Local Government, ‘*The Future Homes Standard: Summary of responses received and Government response*’ (2021). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/956094/Government_response_to_Future_Homes_Standard_consultation.pdf

⁵ A more detailed description is provided in Section **Error! Reference source not found.**

⁶ A Written Ministerial Statement (WMS) issued in 2015 said that local authorities should ‘not set conditions with requirements above a Code [for Sustainable Homes] Level 4 equivalent’. This was reflected in a subsequent update to the NPPG. Code Level 4 would have reduced GHG emissions by roughly 20% compared with Building Regulations in force at the time (Part L 2013). However, both of those documents have been superseded by subsequent changes to Building Regulations, as Part L 2021 requires roughly 31% lower emissions compared with Part L 2013. According to the Town and Country Planning Association (TCPA), ‘Written Ministerial Statements and the NPPG are material considerations in plan preparation and planning decisions, but the level of weight placed on them will reflect (among other things) the extent to which they are up-to-date.’ For more information, refer to TCPA, ‘*The application of net zero in local plan policy*’ (2022). Available at: <https://www.tcpa.org.uk/pins-assault-on-an-exemplary-net-zero-planning-policy/>

Communities (DLUHC) is that it *is* permitted.^{7,8} It is the view of the Town and Country Planning Association (TCPA) that, ‘As a matter of law and policy [...] a local planning authority is entirely justified, and, in the TCPA’s view required, to set out a net zero objective in planning policy.’⁹

Since the beginning of 2023, Bath and North East Somerset (BANES) and Cornwall Councils have both successfully adopted policies that would require new developments to achieve net zero emissions. (Policy wording is provided in Appendix A.) This is welcome news as it sets a precedent for such policies being adopted. There are similar policies in draft plans for authorities such as North East Cambridge, Winchester, Leeds, and Lancaster, which are at different stages of consultation.^{10,11,12,13}

Unless new developments in East Hampshire are designed to meet net zero standards, they will cause emissions in the District to increase rather than decrease. This is counterproductive to the UK’s legally binding decarbonisation targets, which (according to the Climate Change Committee) are already at risk of not being achieved. It would also clearly go against the NPPF requirement that Local Plans should ‘contribute to radical reductions in greenhouse gas emissions’. Setting net zero standards is in line with the powers granted to LPAs under the Planning and Energy Act 2008, and the Government has repeatedly confirmed that these powers still apply. On that basis, EHDC has the authority to adopt net zero standards in the new Local Plan, and a clear justification for doing so.

3. POLICIES FOR NEW DEVELOPMENTS

3.1 CLIM1: TACKLING THE CLIMATE EMERGENCY

3.1.1 Proposed policy wording

Policy CLIM1: Tackling the Climate Emergency

CLIM1.1 Development must contribute to mitigating future climate change, whilst adapting to its impacts and helping society to meet local, national and international climate-related objectives.

CLIM1.2 In planning new development, this means that:

- *The energy demands of buildings and structures will be mitigated by implementing the energy hierarchy, to help achieve radical reductions in greenhouse gas emissions (see Policy CLIM2);*
- *Proposals for renewable and low carbon energy-generating and distribution infrastructure will be supported where they accord with Policy CLIM4;*
- *Sustainable modes of transport (e.g., walking, cycling, public transport) will be prioritised through the location, design and layout of new development (see Policies DES1, DES2 and DGC2);*
- *Development will avoid areas at the greatest risk of flooding and be designed to help minimise flood risks and provide resilience against flood events, using natural flood management measures where appropriate (see Policy NBE7);*
- *Impacts on the water environment will be minimised through applying high standards of water efficiency and through carefully planned water use and waste water disposal (see Policy NBE8); and*

⁷ Ministry of Housing, Communities & Local Government, ‘The Future Homes Standard: Summary of responses received and Government response’ (2021). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/956094/Government_response_to_Future_Homes_Standard_consultation.pdf

⁸ Bath & North East Somerset Council, ‘Exam 10: Policy SCR6: Note on the setting of local energy efficiency standards for new build development’ (2022). Available at: <https://beta.bathnes.gov.uk/sites/default/files/EXAM%2010%20Note%20on%20Local%20Energy%20Efficiency%20Targets%20FINAL.pdf>

⁹ TCPA, ‘The application of net zero in local plan policy’ (2022). Available at: <https://tcpa.org.uk/wp-content/uploads/2022/07/20220714-climate-statement-W-Ox.docx>

¹⁰ Greater Cambridge Council, ‘Proposed Submission North East Cambridge Area Action Plan – Regulation 19 (2021)’. Available at: <https://consultations.gretercambridgeplanning.org/sites/gcp/files/2021-11/NECAAPNorthEastCambridgeAreaActionPlanReg192020v22021.pdf>

¹¹ Winchester City Council, ‘Winchester District Local Plan – Regulation 18 Consultation Plan’ (2022). Available at: https://democracy.winchester.gov.uk/documents/s22961/CAB3357%20-%20APDX%201%20Local_Plan-12pt-.pdf

¹² Leeds City Council, ‘Local Plan Update’ (2022). Available at: <https://www.leeds.gov.uk/planning/planning-policy/local-plan-update>

¹³ Lancaster City Council, ‘Climate Emergency Review of the Development Management DPD Submission Local Plan’ (2022). Available at: <https://www.lancaster.gov.uk/planning/planning-policy/local-plan-examination>

- *Buildings and open spaces will be designed to maximise their resilience to extreme weather, whilst offering nature-based solutions to a changing climate (see Policy CLIM5).*

CLIM1.3 Planning permission will be granted when the following requirements are met:

- a) The operational carbon dioxide emissions of residential development would be reduced to a net-zero level through on-site measures that are appropriate to site-related constraints and opportunities;*
- b) The regulated carbon dioxide emissions of major non-residential development would be reduced to net-zero through on-site measures that are appropriate to site-related constraints and opportunities;*
- c) The embodied carbon emissions of development would be reduced, including through the careful choice, use and sourcing of materials;*
- d) Any new transport infrastructure (roads, footpaths, cycleways) has been designed to prioritise walking, cycling and the use of public transport;*
- e) Infrastructure to support the use of zero-emissions vehicles would be provided;*
- f) Development has been designed to minimise the overheating of buildings, conserve water supplies, reduce the 'urban heat island' effect, and provide or contribute to shaded and sheltered routes through open spaces.*

CLIM1.4 For new-build residential development (other than householder applications) and non-residential developments over 500m², a Sustainability Statement will be submitted to demonstrate a development's compliance with the energy hierarchy, its achievement of net-zero requirements, and the ways in which it prioritises sustainable transport, and implements climate resilience. The Sustainability Statement will include details of how policy criteria a) to f) are met by a development proposal and how this will be monitored through its implementation.

3.1.2 Justification

There is clear evidence for the need to respond to the threat of climate change, as laid out in the latest Intergovernmental Panel on Climate Change (IPCC) reports.¹⁴ Over the past ten years, global greenhouse gas (GHG) emissions have reached their highest levels in human history, and without immediate and deep emissions reductions across all sectors, we will be unable to avoid dangerous impacts of climate change. In addition to mitigating climate change, it is also crucial to improve the UK's resilience and ability to adapt to extreme weather. As the CCC puts it, 'Action cannot be delayed further.'¹⁵

These strategic policy priorities are reflected in legislation and planning guidance. The Climate Change Act (as amended in 2019) sets a legal requirement for the UK as a whole to reach net zero emissions by 2050 at the latest. Section 19 of the Planning and Compulsory Purchase Act 2004 places a legal duty on local planning authorities (LPAs) to ensure that development plans 'include policies designed to secure that the development and use of land in the LPA's area contribute to the mitigation of, and adaptation to, climate change.' Paragraph 153 of the NPPF, read in conjunction with footnote 53, requires that, 'plans should take a proactive approach to mitigating and adapting to climate change' in a way that is 'in line with the objectives and provisions of the Climate Change Act'.

At a local level, EHDC has recognised this issue by declaring a climate emergency in July 2019 and has announced an intention for all new developments in the District to be "energy efficient, zero-carbon homes". Reflecting the Council's corporate priorities, the policy wording for CLIM1 places environmental responsibility at the heart of the new Local Plan.¹⁶

The GHG emissions associated with development include not only the construction and operation of the buildings themselves, but also the activities of their occupants and visitors, such as travel and water use. CLIM1 therefore takes a broad view of climate change mitigation and requires all these sources of emissions to be reduced. Furthermore, because some amount of climate change is 'locked-in' due to historic emissions, it is crucial to ensure that the built environment is both adaptable to the impacts of climate change and resilient to its effects. CLIM1 responds to this by setting requirements related to topics such as flood risks, water efficiency, and overheating. The policy will help to ensure that development in East Hampshire not only has a

¹⁴ Available at: <https://www.ipcc.ch/>

¹⁵ <https://www.theccc.org.uk/wp-content/uploads/2023/03/WEB-Progress-in-adapting-to-climate-change-2023-Report-to-Parliament.pdf>

¹⁶ As set out in the Corporate Strategy 2020-24 and Climate and Environment Strategy 2020-2025. See Section **Error! Reference source not found.** for details.

low environmental impact, but also provides more comfortable, adaptable buildings with lower energy bills, to the benefit of residents and businesses.

3.1.3 Practical implications

The main implication of this policy is that it puts climate change front and centre when it comes to evaluating development proposals. This is a strategic policy that links to several other policies within the Local Plan. The practical implications for specific environmental topics (operational emissions, embodied carbon, water efficiency, etc.) are addressed in subsequent sections of this report.

3.1.4 Cost and viability implications

The most significant cost/viability implication of the proposed policy relates to the requirement for new developments to achieve net zero carbon emissions. This is addressed in more detail in Section 3.2.5.

There will be some costs associated with the requirement to provide EV charging infrastructure, although this has been introduced as a requirement in Part S of the Building Regulations so does not represent an increase compared with national standards.¹⁷

The other policy requirements set out above are expected to have no or minimal impact on capital costs, assuming that they are taken into consideration from an early design stage.

3.1.5 Implementation

As described in paragraph CLIM1.4, the implementation of this policy would be appropriate through an overarching Sustainability Statement. This is a comprehensive document covering all aspects of the sustainability and environmental impact of a planned development.¹⁸ EHDC can set additional guidance stating how each area of the policy is to be addressed including what supporting documentation might be needed and the level of detail required.

3.2 CLIM2: NET-ZERO CARBON DEVELOPMENT: OPERATIONAL EMISSIONS AND CLIM3: NET-ZERO CARBON DEVELOPMENT: EMBODIED EMISSIONS

3.2.1 CLIM2 Proposed policy wording

CLIM2.1 New development will demonstrate how it addresses the climate emergency through implementing the principles and meeting the relevant requirements that are set out below.

a. All proposals should follow the Energy Hierarchy when designing new buildings and structures for purposes of minimising their energy demands.

Requirements for all new residential development

b. All proposals for new dwellings will be informed by calculations of their predicted energy use intensity (EUI) prepared using an operational energy model. The calculations should be set out in the Sustainability Statement and will be expected to demonstrate that each new dwelling would achieve:

- a space heating demand of not more than 15 kWh/m²/year*
- a total energy demand of not more than 35 kWh/m²/year*

c. Developments will generate at least the same amount of renewable energy on-site as their annual electricity demand for the operational energy of new dwellings (which should accord with criterion b), above).

d. All heating requirements should be met without on-site use of fossil fuels.

CLIM2.2 Exceptions to meeting criteria b)-d) will only be made due to site-specific technical constraints, or where development would otherwise be rendered unviable as per the outcomes of a project-specific viability assessment. Where exceptions are made, the Sustainability Statement must explain why the requirements of

¹⁷ https://assets.publishing.service.gov.uk/media/6218c5d38fa8f54911e22263/AD_S.pdf

¹⁸ [What Are Sustainability Statements - Building Energy Experts](#)

b)-d) cannot be met and the degree to which each requirement will be met, where the objective is to address the requirements as far as it is practicable to do so, given the relevant constraint(s).

CLIM2.3 Applicants should confirm a metering, monitoring and reporting strategy as part of a detailed (i.e., full or reserved matters) planning application.

Requirements for all new non-residential development

e. All proposals for the development of 500m² or more of non-residential floorspace (measured as gross internal area) should achieve a 100% regulated carbon emissions reduction from Building Regulations Part L 2021 (or future equivalent legislation). On-site renewable energy generation should be proposed where this would meet the requirements of Policy CLIM4.

f. All other proposals must demonstrate how they have sought to reduce emissions as far as possible, exceeding the energy efficiency requirements of Part L 2021 (or future equivalent legislation).

Requirements for development involving existing buildings

CLIM 2.4 Where development involves the extension, alteration or retention of existing buildings, applicants should aim to meet the above residential or non-residential policy requirements (criteria a)-f)) as applicable. If this is not technically feasible or where development would be rendered unviable as per the outcomes of a project-specific viability assessment, the Sustainability Statement must explain why the relevant criteria cannot be met and how criterion a) has been implemented to reduce energy demands to the lowest practical level.

CLIM2.5 Retrofitting measures to improve the energy efficiency of existing buildings will be supported, subject to other policies of the development plan.

3.2.2 CLIM3 Proposed policy wording

CLIM3.1 All development will be expected to reduce the carbon emissions arising from the production of its building materials, their transportation, installation and maintenance, and their disposal at the end of their lifecycle.

CLIM3.2 For development proposals of 10 or more new homes, estimates for the development's whole life-cycle emissions (excepting operational energy) should be calculated and reported in accordance with a nationally recognised Whole Life Carbon Assessment. Throughout the design, procurement, construction and post-construction stages, decisions should be taken to identify and make reductions in carbon emissions.

CLIM3.3 For proposals on previously developed land, the following hierarchy should be followed in respect of any existing buildings and structures:

- a) Renovate and retrofit;*
- b) Re-design and re-purpose;*
- c) Demolish and re-use or recycle the materials on site.*

There is a presumption against demolition unless it is demonstrated that steps a) and b) would lead to similar or higher embodied carbon emissions, or that there would be significant planning benefits that outweigh the carbon savings of retaining existing buildings or structures.

3.2.3 Justification

3.2.3.1 Overarching requirement for net zero development

EHDC declared a climate emergency in July 2019, and a core objective of the Council's Climate and Environment Strategy is for the Local Plan Area to achieve net zero emissions by 2050 at the latest, in line with the Climate Change Act. However, at present, national Building Regulations do not require developments to achieve net zero emissions. Most planning decisions would therefore allow energy use and emissions to increase, unless a local net zero policy is adopted. This contravenes the NPPF requirement for Local Plans to contribute towards a 'radical reduction' in GHG emissions and makes it more difficult for the UK as a whole to achieve its legally binding carbon budgets. Therefore, it is essential that the East Hampshire Local Plan has policies in place that tackle the gap between local and national policy to achieve the net zero target.

The East Hampshire Net Zero Evidence Base Study highlights the necessity of tailoring climate change policies to local contexts. Drawing upon this evidence base ensures that Policies CLIM2 and CLIM3 are not only relevant but also optimized for the unique challenges and opportunities within East Hampshire.

3.2.3.2 Inclusion of unregulated (operational) energy and emissions

EHDC needs to avoid or minimise emissions from new development to help achieve the net zero target. Currently, only building energy consumption resulting from fixed building services and fittings including heating, cooling, lighting and hot water is regulated by Building Regulations. This is often referred to as 'regulated' energy. However, for the UK to reach net zero, it will be necessary to address 'unregulated' energy use as well. Otherwise, energy use and emissions will increase. Assessing and reporting on this type of energy use is also critical to plan for appropriate forms of power infrastructure, renewable energy technologies, and energy storage systems that would meet future energy demands without generating further emissions. The use of 'Energy Use Intensity' standards as per CLIM2 is a recognised way of dealing with both regulated and unregulated emissions; for more information, refer to the LETI Climate Emergency Design Guide¹⁹ or the Net Zero Evidence Base Study (Ricardo, 2023).

3.2.3.3 Inclusion of embodied carbon

Embodied carbon is the carbon emissions emitted producing a building's materials, their transport and construction/installation on site as well as their maintenance/repair and their disassembly/demolition and disposal at end of life. These emissions are increasingly recognised as being important in decarbonising the building sector efforts, but they are not yet covered by Building Regulations. Over time, as Building Regulations set increasingly stringent targets for operational emissions, embodied carbon will account for an increasingly large proportion of whole life-cycle emissions. Analysis undertaken as part of the East Hampshire Net Zero Evidence Base Study shows that this will be by far the single largest source of emissions from new development over the Local Plan period. This is an aspect of design that is within the developer's ability to control, and within EHDC's ability to influence. Local authorities therefore have an important part to play in ensuring that developers assess, and take steps to reduce, embodied carbon. Doing so is in line with best practice guidance from the RTPi and TCPA, and recommendations from the CCC.^{20,21}

At present, embodied carbon assessments are not routinely carried out, so there is comparatively more limited data on what 'typical' embodied carbon emissions are for different building types. Requiring major developments to assess and report embodied carbon therefore has the additional benefit of helping to contribute to the evidence base on this important topic. Policy CLIM3 will enable EHDC to better understand the likely embodied carbon emissions from new development as well as enabling overall reductions to greenhouse gas emissions from these sources.

3.2.3.4 Prioritising refurbishment over 'demolish and rebuild'

It is estimated that 50,000 buildings are demolished each year in the UK,²² many of which are replaced with similar structures. By the time a building is built, a significant proportion (and in some cases, more than half) of its whole life-cycle emissions will have already been released to the atmosphere, due to embodied carbon.²³ Because embodied carbon represents a considerable proportion of whole life-cycle emissions, it is often (if not always) the case that 'demolish and rebuild' schemes will result in higher emissions overall, even if the replacement building is significantly more energy efficient in operation than the old one. Furthermore, approximately 62% of the UK's waste (by tonnage) is associated with construction, demolition, and excavation activities.²⁴ This means that both the material resources and the embodied carbon are to some extent 'wasted' when buildings are demolished. Prioritising refurbishment is therefore an important way to minimise this wastage. Wherever possible, developments should follow the 'Zero Avoidable Waste' approach (see Box 1). This is aligned with Policy CLIM3.3 which states that any existing building should follow the following hierarchy:

¹⁹ LETI, 'Climate Emergency Design Guide' (2021). Available at: <https://www.leti.uk/cedg>

²⁰ RTPi and TCPA, 'The Climate Crisis: A Guide for Local Authorities on Planning for Climate Change' (2021). <https://www.rtpi.org.uk/media/14719/tcpa-rtpi-climate-guide-4th-edition.pdf>

²¹ CCC, 'Local Authorities and the Sixth Carbon Budget' (2020). Available at: <https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf>

²² Architects Journal, 'Introducing RetroFirst: a new AJ campaign championing reuse in the built environment' (2019). Available at: <https://www.architectsjournal.co.uk/news/introducing-retrofirst-a-new-aj-campaign-championing-reuse-in-the-built-environment>

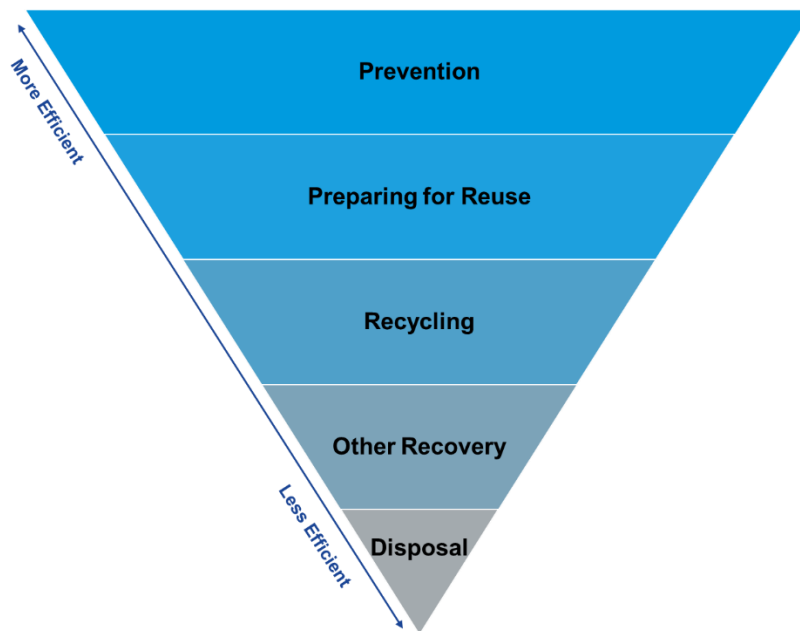
²³ UKGBC, 'The choice between demolition or reuse' (2021). Available at: <https://ukgbc.org/news/the-choice-between-demolition-or-reuse-developer-insights/>

²⁴ <https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#total-waste-generation-and-final-treatment-of-all-waste>

- a) Renovate and retrofit;
- b) Re-design and re-purpose;
- c) Demolish and re-use or recycle the materials on site.

Box 1. Zero Avoidable Waste²⁵

“Zero Avoidable Waste (ZAW) in construction means preventing waste being generated at every stage of a project’s lifecycle, from the manufacture of materials and products, the design, specification, procurement and assembly of buildings and infrastructure through to deconstruction. At the end of life, products, components and materials should be recovered at the highest possible level of the waste hierarchy, i.e., reused before being recycled, whilst ensuring minimal environmental impact.”²⁶



3.2.4 Practical implications

From a developer’s perspective, policies CLIM2 and CLIM3 are significant because they will require a change in ‘business as usual’ construction practices, in terms of masterplanning/site layout, building design, and on-site quality control procedures. They will also require different forms of evidence to be submitted as part of the planning application. For larger developments of 10 or more new homes, Policy CLIM3 would require developers to focus on minimising embodied emissions from the very outset. This may require changes to their project management arrangements.

At a site level, there may be design implications due to changes in orientation, massing, layout, and mix of uses compared with typical practice. The most significant visual impacts would likely be associated with (a) on-site renewables, which are expected to primarily include roof-mounted PV and heat pumps (see Figure 1 and Figure 2 for examples of what this might look like in practice), and (b) changes in the street layout as required to promote sustainable travel modes and provide a green, biodiverse, visually attractive public realm.

²⁵ Figure adapted from: <https://www.sussexasphalte.co.uk/wp-content/uploads/2020/12/mrk072-gn33-working-towards-zero-avoidable-waste-in-the-roofing-sector.pdf>

²⁶ Construction Leadership Council (2020). Zero Avoidable Waste in Construction. Available at: <https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2016/05/ZAW-Report-Final-Draft-25-February-2020.pdf>

Figure 1. Example of roof-mounted solar PV panels.



Figure 2. Example of external Air-Source Heat Pump.



In terms of the planning process itself, developers would need to submit energy calculations that show that the scheme would achieve net zero operational emissions. This is not a topic that is assessed under standard Building Regulations compliance software, so it would likely require separate calculations to be set out in a separate Energy or Sustainability Strategy. In addition to this, under CLIM3, applicants are asked to – where possible – provide estimates of proposed reductions to embodied carbon emissions in the Sustainability Statement (in kg of carbon dioxide, to carbon dioxide equivalent) by comparing the choices made versus a 'business as usual' approach. While this may come with additional costs, as set out in Section 3.2.5 below, these are often minimal.

To ensure that the buildings actually perform as designed there is also a need to introduce better quality controls during the construction process. This is an issue that has previously been recognised within the UK

construction industry; the CCC has recommended that a change in approach is needed to close the 'performance gap'.²⁷ Research into Passivhaus projects suggests that there is a learning curve associated with delivering ultra-high energy efficiency, which can incur additional costs to supervise the work.²⁸

Policies CLIM2 and CLIM3 deal with different sources of emissions but would need to be met in a co-ordinated fashion, as part of an overall response to achieving radical reductions in the greenhouse gas emissions of new development. Retaining existing buildings whilst ensuring that these meet the proposed operational energy requirements could present difficult design challenges that would need to be overcome as far as is practicable. Addressing the requirements of both policies in a concerted fashion may require detailed discussions at the pre-application stage, to understand the potential for emissions reductions.

The key implication for EHDC is that the planning department will need to have sufficient resources to engage in detailed pre-application discussions and to assess applications. At present, it is understood that EHDC has no in-house resource and/or expertise. The proposed approach to implementation and monitoring is discussed in more detail in Section 5.

Box 2. Managing unregulated energy consumption

Context:

- Unregulated energy consumption refers to that which is not controlled via Building Regulations.
- Because it is outside the remit of Building Regulations, it is our understanding that EHDC's Building Control team would not be involved in assessing compliance with this part of the policy. Their role is to assess compliance with national standards.
- Could require some form of energy monitoring (like the GLA's 'be seen' policy) but this is probably challenging from a legal and resource perspective
- Other option is to require some form of post-occupancy evaluation

For domestic developments:

All developments should be encouraged to use PHPP or a similar operational energy model to calculate energy use and emissions. This should be a requirement for major developments but may be more challenging for some smaller developments.

Average household electricity consumption statistics²⁹ could be used as a proxy for unregulated energy use. Since most households use gas³⁰ and most electricity consumption is for unregulated uses³¹, this gives a rough indication of the scale. If the developer can show that they have enough on-site renewables to provide that amount of electricity, *plus* enough for all the regulated energy use (based on SAP or other energy modelling), this would be sufficient for a typical household. Such an approach would not prove that the development meets the overall EUI target but could be used as an interim solution.

It is relatively straightforward to calculate the PV panel area required to supply a certain amount of electricity per year, which could be used to check that drawings/diagrams of PV locations would provide enough electricity. Some rules of thumb are set out below, but a very simple calculator could be used to easily convert electricity consumption to PV panel area.

²⁷ CCC, 'UK Housing: Fit for the Future?' (2019). Available at: <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>

²⁸ Refer to p. 7: [https://passivhaustrust.org.uk/UserFiles/File/research%20papers/Costs/2019.10_Passivhaus%20Costs\(1\).pdf](https://passivhaustrust.org.uk/UserFiles/File/research%20papers/Costs/2019.10_Passivhaus%20Costs(1).pdf)

²⁹ DESNZ, 'Sub-national electricity consumption data' (2023). Available at: <https://www.gov.uk/government/collections/sub-national-electricity-consumption-data>

³⁰ ONS, 'Census 2021: How homes are heated in your area' (2023). Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/census2021howhomesareheatedinyourarea/2023-01-05>

³¹ As of 2012, approximately 15% of electricity use in homes was for lighting and 7% was for water heating, so the remaining c. 78% would be for unregulated uses. The proportion attributed to lighting has decreased significantly since then due to the adoption of LEDs, so the unregulated proportion may now be higher. Refer to Table 3 in the EST report, 'Powering the Nation: Household electricity-using habits revealed' (2012). Available at: <https://www.energysavingtrust.org.uk/sites/default/files/reports/PoweringthenationreportCO332.pdf>

1 kW of PV requires around 6.5 m² of panel area³² and in East Hampshire³³ this would provide around 950 kWh of electricity per year. A typical household in East Hampshire would have used around 4,674 kWh of electricity in 2021 and, as explained above, most of this is assumed to be unregulated energy. To supply all this electricity would therefore require around 5 kWp of solar PV, occupying around 32.5 m² of roof area.

For non-domestic developments:

The proposed policy wording only covers regulated energy use, so this issue does not apply. EHDC could still push developers to supply extra on-site renewables to meet unregulated demand.

3.2.5 Cost and viability implications

The East Hampshire Net Zero Evidence Base Study (January 2023) produced by Ricardo Energy & Environment presents a range of published evidence on the cost of delivering net zero carbon developments from an operational emissions standpoint (refer to CLIM2). Overall, the evidence suggests that net zero regulated and unregulated emissions can be achieved in domestic buildings at a capital cost uplift of roughly 3-5% compared with Part L 2021. For non-domestic buildings, it would be reasonable to assume capital cost uplifts in the range of 5-10%, but these could be significantly higher or lower for individual developments. There will potentially also be costs also associated with additional consultancy fees and quality control during construction.

The costs of achieving net zero emissions will vary from site to site, depending on the package of measures that is selected to meet this standard. In general, this would involve measures such as:

- High levels of insulation
- Double or triple glazing
- Low energy (LED) lighting
- Using construction methods that ensure the building is very airtight, and that reduce heat loss at junctions and edges (which is known as “thermal bridging”)
- Heat pumps instead of gas boilers
- Mechanical ventilation with heat recovery (MVHR)
- Wastewater heat recovery (WWHR)
- Renewable energy technologies such as solar PV

If heat pumps are used, the building would also likely require:

- Hot water storage
- Underfloor heating and/or large radiators

Note that non-domestic buildings vary more in their scale, usage, and energy consumption patterns than domestic buildings. Our review found that published cost information covers a relatively limited number of non-domestic building archetypes. For these reasons, there is higher uncertainty associated with the non-domestic cost uplift figures compared with the domestic ones.

Please refer to the Net Zero Evidence Base Study (Ricardo, 2023) for further details.

Costs of reducing embodied emissions (CLIM3) are more difficult to quantify as there has been significantly less research in this field compared to operational carbon emissions. Nonetheless, cost and viability implications from the following ought to be considered:

- Simplifying the design and layout of buildings
- Prioritising re-use and refurbishment of existing buildings
- Making use of recycled building materials

³² Depending on the panel efficiency, this could be as low as 5 m²/kWp (for a very efficient panel) but typically would be closer to 6-6.5 m²/kWp.

³³ This value is obtained by dividing the total solar PV capacity (52.462 MW) by the total electricity generated by solar PV in East Hampshire (49,857.137 MWh) in East Hampshire in 2022. This gives approximately 950 MWh/MW which is equivalent to 950 kWh/kW. DESNZ, ‘Regional Renewable Statistics’ (2023). Available at: <https://www.gov.uk/government/statistics/regional-renewable-statistics>

- Choosing building materials with long lifespans
- Choosing locally available building materials
- Choosing materials with a low embodied carbon footprint

While all of these measures are generally viable, there are several barriers to be considered. These are summarised in Table 2 below.

Table 2. Possible barriers to reducing embodied carbon in buildings. Adapted from Gieseckam et al. 2016³⁴

Institutional and habitual	Economic	Technical and performance related	Knowledge and perceptions
Institutional culture and established practice promotes preferred material palette	High cost of new products	Lack of established standards, design guides and tools, and standardized details	Lack of awareness and practical knowledge of alternatives amongst practitioners
Focused training and recruitment results in departmental lock in to familiar materials	Market externalizes cost of embedded emissions	Lack of material performance data	Lack of client knowledge of alternatives
Time constraints prevent consideration of alternatives and favour familiar designs	Uncertainty premium placed on novel products	Lack of full-scale demonstration projects	Negative perceptions amongst practitioners
Lack of established advocacy groups for alternatives	High transaction costs of additional professional training and research	Policy and regulatory limitations and restrictions	Negative perceptions held by clients
Lack of effective marketing from material producers	Money sunk in existing materials (in terms of training, establishing relations with supply chains etc.)	Lack of confidence in contractor ability and availability of skilled labour prevents inclusion in design	Insufficient fit with the culture of the clients or end users
Lack of user producer relationships	Lower design:fee ratio because of increased detailing	Shortage of specialist skills prevents installation	Perceived unreliability or risk of new alternatives
Habitual speciation and historic practice of individual practitioners	Insufficient comparative information on costs	Insufficiently developed supply chains	Perceived concerns about material sourcing prevent selection
Material selection viewed as outside influence of individual practitioner	Unwillingness to accept associated financial risk	Local availability of materials and technologies	Policy uncertainty
High level of design inconvenience	Access to finance for small and medium-sized enterprises (SMEs)	Difficulty obtaining insurance for novel and reused materials	Simply regarded as low priority and other considerations take precedence
Lack of supply chain coordination	Project financing incompatible with time constraints		
	Anticipated increase in lead times		

³⁴ Gieseckam, Jannik, John R. Barrett, and Peter Taylor. "Construction sector views on low carbon building materials." *Building research & information* 44.4 (2016): 423-444.

Institutional and habitual	Economic	Technical and performance related	Knowledge and perceptions
	Small industries producing alternatives cannot compete against established industries' economies of scale		

Research by UCL suggests that prioritising re-use and refurbishment of existing buildings over demolition and rebuilding new, low energy homes can deliver significant cost savings of around 58%, while achieving an additional 10% saving from embodied carbon reductions.^{35,36}

A study undertaken by RMI³⁷ suggests that embodied carbon reductions of up to 46% are feasible with a cost increase of less than 1%. Note that this assumes substitutions of specific materials rather than a whole-building design approach, which is assumed to achieve far greater emissions reductions. The study did not consider any materials that are not currently available on the market, but it is expected that even bigger reductions can be achieved as innovation progresses. The key measures modelled in the study are:

- Optimised concrete mix (achieving a 14-33% emissions reduction at little to no added cost)
- Rebar with high recycling content (achieving a 4-10% emissions reduction at little to no added cost)
- Low carbon insulation materials (achieving a 16% emissions reduction at no added cost)
- Low-embodied-carbon glazing products (achieving a 3% emissions reduction at a 10% cost increase)
- Low-embodied-carbon finish materials (achieving a 5% emissions reduction at little to no added cost)

While certain products are more expensive, optimising building design to lower embodied emissions can reduce project costs, as this reduces the amount of material needed from the outset.³⁸ This shows that while there are many concerns about cost and feasibility (see Table 2), this study shows that significant carbon reductions can be achieved at little to no additional cost.

It should be noted that this study considered 'cradle-to-gate' emissions as opposed to 'cradle-to-grave' emissions – CLIM3 is aligned with the latter (see Figure 3 for an explanation of the two concepts). However, although this was not quantified from a cost perspective, it is expected that demolition costs are reduced with lower-embodied-carbon buildings as the reuse and recycling of building materials *reduce* the amount of materials that need to be processed at the end of the lifespan.³⁹ In addition to this, choosing building materials with a long lifespan should translate to less frequent demolition of buildings.

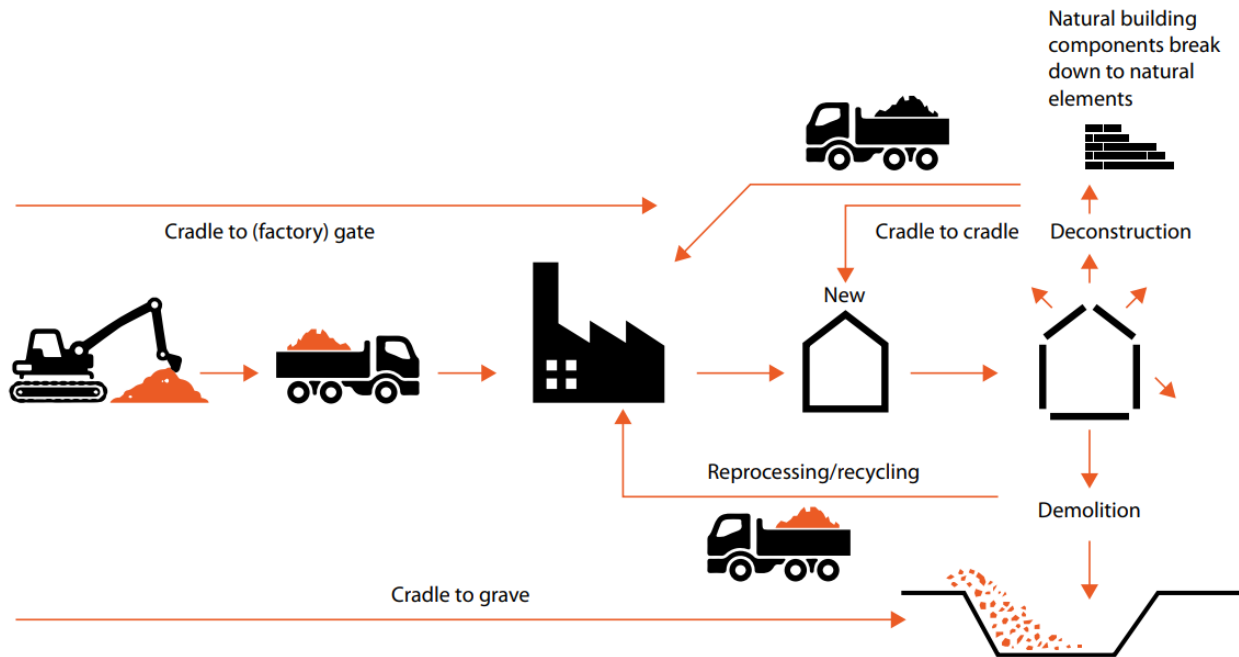
³⁵ Note that this is not based on a representative sample of the UK housing stock but rather a case study in Petersfield, Hampshire.

³⁶ <https://www.ucl.ac.uk/engineering-exchange/sites/engineering-exchange/files/fact-sheet-embodied-carbon-social-housing.pdf>

³⁷ Note that this study was undertaken in the US; however, no comparable analysis could be found for the UK

³⁸ <https://rmi.org/low-cost-high-value-opportunities-to-reduce-embodied-carbon-in-buildings/>

³⁹ <https://www.ucl.ac.uk/engineering-exchange/sites/engineering-exchange/files/fact-sheet-embodied-carbon-social-housing.pdf>

Figure 3. 'Cradle-to-gate' vs 'cradle-to-grave' emissions. Taken from UCL.⁴⁰

3.2.6 Implementation

CLIM2 and 3 are two of the most important policies for delivering net zero development within the Local Plan, and so sufficient weight should be given to the content related to their implementation. As detailed in the policy wording, this will need to be evidenced in the Sustainability Statement. Some LPAs require that separate Energy Statements are provided, focusing on the specific evidence required to meet the energy standards, however, as long as clear guidance is provided on *what* information and supporting evidence is required, the format for submission is interchangeable.

Because EHDC's definition of net zero includes total energy consumption for all residential development, developers will need to ensure this is accurately calculated. Box 2 highlights how this could be completed, recommending that PHPP is stipulated for major development, while offering some potential flexibility for minor and householder development to use SAP modelling, alongside sub-national electricity consumption statistics.

For developments to meet CLIM3, major development should use a recognised Whole Life Cycle Analysis methods, such as RICS Whole Life Carbon Assessment.⁴¹

3.3 CLIM4: RENEWABLE AND LOW CARBON ENERGY

3.3.1 Proposed policy wording

CLIM4.1 Proposals for renewable energy schemes, including ancillary development, will be under a presumption in favour of permission where the direct, indirect, individual, and cumulative impacts on the following considerations are, or will be made, acceptable. This means that:

- a. *the impacts are acceptable having considered the scale, siting and design, and the consequent impacts on landscape character[1]; visual amenity; biodiversity; geodiversity; flood risk; townscape; heritage assets, the settings and the historic landscape including impact on the South Downs National Park and the Surrey Hills Area of Outstanding Natural Beauty; and highway safety and rail safety; and*
- b. *aeronautical and other military considerations have been satisfactorily addressed; and*

⁴⁰ <https://www.ucl.ac.uk/engineering-exchange/sites/engineering-exchange/files/fact-sheet-embodied-carbon-social-housing.pdf>

⁴¹ [Whole life carbon assessment \(WLCA\) for the built environment \(rics.org\)](https://www.rics.org/whole-life-carbon-assessment-wlca-for-the-built-environment/)

- c. *the impacts are acceptable on the amenity of sensitive neighbouring uses (including local residents) by virtue of matters such as noise, dust, odour, shadow flicker, air quality and traffic.*

CLIM4.2 The Local Planning Authority will support schemes for wind-based energy proposals where they are located in potentially suitable areas. The Local Planning Authority will also support schemes for solar-based energy proposals. Site specific assessments and design will still be required.

CLIM4.3 Where planning permission is needed, the Local Planning Authority will support proposals which are necessary for, or form part of, the transition to a net zero carbon East Hampshire. This could include proposals for energy generating technologies to meet the requirements of Policy CLIM2; energy storage facilities (such as battery storage or thermal storage); and upgraded or new electricity facilities (such as transmission facilities, sub-stations or other electricity infrastructure).

[1] For details of potential impacts, please see the Renewable and Low Carbon Study for the East Hampshire District, 2018. Available at: <https://www.easthants.gov.uk/planning-services/planning-policy/local-plan/emerging-local-plan/evidence-base/environment-3>

3.3.2 Justification

The Climate Change Act 2008 (as amended in 2019) introduced a legally binding requirement for the UK to reach net zero greenhouse gas emissions by 2050 at the latest. For this to happen, it is necessary to phase out the use of fossil fuels. Alongside reducing energy demands, doing so will require a step change in renewable energy deployment across the whole country.

The Government has announced plans for the electricity grid to be net zero by the mid-2030s, as part of its Net Zero Strategy: Build Back Greener.⁴² Having declared a climate emergency in 2019, East Hampshire District Council is committed to doing its part to contribute to a net zero energy system. This accords with the National Planning Policy Framework, which makes it clear that local authorities should take a positive approach towards renewable and low carbon developments.

The East Hampshire Net Zero Study showed that slow or inadequate decarbonisation of the electricity grid is one of the key risks to the Local Plan Area achieving net zero emissions. It is therefore necessary to set out a permissive framework that will promote renewable energy development within the Local Plan Area, while at the same time ensuring that the important characteristics of the environment and landscape are not unacceptably harmed.

3.3.3 Practical implications

The proposed policy wording clarifies that the Council will take a permissive approach towards renewable energy proposals, provided that the impacts are, or can be made, acceptable. It is hoped that this will help promote a step-change in renewable energy deployment, which is a crucial prerequisite for decarbonising the energy system. It is not envisaged to have other significant practical implications, either for developers or EHDC, in terms of making or assessing planning applications.

3.3.4 Cost and viability implications

The proposed policy is not expected to have any cost or viability implications for developers or EHDC. The current adopted Local Plan states that site-specific assessments must be carried out, in line with the NPPF, and that requirement remains unchanged.

3.3.5 Implementation

This policy does not introduce additional requirements as compared to the previous policies⁴³ and the implementation information stipulated in there is still relevant. As proposed in the supporting text in the policy wording, implementation will be through the means of applicants demonstrating compliance with additional policies within the Local Plan, alongside robust evidence detailing how consideration of the impact of the proposed infrastructure on the environment, landscape, local residents, amongst several other features.

⁴² DESNZ, 'Net Zero Strategy: Build Back Greener' (2022). Available at: <https://www.gov.uk/government/publications/net-zero-strategy>

⁴³ [download \(easthants.gov.uk\)](https://www.easthants.gov.uk)

3.4 CLIM5: CLIMATE RESILIENCE

3.4.1 Proposed policy wording

CLIM5.1 All development should be located and designed to avoid or minimise the risks associated with a changing climate, taking account on the latest available evidence on the nature and extent of these risks.

CLIM5.2 Development proposals should include site-specific and building-specific measures that ensure the safety, comfort, health and well-being of occupiers and visitors. These measures should include:

- a. Building designs that will minimise the risk of overheating (focusing on layout, form, massing, fenestration, materials, roof design and shading devices) whilst also allowing for a level of passive heating so that net-zero carbon requirements would be efficiently achieved;*
- b. The inclusion of green and blue infrastructure that introduce or augment natural features to provide substantial areas of shade, shelter and cooling within the development and (where appropriate) on its boundaries. New green infrastructure should provide a mix of species that are resilient to pests, diseases and changes in growing conditions associated with climate change; and*
- c. Site and building layouts that will provide comfortable external spaces and internal refuges to mitigate the effects of extreme weather.*

CLIM5.3 For new residential development, private or communal amenity space should be of a size, shape and orientation to enable residents to grow food and create space for nature within residential plots or the development site as a whole.

CLIM5.4 All developments that include landscaping must also include some form of rainwater collection to reduce reliance on mains water for irrigation.

3.4.2 Justification

Greenhouse gases remain in the atmosphere and continue to cause warming long after they are released. This means that even if emissions were halted immediately, the planet is still “locked-in” to some level of climate change. In the UK, alongside higher average temperatures and changes in rainfall, this will lead to more frequent extreme weather events such as flooding and heatwaves. Such events are disruptive, costly, and potentially dangerous to our environment, society, economy, and physical infrastructure. It is therefore crucial to ensure that the built environment is both adaptable to the impacts of climate change and resilient to its effects.

This is backed up by legislation such as the Planning and Compulsory Purchase Act 2004, which places a legal duty on local planning authorities (LPAs) to ‘include policies designed to secure that the development and use of land in the LPA’s area contribute to the mitigation of, and adaptation to, climate change.’ The National Planning Policy Framework includes similar provisions and specifically states that, ‘Policies should support appropriate measures to ensure the future resilience of communities and infrastructure to climate change impacts.’

As highlighted within East Hampshire’s Climate and Environment Strategy, ‘Our residents and businesses benefit through an improved quality of life and being more prepared for the threats posed by the changing climate.’

Including provision for climate adaptation and resilience from the outset of development should ensure the longevity of the buildings constructed during the Local Plan duration. This will mean buildings can be adaptable to expected climate change impacts and will minimise the need for expensive retrofits in the future that may come with additional carbon costs. Buildings should be expected to deliver health and wellbeing benefits for their occupants and should therefore view the future impacts of climate change as a key challenge that should be addressed at the outset. CLIM5 will ensure this is considered.

3.4.3 Practical implications

A climate emergency demands that the impacts of climate change are taken seriously and that an assessment of the likely impacts – insofar as these are likely to affect a particular development site – is undertaken. The overall aim should be for the design and layout of development to remain appropriate over its lifespan and be readily adaptable if the identified impacts were to intensify.

Measures to embed climate resilience in new development must form part of an approach that would deliver sustainable development. In addition to the issues that are covered within Policy CLIM5, it will also be important to ensure that new development avoids the impacts of future flood events and uses water efficiently. A changing climate is likely to affect what needs to be done in these regards, in order to make development acceptable. Policies NBE7 and NBE8 provide the relevant requirements of this Local Plan, taking account of the climate emergency.

Guidance on how to design buildings for comfort in a changing climate while also ensuring structural stability and managing drainage, flooding, and water conservation can be found in the Technology Strategy Board (now known as Innovate UK) report, 'Design for Future Climate'.⁴⁴

The design and layout of new development will need to reflect the potential for overheating within the built environment as a result of climate change. The risk of overheating within a building can be assessed using methodologies such as CIBSE TM52 or (for residential buildings) CIBSE TM59. The 'form factor' of a building (the ratio of its external surface area, being those parts of the building exposed to the weather, to the internal floor area) will affect the energy demand for heating and cooling, and so this needs to be thought about when designing new buildings. The orientation of a building and the extent of glazing will also affect the likelihood of overheating during summer months. General measures for minimising overheating include those identified with the Council's Climate Change and Sustainable Construction SPD. Passive design principles should be adopted to minimise the risk of overheating, but these need to be balanced with measures to facilitate passive heating in cooler months. The aim should be to avoid the need for mechanical heating and ventilation where possible and minimise their energy requirements where these measures are unavoidable. The operational energy requirements of Policy CLIM2 will need to be met in order to deliver net-zero carbon development.

Policy CLIM5b concerns the provision of green and blue infrastructure in new development. In addition to its requirements, it will be important to think specifically about how new and existing trees, planting, areas of green space and water features can be located and integrated with new development to offer relief from extreme weather. Green infrastructure can be incorporated within the structure of new buildings: where it is appropriate to the local context, living roofs should be incorporated with a substrate depth that would maximise cooling benefits to a building. Climate change is likely to change the growing conditions for trees and plants, bringing with it the challenges of new pests and diseases – and potentially an increased risk of fire during hotter, drier summers. Proposals for the landscaping of a new development need to take these matters into account. Within the public realm, new green infrastructure should provide opportunities to gain respite from higher temperatures during the day and shelter from stormy conditions. Building designs and layouts should also offer shade and shelter to external (public and private) spaces.

Providing space for the residents of new homes to grow some of their own food and to support local wildlife can be an important part of enhancing a community's resilience to climate change. Back gardens and private amenity spaces should be designed with these objectives in mind, whilst green infrastructure in communal spaces can also be provided to achieve the same things in denser parts of a settlement (when there may be less space for private garden or amenity ground).

3.4.4 Cost and viability implications

Climate-resilient infrastructure comes with higher upfront costs⁴⁵ - although the exact amount varies significantly from measure to measure. As such, it is important that location- and building-appropriate measures are chosen, which may vary from site to site. As with all risk management, there is a trade-off between minimising risk and managing costs, as highly unlikely events are generally more challenging and costly to prepare for.⁴⁶ As such, CLIM5 focuses on climate impacts that are already occurring and have a high likelihood of increasing in severity.

Green infrastructure can be an effective as well as visually appealing way to keep buildings cool in the increasingly hot summers.⁴⁷ While there are maintenance costs associated with green infrastructure, these

⁴⁴ <https://www.ukgbc.org/wp-content/uploads/2018/09/Design-for-future-climate-full-report.pdf>

⁴⁵ <https://www.ice.org.uk/media/dwknwi5b/ice-green-paper-how-can-the-uk-s-infrastructure-be-made-more-climate-resilient.pdf>

⁴⁶ <https://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf>

⁴⁷ <https://www.ukgbc.org/wp-content/uploads/2018/09/Design-for-future-climate-full-report.pdf>

can be reduced through community buy-in as well as good management of water resources. Overall, nature-based solutions are said to be one of the cheapest ways of adapting to a changing climate.⁴⁸

It should be further be noted that despite higher upfront costs of climate resilient infrastructure, it is expected that these will be far outweighed by long-term costs savings.⁴⁹ This is due to the impacts of climate change both on the building itself – which causes damage, thereby incurring additional costs (such as surface water flooding, which can be alleviated with rainwater capture, green roofs, and drainage upgrades⁵⁰) – as well as the residents (such as increased healthcare costs from heatwaves⁵¹).

3.4.5 Implementation

When required in accordance with Policy CLIM1, the assessment of the climate-related risks and proposed adaptation/resilience measures should be documented within a Sustainability Statement for a proposal. Where a dedicated Sustainability Statement is not required, it is appropriate to summarise the site-specific risks and measures within a planning statement or any Design & Access Statement that has been prepared for the planning application. Tools such as the UK Climate Projections and the Good Homes Alliance Overheating Toolkit should be used to understand the risks. EHDC will need to detail the level of detail expected including which specific topics should be covered in the relevant section of the Sustainability Statement. At a minimum, the range of scenarios for future climate change established by the UK Climate Projections should be considered in identifying risks and designing development to avoid or minimise them.

3.5 ADDITIONAL POLICIES

3.5.1 Protection of Natural Resources

S26.1 Development proposals will be permitted provided that they ensure that the Area's natural resources remain safe, protected, and prudently used. Development proposals will be expected to demonstrate that they:

- a. do not give rise to soil contamination or air, noise, radiation, light or water pollution where the level of discharge, emissions or contamination could cause harm to sensitive receptors (including impact on dark night skies);*
- b. ensure that, where evidence of contamination exists, the land is made fit for its intended purpose and does not pose an unacceptable risk to sensitive receptors;*
- c. do not result in a reduction in the quality or quantity of groundwater resources; this includes the protection of principal aquifers, and the source protection zones within the southern part of the district;*
- d. where appropriate, identify how the proposals will contribute to achieving the objectives of the relevant River Basin Management Plan(s), which require the restoration and enhancements of water bodies to prevent deterioration and promote their recovery of waterbodies.*
- e. avoid the best and most versatile agricultural land unless the benefits of the proposal outweigh the need to protect the land for agricultural purposes;*
- f. do not sterilise mineral resources identified as of particular importance unless it can be demonstrated that it would not be practicable and environmentally feasible to extract the identified mineral resource prior to development taking place.*

3.5.1.1 Justification

The UK is entering a period of mass extinction, having already lost 41% of all known native species since the 1970s.⁵² This ecological emergency is a result of several stressors put on the natural system including climate change, land use change, and pollution.⁵³ In addition to species decline, several natural resources, such as

⁴⁸ <https://www.oecd.org/environment/cc/policy-perspectives-climate-resilient-infrastructure.pdf>

⁴⁹ <https://www.theccc.org.uk/wp-content/uploads/2023/01/Investment-for-a-well-adapted-UK-CCC.pdf>

⁵⁰ Webber, James L., Guangtao Fu, and David Butler. "Comparing cost-effectiveness of surface water flood management interventions in a UK catchment." *Journal of Flood Risk Management* 12.S2 (2019): e12523.

⁵¹ <https://www.theccc.org.uk/wp-content/uploads/2022/07/Risks-to-health-wellbeing-and-productivity-from-overheating-in-buildings.pdf>

⁵² <https://www.nhm.ac.uk/discover/news/2019/october/the-state-of-nature-41-percent-of-the-uks-species-have-declined.html>

⁵³ <https://www.ipbes.net/models-drivers-biodiversity-ecosystem-change>

clean water, food and timber, are at risk from climate change.⁵⁴ As such, their protection is essential not only for the conservation and rehabilitation of nature and biodiversity itself, but also to ensure that people will be able to access the goods and services they rely on.

This policy is in line with the priority areas set out by the Environment Act 2021, namely air quality, water, biodiversity, and resource efficiency and waste reduction.⁵⁵ More stringent legislation has been proposed in the form of the Climate and Ecological Emergency Bill – which would contain the mandate that the UK “halts and reverses its overall contribution to the degradation and loss”⁵⁶ – however, as a Private Members Bill, it is unlikely that this bill will become law.⁵⁷

3.5.2 Well-Designed Places

DES1.1 New development will be permitted where it would help to achieve the following design vision:

Through its location, design and layout, new development will prioritise the avoidance of new greenhouse gas emissions whilst creating or supporting climate-resilient environments. In delivering this priority, proposals will need to ensure that development:

- a) Follows the energy hierarchy through its block, plot and/or building layout and design, whilst maintaining or enhancing the landscape and built character of its immediate surroundings and the wider local area;*
- b) Reinforces or creates a strong, positive identity that comes from the ways in which buildings, infrastructure, boundary treatments, open spaces and natural features visually and physically interact;*
- c) Creates or contributes to a form of development that is easy to navigate, conveniently laid out for access on foot or by bike, and involves the right density, mix and orientation of building types and forms for attractive, green and safe environments;*
- d) Integrates well with existing streets, cycle and walking connections and where relevant extends these movement networks within a development site, to create attractive, accessible, safe and direct routes that are inclusively designed;*
- e) Supports the recovery of natural habitats and native species through providing space for nature and new green infrastructure that is managed and maintained to secure multi-functional benefits (ecology, drainage, local food production);*
- f) Creates or contributes to public spaces that encourage social interactions, feel safe and support the health and well-being of all users;*
- g) Within Tier 1 and 2 settlements enables residents to “live locally” by accessing some services and facilities within convenient walking or cycling distances, taking account of their varied needs and how the delivery of services may change over time; and*
- h) Incorporate contextually appropriate building materials of a high quality and durability.*

DES1.2 Proposals for new development should be prepared in accordance with the following process, which should be applied in a manner proportionate to the scale of development and/or to its potential to have adverse impacts on the issues that are regulated by other policies of the development plan, or by national planning policy.

DES1.3 Development proposals that could have a significant impact on the character or appearance of an area by virtue of their scale, or due to the sensitivities of their surroundings, will be required to demonstrate how they comply with DES1.1 and DES1.2 of this policy by means of a Design and Access Statement.

⁵⁴ CCC (2017). UK Climate Change Risk Assessment 2017 Evidence Report. Available at: <https://www.theccc.org.uk/uk-climate-change-risk-assessment-2017/>

⁵⁵ <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

⁵⁶ <https://www.zerohour.uk/downloads/climate-and-ecology-bill.pdf>

⁵⁷ <https://commonslibrary.parliament.uk/research-briefings/cbp-9135/>

3.5.2.1 Justification

In July of 2019, EHDC declared a Climate Emergency and subsequently made it a core objective in its Climate and Environment Strategy for the Local Plan Area to achieve net zero emissions by 2050 at the latest, in line with the Climate Change Act 2008.⁵⁸ Good spatial design plays a crucial role in reducing GHG emissions while also improving residents' quality of life, local economies, and the natural environment.⁵⁹ For example, the most impactful climate mitigation action in the transport sector is to reduce the need to motorised journeys by (1) providing amenities within the local area and (2) creating attractive walking and cycling infrastructure to encourage the use of non-motorised transport options. It should further be noted that this goes hand in hand with other areas of action, such as nature recovery (see NBE12 of the Draft Local Plan 2024) and provides a variety of co-benefits to the local area, such as improved health, reduced air and noise pollution, increased social connectivity, and cost savings.^{60,61,62}

In addition to enabling effective climate mitigation actions, good spatial design also plays a crucial role in enhancing an area's resilience to climate change impacts, e.g., appropriate blue and green infrastructure to mitigate against overheating, flooding, and extreme weather.⁶³

3.5.3 Sustainable Transport

S30.1 Development of more than ten new dwellings or more than 500m² of non-residential floorspace should be situated in the most sustainable locations, taking account of the settlement hierarchy, to reduce demands on transport and reliance on private car travel. Sustainable locations for development are those that are in an accessible distance to enable local living and offer genuine opportunities to travel by sustainable modes (walking, cycling and public transport) for multiple journey purposes.

S30.2 Development will be permitted that:

- a. provides linkages to existing or proposed transport infrastructure and networks, especially public transport services and routes promoted in the LCWIP;*
- b. provides attractive and well-designed walking and cycling networks with relevant supporting infrastructure (i.e., cycle parking and storage) that prioritises active and healthy lifestyles;*
- c. provides inclusively designed streets that are safe and accessible for all of the community and relevant services, including emergency and refuse vehicles;*
- d. protects or enhances the character of historic rural roads, particularly within the setting of the South Downs National Park;*
- e. provides well-designed parking provision for a range of vehicles, including cycle, electric and ultra-low emission vehicles, in accordance with the standards set out in Appendix 5;*
- f. does not have a severe impact on the operation of, safety of, or accessibility to the local or strategic highway networks;*
- g. mitigates impacts on the local or strategic highway networks, caused from the development itself and/or the cumulative effects of development, through the provision of, or contributions towards, necessary and relevant transport improvements; and*
- h. takes appropriate measures to avoid harmful effects of poor air quality, to people and the environment, including in connection with internationally designated biodiversity sites.*

⁵⁸ <https://www.legislation.gov.uk/ukpga/2008/27/contents>

⁵⁹ <https://www.essexdesignguide.co.uk/overarching-themes/garden-communities/walkable-neighbourhoods>

⁶⁰ CIHT (2015). Planning for Walking. Available at: https://www.ciht.org.uk/media/4465/planning_for_walking_-_long_-_april_2015.pdf

⁶¹ Ashden (2020). Climate action co-benefits. Cutting carbon and improving people's lives.

⁶² Chapman et al., 2018: A Cost Benefit Analysis of an Active Travel Intervention with Health and Carbon Emission Reduction Benefits. Available at: <https://www.mdpi.com/1660-4601/15/5/962/htm>

⁶³ Technology Strategy Board (2018). Designing for future climate. Available at: [ukgbc.org/wp-content/uploads/2018/09/Design-for-future-climate-full-report.pdf](https://www.ukgbc.org/wp-content/uploads/2018/09/Design-for-future-climate-full-report.pdf)

3.5.3.1 Justification

The UK has a legal obligation to reduce GHG emissions through the Climate Change Act 2008⁶⁴ which is reflected at the local level in East Hampshire's Climate and Environment Strategy 2020-2025.⁶⁵ As shown in the most recent iteration of the Local Authority GHG inventory (LA GHGI), the transport sector is the single biggest source of emissions in East Hampshire, with 48% of the total.⁶⁶ Furthermore, the Net Zero Evidence Base Study (Ricardo, 2023) showed that one of the key sources of emissions from new development over the Local Plan period will be associated with petrol and diesel used for road transport. Therefore, reducing demand for road transport – especially private car use – and accelerating the shift towards active travel, public transport, and – where these alternatives aren't feasible – electric vehicles.

Emissions can be avoided from the outset if the need for travel is reduced, e.g., through well-designed spaces (see DES1.1). To ensure that all remaining travel is zero- or low-emission, residents should have access to attractive walking and cycling routes, relevant facilities (such as cycle storage), and reliable public transport services. Transport infrastructure should be inclusive, ensuring that it is accessible to all member of society. This is especially important for community buy-in if accessibility was previously achieved through private car usage.

3.5.4 Water Quality, Supply and Efficiency

NBE8.1 New development must be phased using appropriate timescales, and funded in advance, for the construction of any necessary water and/or wastewater infrastructure associated with development proposals. Where appropriate, planning permission for developments which result in the need for off-site upgrades, will be subject to conditions to ensure the occupation is aligned with the delivery of necessary infrastructure upgrades.

NBE8.2 New development will need to meet strict environmental standards for adequate wastewater conveyance and treatment and may be required to incorporate well designed mitigation measures to ensure the water environment does not deteriorate, both during construction and during the lifetime of the development.

NBE8.3 Suitable arrangements for the disposal of foul water into a sewerage system will need to be incorporated at the nearest point of adequate capacity in consultation with the service provider.

NBE8.4 All residential developments for new dwellings will be required to demonstrate that it meets a water efficiency standard of no more than 110 litres per person per day, unless it can be demonstrated that doing so is not technically feasible or would make the scheme unviable.

3.5.4.1 Justification

Water availability in the Southeast of England exceeds current demand. In fact, the district falls within the classification identified as an 'area of serious water stress'.⁶⁷ The NPPF states that planning policies should contribute to and enhance the natural and local environment by taking into account relevant information such as RBMPs.⁶⁸ Local authorities also have a legal duty to have regard to River Basin Management Plans. The relevant Southeast River Basin Management Plan contains an action to encourage local authorities to adopt the optional minimum building standard of 110 litres per person per day in all new builds where there is a clear local need, such as in water stressed areas.⁶⁹

In addition to this, the UK's natural environment it currently facing serious damage from sewage pollution.⁷⁰ This is altering critical ecosystem processes by further accelerating species loss.⁷¹ As such, in order to tackle

⁶⁴ <https://www.legislation.gov.uk/ukpga/2008/27/contents>

⁶⁵ <https://www.easthants.gov.uk/climate-and-environment/climate-and-environment-strategy-2020-25>

⁶⁶ DESNZ and BEIS (2023). UK greenhouse gas emissions statistics. Available at: <https://www.gov.uk/government/collections/uk-greenhouse-gas-emissions-statistics>

⁶⁷ <https://www.gov.uk/government/publications/water-stressed-areas-2021-classification>

⁶⁸ DLUHC (2023). National Planning Policy Framework, paragraph 174 f. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

⁶⁹ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1112560/South_east_river_basin_management_plan_2022_HRA.pdf

⁷⁰ <https://www.sas.org.uk/water-quality/water-quality-facts-and-figures/>

⁷¹ <https://www.ox.ac.uk/news/2023-09-22-new-study-finds-sewage-release-worse-rivers-agriculture-0>

the ecological emergency at the local level, new developments should ensure that adequate wastewater treatment processes are in place.

4. POLICY OPTIONS FOR OTHER TYPES OF DEVELOPMENT

4.1 OVERVIEW

To date, it has often been the case that energy and GHG performance standards in Local Plans only apply to new buildings. This section considers policy options for the following types of development:

- Refurbishments/extensions
- Householder applications
- Changes of use
- Historic assets

For each category, we have provided a brief overview of the key issues to consider, a summary of the potential options, and sample wording from case studies (where available).

4.2 REFURBISHMENTS, EXTENSIONS AND HOUSEHOLDER APPLICATIONS

4.2.1 Issues to consider

- From an embodied carbon standpoint, it is crucial to promote refurbishment instead of ‘demolish and rebuild’ schemes. The policy approach must not be so onerous that refurbishment schemes are disincentivised.
- Compared with new buildings, existing buildings are subject to additional design constraints in terms of the structure, size and location of openings, building services, utility connections, etc. The presence of other adjacent buildings and infrastructure can pose further constraints; for example, in cases where overshadowing would make roof-mounted PV uneconomical.
- Refurbishment schemes differ widely in terms of their scope and the extent of works being carried out, so the technical potential for GHG mitigation will vary.
- For householder applications in particular, the following issues may be particularly relevant:
 - Because these projects are usually small, introducing higher energy/GHG performance standards would take up a much larger portion of the available budget
 - Applicants (and their agents/consultants) may have little or no knowledge of sustainable design and construction methods
 - Projects may be more focused on achieving more space and/or an uplift in property value rather than functionality and efficiency upgrades
 - There is a need to avoid unintended consequences, particularly to vulnerable or lower income groups

4.2.2 Policy options

Description	Policy precedent	Comments
Do not set a target for these types of developments	This is a typical approach in UK planning policy	This would represent a missed opportunity on EHDC’s part to influence emissions in the existing building stock
Do not set a target for these types of developments, but focus on enforcing Part L requirements on ‘consequential improvements’	This would be addressed primarily via Building Control processes rather than the planning system	Would only cover regulated emissions so does not fully align with EHDC’s definition of net zero carbon development

Description	Policy precedent	Comments
and the Minimum Energy Efficiency Standards (MEES)		
Encourage reductions in energy use and GHG emissions without setting quantitative requirements	Cornwall Climate Emergency DPD, Policy SEC1 – Sustainable Energy and Construction	Developers can easily claim that they have taken steps to reduce emissions but there will be no mechanism of assessing this if relying solely on a qualitative approach
<p>Set a quantitative requirement that is less challenging than the target for new buildings, either by:</p> <p>a) Extending the ‘consequential improvements’ requirement, which currently only applies to non-residential developments over 1000m²</p> <p>b) Setting performance targets such as energy use intensity (EUI) limits</p> <p>c) Requiring applicants to undertake a third-party assessment such as BREEAM Refurbishment and Fit-out, BREEAM Domestic Refurbishment, EnerPHit, etc.</p> <p>d) Specifying a minimum EPC rating improvement</p>	<p>No precedents identified for the consequential improvements or EUI approach</p> <p>BREEAM requirements for refurbishment schemes have been set in the following Local Plans:</p> <ul style="list-style-type: none"> London Borough of Camden Policy CC2 – Adapting to climate change⁷² London Borough of Lambeth Local Plan Policy EN4 – Sustainable Design and Construction⁷³ London Borough of Southwark Plan 2022 Policy P69 – Sustainability Standards⁷⁴ <p>Brighton and Hove City Council has adopted minimum EPC rating requirements in the City Plan Part 2, Policy DM44 – Energy Efficiency and Renewables⁷⁵</p>	<p>This approach recognises the technical and practical challenges involved in improving existing buildings</p> <p>For minor developments and householder applications the cost and viability impacts may be more onerous</p> <p>Need to avoid unintended consequences e.g., putting families at a disadvantage if they need more space but cannot afford to move – could be politically challenging</p>
Require buildings to meet comparable net zero standards to new builds (unless in exceptional circumstances)	No precedents identified	<p>Would be extremely challenging and costly in some cases</p> <p>EHDC would need to be able to review applications and interrogate claims – limited in-house capacity means this is not currently practical</p>
Require buildings to be ‘net zero ready’ or otherwise futureproofed to facilitate net zero performance, but without setting EUI or GHG emissions standards	No precedents identified	<p>Relevant interventions would vary on a case-by-case basis, but could include:</p> <ul style="list-style-type: none"> Allowing space for heat pumps and/or hot water

⁷² <https://www.camden.gov.uk/documents/20142/4820180/Local+Plan.pdf/ce6e992a-91f9-3a60-720c-70290fab78a6>

⁷³ <https://www.lambeth.gov.uk/sites/default/files/2021-09/Lambeth%20Local%20Plan%202021.pdf>

⁷⁴ <https://www.southwark.gov.uk/planning-and-building-control/planning-policy-and-guidance/development-plan/new-southwark-plan>

⁷⁵ <https://www.brighton-hove.gov.uk/planning/city-plan-part-two/download-city-plan-part-two#>

Description	Policy precedent	Comments
		storage to be installed in future <ul style="list-style-type: none"> • Making sure the proposed heating system is compatible with low temperatures • Prohibiting the installation of new fossil fuel systems or extension of existing ones
Define requirement in terms of 'not adding to the existing burden'. For instance: "After adopting energy efficiency measures, if there is any net increase in energy consumption, 100% of the net increase must be met via on-site renewables"	No precedents identified	Similar issues apply as for the option of 'Setting a less challenging target' – see above

In addition to the policy options listed above, EHDC could also consider:

- Loosening other policy requirements for schemes that achieve high GHG performance standards; and/or
- Giving additional weight to climate change mitigation and adaptation when making planning decisions.

While CLIM2 focuses predominantly on new development, paragraph CLIM2.4 details the provisions for extensions and refurbishments stating that they should aim to comply with the requirements for new development as appropriate, but where this would deem the development unviable, evidence for why the requirements cannot be met must be presented alongside evidence that all efforts to meet criterion a) have been undertaken to reduce energy demands to the lowest practical level. These provisions take a similar approach to Cornwall Council that stipulates the reduction of energy demand as far as possible without setting quantitative requirements. In practice, the impacts of this will be much less than stipulating specific requirements, however, it is important to accommodate for the need of extensions alongside the financial constraints that can come with net zero measures on a small scale. Cornwall Council, however, do apply their thresholds to self-contained annexes which is something EHDC could consider under this policy. It is expected that these, and other extension or refurbishment applications, would likely be taken on a case-by-case basis and the evidence submitted within the Sustainability Statement that demonstrates the endeavours taken to meet the requirements are carefully considered and be accepting of alternative solutions. For example, being unable to meet PV requirements on extension roofs could be accommodated by supplementary PV on the original structure.

With CLIM3 in favour of renovation over destruction, there is inherent support for refurbishment and extension. Extending properties will contribute to additional embodied carbon emissions, so clarification on how impacts can be minimised through the use of low carbon or recycled materials should be provided alongside the Local Plan policy.

4.2.3 Sample policy wording

4.2.3.1 Cornwall Climate Emergency DPD, Policy SEC1 – Sustainable Energy and Construction

Existing Buildings:

Significant weight will be given to the benefits of development resulting in considerable improvements to the energy efficiency and reduction in carbon emissions in existing buildings.

Proposals that help to increase resilience to climate change and secure a sustainable future for historic buildings and other designated and non-designated heritage assets will be supported and encouraged where they:

- a) *conserve (and where appropriate enhance/better reveal) the design, character, appearance and historical significance of the building; or*
- b) *facilitate their sensitive re-use where they have fallen into a state of disrepair or dereliction (subject to such a re-use being appropriate to the specific heritage asset).*

4.2.3.2 London Borough of Camden, Policy CC2 – Adapting to climate change

The Council will promote and measure sustainable design and construction by [...] encouraging conversions and extensions of 500 sqm of residential floorspace or above or five or more dwellings to achieve “excellent” in BREEAM domestic refurbishment.

4.2.3.3 Lambeth Local Plan, Policy EN4 – Sustainable design and construction

In addition to the requirements for zero-carbon in major new developments in London Plan policy SI2:

- i. *All new non-residential development and non-self-contained residential accommodation must meet at least BREEAM ‘Excellent’.*
- ii. *All major non-residential refurbishment of existing buildings and conversions over 500m2 floorspace (gross) must meet at least BREEAM Non-Domestic Refurbishment ‘Excellent’.*
- iii. *Minor new-build residential developments of between one and nine units, including proposals that involve extensions or change of use to provide dwellings, must achieve a minimum on-site reduction in regulated carbon emissions of at least 19 per cent beyond Part L of the Building Regulations, unless it can be demonstrated that such provision is not feasible.*

4.2.3.4 Southwark Plan 2022, Policy P69 – Sustainability Standards

1. Development must:

- 1. *Achieve a BREEAM rating of ‘Excellent’ for non-residential development and non-self-contained residential development over 500sqm; and*
- 2. *Achieve BREEAM rating of ‘Excellent’ in domestic refurbishment for conversion, extension and change of use of residential floorspace over 500sqm; and*
- 3. *Achieve BREEAM rating of ‘Excellent’ in non-domestic refurbishment for conversion, extension and change of use of non-residential floorspace over 500sqm; and*
- 4. *Reduce the risk of overheating, taking into account climate change predictions over the life time of the building, in accordance with prioritised measures set out in the following cooling hierarchy:*
 - 1. *Reduce the amount of heat entering a building through the orientation, shading, albedo, fenestration, insulation and green roofs and walls; then*
 - 2. *Minimise internal heat generation through energy efficient design; then*
 - 3. *Manage the heat within the building through exposed internal thermal mass and high ceilings;*
 - 4. *then*
 - 5. *Passive ventilation; then*
 - 6. *Mechanical ventilation; then*
 - 7. *Active cooling systems (ensuring they are the lowest carbon options)*

4.2.3.5 Brighton and Hove City Plan Part 2, Policy DM44 – Energy Efficiency and Renewables

In addition to the requirements set out in Policy CP8 Sustainable Buildings, the following standards of energy efficiency and energy performance will be required unless it can be demonstrated that doing so is not technically feasible and/or would make the scheme unviable:

- 1. *Conversions and change of use of existing buildings to new residential dwellings to achieve at least 19% improvement on the carbon emission targets set by Part L (2013) until the Future Homes Standard or any interim uplift in Part L which exceeds 19% improvement come into effect;*
- 2. *Non-residential development (major and non-major) including conversions and changes of use to achieve at least 19% improvement on the carbon emission targets set by Part L (2013) until the Future Buildings Standards or any interim uplift in Part L which exceeds 19% improvement come into effect.*
- 3. *A minimum energy Performance Certificate EPC rating ‘C’ for conversions and changes of use of existing buildings to residential and non-residential use.*

4. A minimum energy Performance Certificate EPC rating 'B' for new build residential and non-residential development.
5. Opportunities for new development to achieve greater reductions in CO₂ emissions through the use of passive design, fabric standards, energy efficiency measures and low and zero carbon technologies will be encouraged in [strategic site allocations].

Where it can be demonstrated that the minimum CO₂ reduction targets cannot be met on-site, mitigation measures may be sought in accordance with City Plan Part 1 Policy CP7 Infrastructure and Developer Contributions.

All major residential and non-residential development will be expected to submit an energy statement to provide details of the building fabric efficiency and low and zero carbon energy technologies used including the size/capacity of the systems and the estimated CO₂ savings that will be achieved.

4.3 CHANGES OF USE

4.3.1 Issues to consider

- Change of use applications do not necessarily involve any changes to thermal elements of the building or building services, so there may not be an opportunity to improve energy efficiency or adopt renewable/low carbon energy systems.
- The fit-out process may generate construction waste, but this would not typically be controlled via local planning policies.

4.3.2 Policy options

If the change of use would include some element of refurbishment or extension, policy options are as for other types of refurbishment/extension; see Section 4.2.2.

If it would only involve fit-out, then policy options relating to energy and GHG performance are limited. The more relevant policy topic areas relate to waste reduction and circular economy principles. Guidance on these topics is available⁷⁶ but there are not many precedents for introducing specific, quantitative targets.⁷⁷ Moreover, much of this work would fall outside of the planning system because internal modifications that do not materially affect the exterior of a building do not constitute 'development' as defined in legislation.⁷⁸

4.4 HISTORIC ASSETS

4.4.1 Issues to consider

- The presence of historic fabric or features may limit the range of design options available, both for visual/aesthetic reasons (e.g. retaining decorative brickwork) or technical reasons (e.g. need to use 'breathable' construction materials to prevent moisture damage to timber structures).
- In some cases, changes may be suitable for an individual property, but this could impact the historic character of the street or neighbourhood (e.g. in the case of terraced housing).
- Some changes might be technically possible to implement, but only at significant cost.
- As a result of all these factors, the level of technical performance that can be achieved in a practical and cost-effective way will vary much more than in newer buildings.

More broadly, the Council will need to consider how much weight should be afforded to heritage concerns as opposed to climate change mitigation and adaptation. From a GHG emissions standpoint (and in the context of rising energy bills) EHDC should adopt a presumption in favour of modifications that would reduce energy demand in existing buildings, provided these would not cause physical damage to the historic fabric.

⁷⁶ See, for example, the GLA 'Circular Economy Design Primer' (2021). Available at: https://www.london.gov.uk/sites/default/files/design_for_a_circular_economy_web.pdf

⁷⁷ The GLA London Plan requires major developments to submit a Circular Economy Statement that reports performance against a variety of metrics. Further information is contained in the GLA's 'Circular Economy Statement Guidance' (2022). Available at:

⁷⁸ Refer to the Town and Country Planning Act 1990. Available at: <https://www.legislation.gov.uk/ukpga/1990/8/section/55>

Case study: Solar PV on the roof of King's College, Cambridge

In February 2023, the Cambridge City Council Planning Committee approved an application for solar PV to be installed on the roof of King's College Chapel.

The decision was made despite objections from Historic England and the City Council's conservation officers. The College demonstrated that there were significant benefits of installing PV, and that not doing so would incur opportunity costs – both financial and environmental. Proponents argued that the installation should be celebrated as an example of best practice, because it would provide 100% of the chapel's electricity.

This decision reflects a shift in attitudes towards sustainable design measures that have a visual impact on the built environment.

For more information, refer to the King's College website:

['Plans to install solar panels on Chapel roof approved by City Council' \(8 February 2023\)](#)

**4.4.2 Policy options**

The options for historic assets are broadly similar to those for other refurbishments/extensions; see Section 4.2.2. There are some additional nuances to consider:

- The cost and practical issues associated with upgrading historic buildings are often (though not always) higher than for other existing buildings. Viability would therefore be more of a concern.
- Listed buildings are exempt from EPCs, so a target based on EPC ratings would not apply.

Research by the BRE has found that historic buildings can achieve challenging BREEAM targets.⁷⁹ However, the same study also acknowledged that, 'For these types of building there can be several inherent restrictions which limit the potential improvements that can be delivered. In addition to setting policy requirements for historic buildings in the Local Plan, it is common for LPAs to issue sustainability guidance in the form of a Supplementary Planning Document (SPD). Alternatively, LPAs may simply signpost to existing guidance such as that provided by Historic England^{80,81} and the Sustainable Traditional Buildings Alliance.^{82,83} EHDC should consider this approach alongside other policy options.

As outlined in the guidance documents by Historic England, energy efficiency measures in modern buildings cannot simply be applied to historic buildings due to the different nature of the latter. Most notably from an energy efficiency perspective, this is due to the different materials used which perform differently – heating up and cooling down more slowly. In addition to this, the fabric is often semi-permeable, allowing moisture to move through in a controlled manner. To keep dry, such buildings commonly rely on wind, sunshine, heating, and internal ventilation through windows, draughts, and chimneys.⁸⁴ To ensure that improvements are "suitable, proportionate, timely, well integrated, properly coordinated, effective and sustainable"⁸⁵, as well as avoid any unintended consequences – such as moisture accumulation, fabric damage, or overheating – a 'whole building approach' should be chosen. A whole building approach considers the wider context of a building, such as cultural, community, economic, and environmental factors and aims to identify balanced solutions that not only reduce energy consumption but also ensure that the building's heritage significance is retained.⁸⁶

⁷⁹ BRE, 'BREEAM Briefing Paper: Sustainable Refurbishment of Heritage Buildings' (2014). Available at: <https://tools.breeam.com/filelibrary/Brochures/Heritage-Sustainable-Refurbishment-v2.pdf>

⁸⁰ <https://historicengland.org.uk/images-books/publications/energy-efficiency-and-traditional-homes-advice-note-14/heag295-energy-efficiency-traditional-homes/>

⁸¹ <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/>

⁸² <https://historicengland.org.uk/images-books/publications/planning-responsible-retrofit-of-traditional-buildings/responsible-retrofit-trad-bldgs/>

⁸³ <https://stbauk.org/guidance-wheel/>

⁸⁴ <https://historicengland.org.uk/images-books/publications/planning-responsible-retrofit-of-traditional-buildings/responsible-retrofit-trad-bldgs/>

⁸⁵ <https://historicengland.org.uk/images-books/publications/eehb-how-to-improve-energy-efficiency/heag094-how-to-improve-energy-efficiency/>

⁸⁶ Ibid.

5. IMPLEMENTATION AND MONITORING

5.1 OVERVIEW

For developers to understand how they are to approach and implement the requirements of the Local Plan, supporting guidance will need to be detailed. Implementation guidance should focus on the 'Who, What, When, Why, and How' for addressing each policy. This can be included within the Local Plan itself or as part of a Supplementary Planning Document (SPD).⁸⁷ LPAs have a variety of different approaches to implementation and monitoring. This reflects differences in the policy requirements, the size of the Local Authority, the volume and type of applications being received, and available staff resources.

Following each draft policy listed in section 3, potential implementation formats have been suggested based on best practice examples from LPAs that have already included net zero policies within their Local Plan or are in the process of developing similar policies. This section will draw together and expand on this information, including suggested provisions for how EHDC could monitor the successful implementation of the policies.

5.2 HOW WERE THESE RECOMMENDATIONS DEVELOPED?

The approach to monitoring and implementation has been developed through a combination of:

- Desk-based research to understand the existing approaches taken by other Local Authorities that have already adopted energy and/or GHG performance standards that exceed Building Regulations
- Interviews with Local Authorities that have either already adopted such standards or are seeking to do so in future
- Engagement with EHDC's planning, development management and building control officers to understand in-house capacity, resources and procedures

Appendix B contains a list of the Local Authorities and other organisations or individuals who were contacted, and records key take-home points from those discussions.

5.3 RECOMMENDATIONS

5.3.1 Information requirements

While there are variations in the evidence required from LPAs across the planning process, there are common themes. Typically, key types of evidence include:

- An Energy or Sustainability Statement that describes the proposed design measures, with or without supporting calculations.
- This may be accompanied by a separate energy and GHG emissions reporting template and/or a 'sustainability checklist' or similar.

LPAs that assess other topics (e.g., overheating risk or embodied carbon) may request the use of other tools or calculation methodologies based on established technical guidance or toolkits from industry to demonstrate compliance. Table 3 draws together the most common types of evidence required for different types and stages of development. This addresses minor and major residential and non-residential development, as well existing buildings.

⁸⁷ It is noted that the process for SPD's is proposed to change under the Levelling Up and Regeneration Bill, which received royal assent on 26th October 2023. The scope for what can be introduced under the new proposed Supplementary Plans is still to be confirmed. It is understood that supplementary plans will address site-specific needs or opportunities which require a new planning framework to be prepared quickly (like a new regeneration opportunity), or to act as a vehicle for setting out authority-wide or other design codes.

Table 3. Typical evidence requirements per type and stage of application

Type of development		Stage of planning process			
Category	Sub-category (if applicable)	Pre-planning advice	Outline planning permission	Full planning permission & Reserved matters	Post-construction - These are detailed further in section 5.3.3
Major	Residential	<p>Energy and GHG Emissions: Most commonly there are no specified requirements for the pre-planning advice stage.</p> <p>Where there are requirements, these typically take the form of a draft/or preliminary Energy or Sustainability Statement which should include provisional calculations of energy use.</p> <p>Overheating: If LPAs require overheating calculations, a common suggestion is the use of the Good Homes Alliance (GHA) Early Stage Overheating Risk Tool.</p> <p>Embodied Carbon: For embodied carbon, initial calculations could be required as part of the draft Energy or Sustainability statement, however not all LPAs that do include embodied carbon or WLC require anything at this stage. GLA have created a WLC Assessment Template with specific tabs to complete for each stage.</p>	<p>Energy and GHG Emissions: Most commonly there are no specified requirements for the outline stage.</p> <p>Where there are requirements, these typically take the form of an Energy or Sustainability Statement (less detail is required for outline applications than for full/reserved matters applications).</p> <p>Overheating: If LPAs require overheating calculations, a common suggestion is the use of the Good Homes Alliance (GHA) Early Stage Overheating Risk Tool.</p> <p>Embodied Carbon: For embodied carbon, initial calculations could be required as part of the draft Energy or Sustainability statement, however not all LPAs that do include embodied carbon or WLC require anything at this stage. GLA require the completion of the 'outline' tab of the WLC Assessment Template.</p>	<p>Energy and GHG Emissions: Energy or Sustainability Statements are the key piece of evidence required at full planning/reserved matters stage. This may be accompanied by a separate energy and GHG emissions reporting template and/or a 'sustainability checklist' or similar.</p> <p>Some LPAs require that major residential development modelling is done via the Passivhaus Planning Package (PHPP) rather than SAP to give a more accurate reflection of total energy use.</p> <p>Overheating: If overheating modelling is required, it should be using a method that demonstrates compliance with CIBSE TM54.</p> <p>Embodied Carbon: If required, LPA requirements can include a WLC assessment using a template they have designed (GLA), an Embodied Carbon Assessment using nationally recognised WLC Assessment, and/or submitting a Circular Economy Strategy.</p>	<p>Energy and GHG emissions: LPAs differ in terms of their requirements for post construction evidence. Options for evidence include:</p> <ul style="list-style-type: none"> • Post occupancy evaluation (POE) forms • Energy performance measurements. These can be post-construction and pre-occupation or post-occupation and may be for a medium-term duration. • Assured performance documentation. <p>Overheating: Typically, no additional evidence requirements are sought.</p> <p>Embodied Carbon: Not all LPAs ask for post-construction evidence. GLA require developers to complete the 'post-construction' tab of the WLC Assessment Template. The assessment is expected to be received c. 3 months post-construction.</p>
	Non-residential	<p>Energy and GHG Emissions: Most commonly there are no specified requirements for the pre-planning advice stage.</p> <p>Where there are requirements, these typically take the form of a draft/or preliminary Energy or Sustainability Statement which should include provisional calculations of energy use.</p> <p>If using frameworks like BREEAM, LPAs can require pre-assessment estimators of the end BREEAM certification level.</p> <p>Overheating: Most commonly there are no specified requirements but where LPAs do require this information at pre-planning stage, it is asked that detail is provided on how</p>	<p>Energy and GHG Emissions: As above.</p> <p>Overheating: As pre-planning advice.</p> <p>Embodied Carbon: As above.</p>	<p>Energy and GHG Emissions: Energy or Sustainability Statements are the key piece of evidence required at full planning/reserved matters stage. Or, where certification frameworks are used, pre-assessment evidence is requested.</p> <p>Overheating: If overheating modelling is required, it should be using a method that demonstrates compliance with CIBSE TM52.</p> <p>Embodied Carbon: As above.</p>	<p>Energy and GHG emissions: Most commonly recalculation of energy performance modelling is required. These can be post-construction and pre-occupation or post-occupation. Medium term measurements are required for some LPAs (GLA).</p> <p>Where LPAs are using certification frameworks, proof that the project has achieved the intended certification level is required e.g., BREEAM Excellent certification.</p> <p>Overheating: As above.</p> <p>Embodied Carbon: As above.</p>

Type of development		Stage of planning process			
		overheating risk will be minimised – however, no tool use is required. Embodied Carbon: As above.			
Minor	Residential	None specified	None specified	Energy and Sustainability statements are sometimes required for ALL types of development, including minor. However, in these instances, minor development may use SAP calculations for their modelling rather than PHPP. These may be accepted as is or could be put through a SAP to PHPP conversion calculator - as with Cornwall.	Not all LPAs require evidence post construction on minor development, however if the net zero requirements apply to ALL residential development the same requirements will apply. This could take the same format as above, most commonly involving recalculations of initial energy modelling.
	Non-residential			Not all LPAs require this but if it is not required, it is still <i>encouraged</i> for developers to submit some elements of a Energy or Sustainability Statement.	If using a certification framework, proof that the project has achieved the intended certification level is typically required.
Existing buildings	Redevelopments/ refurbishments	<p>Requirements for refurbishments differ depending on the LPA and may be <i>encouraged</i> rather than obligated to meet net zero policies. Where they are required to meet policies, typically similar information is required of refurbishments as new development.</p> <p>GLA: Development involving major refurbishment should also aim to meet [the net zero] policy. Major refurbishments (10 or more units or floorspace of 1000m² or more) are required to submit an energy assessment demonstrating how the individual elements of the energy hierarchy have been implemented and how reductions in regulated CO₂ emissions have been achieved. These have slightly different calculation requirements to new build, which are detailed in the guidance.</p> <p>Cornwall: Applies policy requirements to all developments, including energy thresholds and Energy Statement evidence. But is aware that they may not be able to meet all requirements and may therefore compromise requirements in specific circumstances.</p> <p>BANES: The adopted policy is applied to new developments only and refurbishment developments are assessed under their own merit. For changes of use of 5 or more dwellings/500m² of floor space, developers are required to submit a reduced requirement Sustainability Checklist, with a % CO₂ reduction following all measures meeting 10% at least.</p> <p>NEC: Proposing to not include refurbishment/retrofit developments in the policy due to challenge setting targets. Likely to take a more bespoke approach to these developments.</p>			
	Extensions	<p>As with refurbishments, there is a less common approach and evidence requirements/inclusion within the policies differs between LPAs. For householder applications, extensions are not often required to apply for planning consent which removes an opportunity.</p> <p>GLA: For developments that include refurbishment elements alongside a new build extension, the CO₂ savings for the new and refurbished elements should be presented separately within the Energy Strategy. Only the new build elements should be assessed in line with the methodology for new build development and will be expected to comply with London Plan policy.</p> <p>Cornwall: Do not apply energy thresholds to general extensions but require that applicants demonstrate that they have undertaken all reasonable endeavours to minimise impacts. Do apply energy thresholds to self-contained annexes.</p> <p>BANES: The adopted policy does not include household extensions. For 5 or more dwellings/500m² of floor space, developers are required to submit a reduced requirement Sustainability Checklist, with a % CO₂ reduction following all measures meeting 10% at least.</p>			

Type of development	Stage of planning process
Historic/Listed buildings	<p>LPA's approach heritage assets differently but, if included in policies, evidence is typically required to demonstrate the proposed measures do not detract/impinge on the heritage value.</p> <p>GLA: No explicit distinction is made between historic/Listed buildings and other projects relating to existing buildings. It is assumed that, as with other policy requirements, the emissions reduction would be weighed against the need to conserve the historic fabric and heritage value of the building.</p> <p>Cornwall: Applies policy requirements to all developments, including energy thresholds and Energy Statement evidence. Accept that all measures required within the policy may not be technically feasible for heritage assets but require reasoning to be detailed within planning documentation.</p> <p>NEC: Proposing to not include heritage developments in the policy due to challenge setting targets. Likely to take a more bespoke approach to these developments.</p> <p>West Oxfordshire: Sustainability Standards checklist requires applicants to summarise how the heritage value has been assessed, provide details of the 'whole building' approach [to retrofit], and describe how 'responsible retrofit measures' will be adhered to.</p> <p>Winchester: Retrofitting of historic/listed building will be allowed to improve energy efficiency if the strategy indicates it does not cause harm to historic assets</p>
Householder applications	<p>There is limited explicit distinction found within other LPA net zero planning policies for householder applications.</p> <p>Cornwall: Applies the energy thresholds to self-builders of new homes.</p>

EHDC will need to consider the implementation process for the net zero policies, including the level of detail required in the supporting documentation, reflecting their capacity to assess applications, the skillset of the current and future planning team and Building Control involvement (section 5.3.2.3). Based on the desk-based research and conversations with LPAs, it is recommended that EHDC consider the following options as part of their implementation strategy.

- **All applications should submit an Energy/Sustainability Statement.** This is best practice and widely seen across other LPAs. The level of detail required can be adjusted to suit the scale of application including any additional requirements to support overheating and whole life carbon evidence. This has been included within EHDC's policy text.
- **Major residential developments to use PHPP.** While PHPP is not currently widely used within industry, it is considered the best approach for determining total energy use in comparison to SAP. As EHDC will be including total energy as part of their CLIM2 net zero policy, having an accurate accounting of total emissions will be required to ensure this policy is met. PHPP is a good solution to meet these needs.
- **Minor developments/householder applications could still utilise SAP.** For minor or household applications which may find the use of PHPP prohibitive, SAP could still be used as evidence for energy modelling requirements. To demonstrate compliance with the CLIM2 policy, minor and household developments could utilise sub-national electricity consumption statistics to demonstrate that on-site renewables would meet total electricity consumption. See Box 2 for more details.
- **Review costs of developing SAP to PHPP conversion tool.** Cornwall Council has worked with Etude to develop a SAP to PHPP conversion tool⁸⁸, this allows developers to undertake and input SAP modelling with the tool converting this to a PHPP output, giving a more accurate reflection of total consumption. This reduces the burden for developers that are used to the SAP calculation methods while allowing Cornwall energy officers to easily confirm the output meets the requirements of the Policy SEC1 Sustainable Energy and Construction. EHDC could investigate the options for developing a tool themselves or approaching Cornwall or other councils with a similar model to access the tool. Costs for developing an EHDC specific tool should be considered alongside other implementation priorities, such as adequate staffing within the team to assess applications.

5.3.2 Potential EHDC resource requirements

As with any other Local Plan policy, EHDC officers need to have enough capacity and subject knowledge to evaluate applications and – crucially – engage in discussions with developers who claim that the policy cannot be met.

This is a challenging area for Local Authorities, recognising the constraints on officer time and resources along with budget cuts. Research commissioned by UK100, a network of local government leaders, has identified the lack of planning officers' time, capacity and knowledge as one of the barriers to net zero carbon development.⁸⁹ However, it will need to become a priority going forward as greater attention is paid to the GHG impacts of new development.

5.3.2.1 How have other LPAs resourced this?

A range of options are listed below.



Hiring a dedicated sustainability or energy officer

This role might sit within the planning policy team, development management, compliance, or take on an even broader remit with links to other departments. Depending on the size of the LPA and the volume of applications/queries being received, it may not be a full-time position. Based on our experience of working with LPAs, sustainability and energy officers tend to be in high demand.



Hiring contractors to provide technical advice

This could cover anything from pre-application advice, to assessing energy or sustainability statements, condition discharge or S106 discharge applications, or providing input to the development of standard conditions. The GLA has a longstanding arrangement with an

⁸⁸ [Energy Summary Tools: Update 18th October 2023 \(cornwall.gov.uk\)](https://www.cornwall.gov.uk)

⁸⁹ Quantum Strategy & Technology Ltd. on behalf of UK100, 'Power Shift: Research into Local Authority powers relating to climate action' (2021). Available at: https://www.uk100.org/sites/default/files/publications/Power_Shift.pdf

engineering firm that assesses Energy Statements. Other councils, such as the London Borough of Lambeth, have adopted a similar approach to support its development management team. Cornwall Council has a dedicated sustainability officer but has also employed outside consultants who handle technical queries.



Providing training to case officers, and the planning and development management team(s) more broadly, to ensure that all of them are equipped with basic knowledge of sustainable design.



For all the above, there may be an opportunity for EHDC to **pool resources with other LPAs** that are seeking to adopt similar policies, such as Winchester City Council).

These options are not mutually exclusive, and some LPAs choose to combine them.



Case study: Greater Cambridge

Greater Cambridge has a consultancy team within its shared planning service. There are two sustainability officers who work on carbon reduction policies and assess energy statements. They can provide advice starting from the pre-application stage onwards; these fees help the Council recover the costs on planning applications. For major developments or complex schemes, they tend to use planning performance agreements.



Case study: Cornwall Council

Cornwall is a large LPA which handles a high volume of planning applications. The Council has provided training to case officers to help them become more familiar with sustainable design topics. There is a sustainability officer who handles most queries; if that person is unable to answer the query, it gets passed along to a specialist team of outside consultants. In the longer term, the Council may recruit a technical specialist to bring that knowledge in-house.

Interestingly, North East Cambridgeshire are proposing to use planning performance agreements to appropriately resource and fund the advice provided throughout the planning process. Developers identify the stages of application where they would like NEC input, NEC then allocate the resource needed from across their in-house technical specialists and this time is formally costed. PPAs allow NEC to recoup costs spent on applications, while developers know these additional costs will result in a successful application.

5.3.2.2 Skills and experience

The relevant knowledge needed to assess applications and undertake discussions with developers would include:

- Familiarity with the principles of sustainable building design and construction techniques
- Experience of energy modelling and building physics e.g. PHPP, SAP or BRUKL calculations, or (at minimum) an ability to interpret the calculations
- Understanding of third-party assessment schemes e.g. BREEAM, Passivhaus or other certification schemes
- Expertise in lifecycle carbon assessments to evaluate WLC emissions or proposed construction materials
- Awareness of the wider policy and legal position regarding GHG mitigation and building performance

More broadly, monitoring and implementing the policy might require:

- Officers to monitor planning applications and post-occupancy evaluations
- Ability to collect and interpret energy data to contribute towards the development of future standards or benchmarks
- Knowledge of how to design, set up and administer offsetting scheme(s), which may relate to energy efficiency improvements, renewable energy systems, or nature-based solutions

5.3.2.3 Working with Building Control

The remit of Building Control is to confirm buildings are properly designed and constructed, in accordance with Building Regulations and associated legislation. As Building Regulations have been updated, the minimum standards to which Building Control Officers must ensure buildings abide to have changed, including improved health and safety considerations, as well as improving the standards of energy efficiency, ventilation, and most recently overheating, through Parts L, F, and O respectively. While the regulations have adapted to evolving industry and societal needs, the core responsibility of Building Control persists, ensuring compliance with these specified standards. Therefore, it is important to consider the implications of going beyond Building Regulation standards and what the role of Building Control could be in these circumstances.

Key things to consider include:

- Building Control's remit is enforcing the minimum standards of the Building Regulations and there is no legal mandate for Building Control to enforce standards beyond these.
- Building Control is a competitive environment.
 - If EHDC's Building Control are seen to be enforcing standards beyond Building Regulations, including additional checks, developers may choose to use other Building Control operators.
 - In addition, Local Authority Building Control teams may not see the applications of several projects that go ahead in the Local Authority area to enforce the standards, unless they are found to be non-compliant by the private Building Control entity inspecting them.
- Building Control teams may not have the essential skillset to assess documentation beyond those required for Building Regulation compliance.
 - Conversations with EHDC Building Control indicate there is some knowledge of sustainable building techniques, associated with the Code for Sustainable Homes, but they would not have the necessary knowledge or capacity to assess proposed net zero requirements.

However, this does not mean that Building Control shouldn't or cannot have a role. Through research and conversations with other LPAs, the following opportunities have been identified for Building Control to support the implementation of net zero policies.

- Building Control teams should be given training on the policies and their practical implications as part of an awareness and upskilling programme. This could be focused on increasing familiarity with key types of development that will be coming across their desks, e.g., North East Cambridgeshire's Building Control has undertaken Passivhaus training. The benefits of taking the time to train Building Control staff on the policies and supporting packages is that where Building Control Officers are working on a scheme that is not compliant with the net zero policies, these can be identified early and passed onto the planning department for resolution.
- Building Control should be brought in as early as possible to discussions, including pre-planning advice stage.
- Building Control Officers will often have regular contact with key developers, a relationship that can be beneficial for the planning and development management teams. They can promote awareness of the additional tighter standards.
- Building Control teams can provide positive publicity of the policies through regular networking and conference events.

5.3.3 Options for monitoring arrangements

To ensure the impact of the proposed net zero local plan policies and ensure development built and occupied in EHDC meets the required standards on-site, appropriate monitoring of the policies' implementation should be established. It is well understood within the industry that there exists a performance gap between the energy standards of buildings as designed and the energy standards of buildings once built and occupied.⁹⁰ The performance gap is defined as the deficit between the predictions of energy consumption at design stage when compared to a building's actual consumption at operation.⁹¹ Research by the UK Passivhaus Trust found an average performance gap of 40% between the actual operational energy use of a new build house in

⁹⁰ [UK-GBC-Task-Group-Report-Delivering-Building-Performance.pdf \(ukgbc.org\)](#)

⁹¹ [leti-climate-emergency-design-guide.pdf \(levittbernstein.co.uk\)](#)

comparison to its EPC modelling, while others estimated this could be as high as 500%.^{92 93} Without some level of monitoring there is opportunity for this performance gap to grow and the expected emissions reductions associated with the policies to be compromised. The UKGBC New Homes Policy Playbook recommends that as a minimum, local authorities should require developers to demonstrate that they will act to close the performance gap.⁹⁴

LPAs are taking a range of approaches to address the performance gap and monitor their net zero local plan policies. These monitoring arrangements vary substantially in their make up in terms of what stage they are required from, their required duration following construction, and the intensity of detail required. EHDC should assess these potential monitoring options considering what would be the most appropriate and proportionate approach, reflecting on EHDC's own requirements and resource availability.

As-built modelling

A simple way to check that development has met the policy requirements and has been built to the standards that were included in the planning application is to require that developers re-submit their energy use calculations once the building has been constructed. This is a simple method for ensuring some level of monitoring is undertaken, particularly focusing on the design-build performance gap.

One way that LPAs can stipulate this is through planning conditions. These are stipulations attached to planning permission which must be adhered to by the person or organization carrying out the development.⁹⁵ LPAs can use them to reinforce policies or mandate additional steps that must be completed as a condition to the planning permission. Cornwall Council attaches a planning condition to applicable planning consents to secure energy performance, requiring that development is '*to be carried out in accordance with the [Energy] Statement (as a minimum)*'.⁹⁶ Going one step further, BANES attaches a planning condition which requires that their Energy Summary Tool, which is used as part of the planning application initial modelling, is submitted again once the building is constructed to ensure the requirements of the policy have been met.⁹⁷ Doing so, provides assurance that the energy standards at design stage are mirrored by the as-built building. As this uses a format familiar to both the developer and planning team, it is expected this would not require too much additional effort on the developers part or resources from EHDC. However, this does not offer a long-term monitoring arrangement and means that there is still scope for a performance gap between the constructed building and its operational energy use once occupied.

Post-Occupancy Evaluation

Post-Occupancy Evaluation (POE) is an umbrella term and process that involves assessing and evaluating a building's performance after it has been occupied and in use.⁹⁸ The evaluation aims to understand how well the building meets the intended goals and objectives through systematic collection of specific building performance data. POE can take various formats depending on the context and specific goals to be measured but typical information sought includes:

1. Occupant feedback (e.g., occupant-satisfaction questionnaires, interviews, and focus groups)
2. Monitoring of environmental conditions (such as thermal comfort, air quality, and noise levels)
3. Energy and water use audits, and
4. Performance assessments (e.g., checking whether heating systems are functioning).⁹⁹

A combination of energy use auditing and occupant feedback can give a comprehensive review of the strengths and weaknesses of a building, any shortcomings between the design and as-built conditions, as well as identifying where occupant behaviour could be altered to improve the use of the building.

Cassington Parish Council in West Oxfordshire uses a planning condition within their Neighbourhood Plan to require POE is undertaken. Actual metered energy use must be reported to the LPA, and where it is demonstrated there is poor energy performance, the report must suggest any reasonable corrective action,

⁹² [Passivhaus retrofit in the UK | Passivhaus Trust | September 2021](#)

⁹³ [leti-climate-emergency-design-guide.pdf \(levittbernstein.co.uk\)](#)

⁹⁴ [New-Homes-Policy-Playbook-January-2021.pdf \(ukgbc.org\)](#)

⁹⁵ [Use of planning conditions - GOV.UK \(www.gov.uk\)](#)

⁹⁶ [Policy Guidance Climate Emergency DPD V7 18 MAY \(cornwall.gov.uk\)](#) – para 12.36-37

⁹⁷ Correspondence dating 24/11/2023

⁹⁸ [POE_Guidance.pdf \(publishing.service.gov.uk\)](#)

⁹⁹ [Home Quality Mark ONE](#)

which the applicant must demonstrate they have implemented before the condition will be discharged.¹⁰⁰ Methodologies suggested within their POE guidance note include the Home Quality Mark¹⁰¹ for residential developments or the BSRIA Soft Landings Framework¹⁰² for non-residential buildings.

As POE can be tailored in terms of duration and format, the resource requirements for EHDC could vary and be reflective of the planning department's capacity. Stipulations could be made that POE is completed just once, although the monitoring should ensure a full years' worth of data is collected to account for seasonality, or for a longer period of time to monitor the in-use performance over time.

Regular medium-term monitoring

One example of a longer-term monitoring approach is the 'Be Seen' Framework from GLA.¹⁰³ The framework is an example of a particularly comprehensive medium-term monitoring programme which uses a specially developed platform to collect and store the data. The framework applies to all major development and sets out the responsibilities for each relevant actor from the planning stage to building occupation, including which data and indicators need to be submitted by whom and when. Doing so provides stakeholders, and GLA, with valuable insights into building performance over time and means trends in energy use can be identified, the performance gap can be monitored, and steps can be taken to address or mitigate potential disparities to optimize energy consumption. A summary of requirements is detailed in Figure 4 below.

The most difficult stage is the as-built stage, where the 'Be Seen' Framework adds an onus for the building owner, which could also be the occupant (particularly in the case for residential developments), to take part in monitoring of their energy use. A benefit of this is that it can bring direct attention to behavioural patterns of energy consumption, the alteration of which can be measured and visibly improved over time. However, this may be particularly challenging where the building owner is *not* the occupant. The guidance offers some suggestion of how to manage this challenge by seeking annual consent from occupants to access the dwelling's energy performance data, however this consent is not guaranteed, and it is unclear what, if any, penalties there are should building owners fail to comply. In addition, privacy and GDPR issues mean that if permission is granted, datasets need to be aggregated to prevent identification.

The 'Be Seen' Framework is a comprehensive approach to building performance monitoring that ensures energy performance is considered at all stages. However, the scope of this approach is not without challenge and may be difficult to implement and keep track of without the commitment of significant resources. The approach is demonstrably the most extensive monitoring approach taken by an LPA and results of its implementation may be insightful to understand best practice in the future.

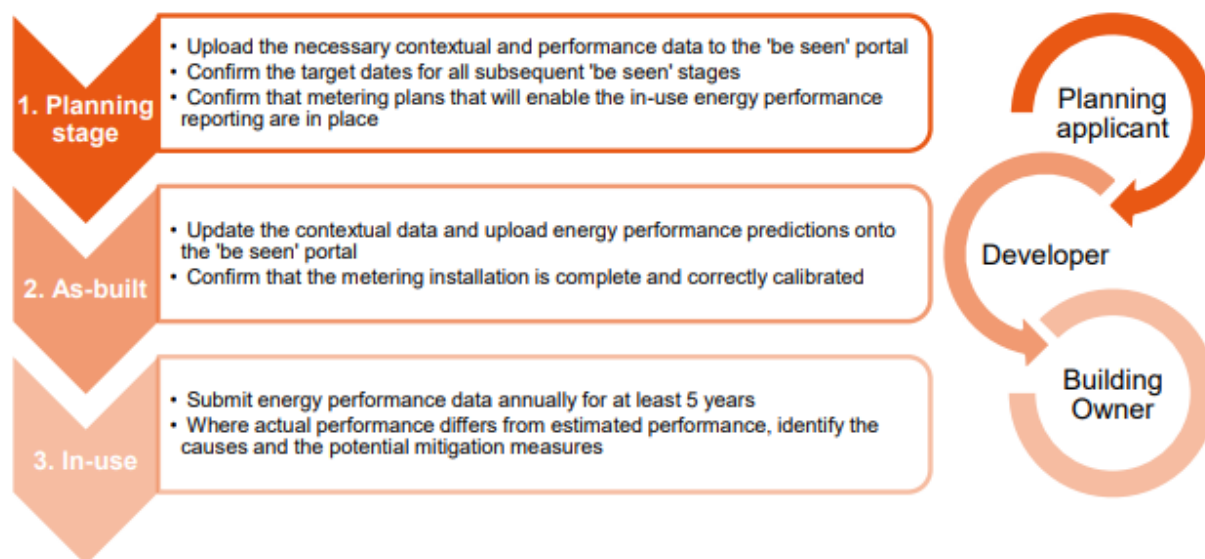
¹⁰⁰ [Cassington Neighbourhood Plan \(westoxon.gov.uk\)](https://www.westoxon.gov.uk)

¹⁰¹ [Home Quality Mark ONE](#)

¹⁰² [Soft Landings Framework \(bsria.com\)](https://www.bsria.com)

¹⁰³ ['Be seen' energy monitoring guidance | London City Hall](#)

Figure 4. GLA's 'Be Seen' Framework Summary¹⁰⁴



Assured Performance Process

A more formalised approach to addressing the performance gap is through using an Assured Performance scheme (APS). An APS takes a comprehensive approach to ensuring quality and performance in the construction and housing sector, emphasising the consideration of the performance gap from the earliest stages of a project to ensure that homes and buildings deliver on their design standards. There are a number of Assured Performance schemes available for both domestic and non-domestic development that could be considered.

Table 4. Examples of Assured Performance Schemes

Domestic	Non-domestic
The Building Energy Performance Toolkit (BEPIT)	NABERS UK
The Assured Performance Process (APP)	AECB Building Standard
AECB Building Standard	Passivhaus Certification
Passivhaus Certification	

As part of the implementation and monitoring strategy, EHDC could require that an APS is used but would not need to prescribe which scheme, leaving it open to suit the project requirements and skills within the team.¹⁰⁵ By using an APS, a third party is responsible for confirming that the as-built building mirrors the design standards and EHDC could rely on the achieved certification as evidence rather than a need to scrutinise modelling calculations. However, additional effort and resource is still required to engage with developers throughout the performance scheme process.

There is precedent for use of an assured performance scheme in East Hampshire, as part of the Quebec Park and Prince Phillip Park projects, the developer was required to use the National Energy Foundation (NEF)'s Assured Performance Process (APP).¹⁰⁶ The APP is a systematic process of expert support designed to ensure the quality and performance of homes to minimise the performance gap.¹⁰⁷ Mapped to the RIBA Plan

¹⁰⁴ Source: ['Be seen' energy monitoring guidance | London City Hall](#)

¹⁰⁵ The AECB standard does not need to be independently reviewed and can be certified by a member of the design team if they have the appropriate qualifications and skills.

¹⁰⁶ Now licenced to the Good Homes Alliance

¹⁰⁷ [Assured Performance Process \(APP\) – GHA Knowledge Base \(goodhomes.org.uk\)](#)

of Work, the APP offers five stages of impartial review and assessment by accredited APP assessors. Support can be sought across each stage or as a one-off review at a particular stage, depending on needs or the obligations on the development.

Figure 5. NEF Assured Performance Process Stages



The use of the APP was established via a Section 106 agreement, these are planning obligations, which unlike planning conditions can last in perpetuity rather than being time limited.¹⁰⁸ Under the agreed S106 for Quebec and Prince Phillip Parks, the developer is required to demonstrate for each plot how they are closing the performance gap and where issues are identified, what measures they are taken to address these.¹⁰⁹

Other LPAs are also considering the use of APS within their Local Plan, including Greater Cambridgeshire Council.¹¹⁰

5.3.4 Heritage assets, building extensions, or redevelopments

Table 3 provides a summary of the approach taken by LPAs regarding heritage assets, building extensions, and redevelopments. While approaches differ in terms of whether the policy is applied to these different types of development, it is commonly found that if they *are* required to meet the policy requirements, then the implementation and monitoring strategy is usually the same as standard applications, with some leniencies. In practicality, this means that Energy and Sustainability Statements are also required for heritage assets and large-scale refurbishments.

Importantly, for heritage assets, it should be acknowledged that these developments may not be able to fully meet the energy standards due to viability constraints, as well as obligation to maintain the historic value of the buildings.¹¹¹ Typically, the applications and their achievement of the policy requirements are reviewed case by case with a requirement to demonstrate that developers have reduced emissions as far as possible without detriment to the heritage value.

Most LPAs do not require that extensions meet the policy requirements, while some only apply them to self-contained annexes.¹¹² However, extensions will typically increase a dwelling’s energy consumption and can

¹⁰⁸ [Planning conditions and Section 106 Agreements | Royal Borough of Windsor and Maidenhead \(rbwm.gov.uk\)](https://www.rbwm.gov.uk/planning-conditions-and-section-106-agreements)

¹⁰⁹ [HubGuide12-PlanningNetZero-PG0.1-Feb2021.pdf \(gsenetzerohub.org.uk\)](https://www.gsenetzerohub.org.uk/HubGuide12-PlanningNetZero-PG0.1-Feb2021.pdf)

¹¹⁰ [Greater Cambridge Local Plan First Proposals \(greatercambridgeplanning.org\)](https://www.greatercambridgeplanning.org/greater-cambridge-local-plan-first-proposals)

¹¹¹ [Energy Efficiency and Historic Buildings: How to Improve Energy Efficiency | Historic England](https://www.historicengland.org.uk/energy-efficiency-and-historic-buildings-how-to-improve-energy-efficiency)

¹¹² A requirement for Cornwall Council

introduce additional heat loss, through increased opportunity for thermal bridging or heat loss from glazing, particularly in the case of conservatories.¹¹³ To combat this risk, LPAs can apply more general policy requirements, such as following the energy hierarchy, to extensions and may request evidence that these have been adhered to as far as possible. As discussed earlier, CLIM2 makes adequate provision for extensions to make all endeavours to meet the policy requirements, while offering flexibility where costs become prohibitive. An approach which has precedent amongst other LPAs.

6. RISKS AND POLICY ALTERNATIVES

This briefing note summarises the risks associated with the detailed policy recommendations. These have been identified over the course of the study through desk-based research, discussions with EHDC and engagement with other LPAs (see Appendix B).

6.1 RISKS AND MITIGATION MEASURES

The table below sets out the potential risks of the proposed policy approach, along with mitigation measures that EHDC can adopt.

Table 5. Net zero policy risk register

Category	Risk description	Impact description	Impact level	Probability level	Mitigation measure(s)
Changes to national policy ¹¹⁴	Gov't announces that LPAs <i>cannot</i> set higher standards in their Local Plans	EHDC would not be permitted to include the net zero policy	High	Medium	Re-word policy to "encourage" net zero, but loosen other requirements for developments that achieve this and say that it will be given more weight in decision-making Policy focus could shift to other topics e.g. futureproofing, minimising the performance gap and climate resilience
Changes to national policy	Gov't allows LPAs to set higher standards but issues guidance that differs from EHDC's proposed approach	EHDC would potentially be able to retain the net zero policy but the approach to implementation and monitoring may have to change	Medium	Low	Re-evaluate proposed approach to implementation and monitoring to align with Government guidelines
Changes to national policy	Government decides to delay introduction of FHS/FBS	Exemptions to the CLIM2 policy would continue to	Low	Medium	This would not necessarily affect adoption or

¹¹³ [CE122 72136/03/05 \(home-extension.co.uk\)](http://CE122_72136/03/05_(home-extension.co.uk))

¹¹⁴ See Box

Category	Risk description	Impact description	Impact level	Probability level	Mitigation measure(s)
		have significantly higher emissions. Other impacts might include: (a) higher cost to achieve net zero compared with minimum national standards and (b) potential knock-on effects as the supply chain may be slower to adopt low carbon construction methods			implementation of CLIM1, CLIM2 or CLIM3 but developers might argue that it remains more costly compared with national standards and/or that the supply chain is not adequately prepared
Changes to national policy	Changes to Community Infrastructure Levy (CIL) and/or S106 arrangements	These are currently the typical mechanisms used to collect offset payments, so changes could remove or hamper EHDC's plans for an offset fund	Low (assuming offsetting will be used rarely)	Medium	Investigate alternative methods of securing offsetting payments
Availability of staff resources	Limited in-house capacity and expertise to evaluate applications	No or lower confidence that planning applications fully address the policy requirements, thus lowering the reductions to GHG emissions that are ultimately achieved	Medium	High	Consider incentivising appropriate training to existing staff resources and/or building capacity in-house through CPD courses between departments on relevant topics; explore opportunities to pool resources with other LPAs; potential to sub-contract work (but note that the latter would likely be more expensive than hiring own staff)
Availability of staff resources	Staff have time to evaluate applications but insufficient knowledge to interrogate them	Lack of push-back against developers who claim that GHG reduction measures cannot be implemented	Medium	High	Create a post within the authority with the remit to engage with the issue of achieving net-zero carbon development across all of a local planning

Category	Risk description	Impact description	Impact level	Probability level	Mitigation measure(s)
					authorities' responsibilities, from plan-making to decision-making to implementation or enforcement; also consider providing training to the wider team
Availability of staff resources	Lack of coordinated approach with Building Control due to limited resources	No or lower confidence that measures are implemented during construction	Medium	High	Review arrangements for cross-departmental working to ensure a closer collaboration; introduce training where needed
Government / Planning Inspector intervention	PINS declares policy to be unsound or unjustified	PINS requires modification to policy to remove or weaken net zero requirement	High	Medium / unknown	Fundamentally, the options would be to appeal or to modify the policy to address the Inspector's concerns Mitigation measures depend on which part of the policy is at issue – see options in section 6.2
Cost viability /	Costs of achieving net zero in practice prove to be higher than anticipated	Developers more likely to claim net zero impacts on viability	Medium	Low	Options would include (a) turning down developments that do not achieve net zero or (b) taking a more lenient approach and allowing more developers to contribute to an offset fund in lieu of on-site reductions
Cost viability /	Cost of carbon offsetting (£/tCO ₂ e) is set too low, failing to incentivise on-site reductions	Higher chance of developers choosing to pay into the offsetting fund rather than delivering on-site measures	Medium	Low	Undertake a review to establish a more suitable carbon price; this could be done by pooling resources with other nearby LPAs if they are also exploring offsetting funds
Other	Industry moves away from using LETI standard and associated	EUI metrics may need to be changed	Low	Medium (but low in the short term)	Commence a review of the Local Plan should the risk materialise or review

Category	Risk description	Impact description	Impact level	Probability level	Mitigation measure(s)
	metrics e.g. as part of the UK Net Zero Carbon Buildings Standard				the affected policies as part of the five-yearly review as a matter of course. An alternative option would be to address this by including EUI metrics as part of an SPD rather than the policy wording from the outset, allowing these to be changed more easily
Other	Challenges in setting up and administering an offsetting fund	Carbon offsetting may not occur to the extent required, for example due to inability to find suitable projects	Low (assuming offsetting will be used rarely)	Medium	Pool resources with other LPAs to identify suitable projects; design offsetting fund so that it is ring-fenced for carbon reduction schemes but still available for use on a range of project types

Box 3. Update to Risks

On 13th December 2023, the Government published a number of updates relating to key risks identified in the register above:

- The consultation on the Future Homes and Future Buildings Standard¹¹⁵
- A Written Ministerial Statement – Local Energy Efficiency Standards¹¹⁶

The latter states that:

Any planning policies that propose local energy efficiency standards for buildings that go beyond current or planned buildings regulation should be rejected at examination if they do not have a well-reasoned and robustly costed rationale that ensures:

- *That development remains viable, and the impact on housing supply and affordability is considered in accordance with the National Planning Policy Framework.*
- *The additional requirement is expressed as a percentage uplift of a dwelling’s Target Emissions Rate (TER) calculated using a specified version of the Standard Assessment Procedure (SAP).*

The information gathered for this report pre-dates this statement and so full detail and consideration of the impact and practicalities of this on the Local Plan policies has not been expanded upon fully, beyond the provisions detailed in section 6.2. Further consideration will need to be undertaken.

¹¹⁵ [The Future Homes and Buildings Standards: 2023 consultation - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/consultations/future-homes-and-buildings-standards-2023)

¹¹⁶ [Written statements - Written questions, answers and statements - UK Parliament](https://www.parliament.uk/written-questions-answers-statements/written-question/House-of-Commons/2023-12-13/1167)

6.2 POLICY ALTERNATIVES

The following section explores policy alternatives as a means to mitigate against the risks identified in Table 5 above, particularly focusing on possible responses to the two high impact risks of:

- Challenges at the examination stage¹¹⁷
- National Government not allowing LPAs to set higher standards

6.2.1 Loosening requirements

Should either of these risks occur, this would mean that EHDC would not be able to set the policies CLIM2 and CLIM3 as is. To mitigate against this, EHDC could loosen the requirements by:

1. Rewording to 'encourage' net zero rather than requiring it. The Council could, however, still incentivise developers to significantly lower emissions from new developments, for example by (a) loosening other policy requirements for developments that achieve net zero and (b) giving more weight to net zero in decision-making.
2. Rewording the policy to only apply to major residential developments rather than All residential developments.
3. Introducing a carbon offsetting fund. Offsetting is not currently part of any of the proposed policies but would mean EHDC could demonstrate that it had reduced the emphasis on on-site reductions while still keeping net zero a focus for developers. The London Plan has comprehensive guidance for developing an offsetting fund which would be a useful resource to support development.¹¹⁸

6.2.2 Shifting the policy focus

As an alternative to loosening requirements, EHDC could also shift the policy focus to other topics instead of explicitly setting net zero development targets. One approach could be to shift the focus of the policy away from energy efficiency targets to the provision of onsite renewables as the primary motive for achieving net zero. Alternatively, shifts to futureproofing development, climate adaptation, or minimising the performance gap would also still help to address the climate crisis, although emissions impacts may be reduced.

6.2.2.1 Renewable focus

A potential backstopping option is to remove the energy threshold targets, the area at most risk of challenge based on the changes at Government level and recent examples of rejection at examination stage, by shifting the focus of the net zero policy to delivering on-site renewables. This is already included within the policies but could be made the headline approach without the accompanying energy efficiency targets. Clause 1(a) in the Planning and Energy Act 2008 states that Local Authorities can impose reasonable requirements for "a proportion of energy used in development in their area to be energy from renewable sources in the locality of the development." EHDC could propose that their focus net zero policy is to require that 100% of the energy demands of new development is to come from renewables.

This would be "reasonable" as it is necessary to avoid increasing energy related GHG emissions in their local area, which is a requirement of the NPPF and Climate Change Act. The clause does not set a cap on how big the proportion is and so there is no restriction on EHDC setting that 100% of energy must be met by renewables. Equally, the clause refers to "energy used in development" rather than being restricted to regulated energy uses only. This would mean that while there is no energy efficiency thresholds to meet, developments would still need to calculate their energy consumption and meet 100% of this through renewables to deliver net zero development. It would then be up to developers to find the most cost-effective way of meeting this requirement, which almost inevitably would involve some form of improved fabric efficiency standards in comparison to current regulations.

6.2.2.2 Futureproofing

This policy alternative is aimed at ensuring that developments are compatible with future net zero requirements. The two main areas of futureproofing are heat and local energy generation. Regarding heat in

¹¹⁷ Lancaster City Council and the Salt Cross Area Action Plan in West Oxfordshire have ongoing examination challenges at the time of writing.

¹¹⁸ [gla_carbon_offsetting_guidance_2022.pdf \(london.gov.uk\)](#)

buildings, the CCC recommends that “all new homes should be future-proofed for low-carbon heating [...] by 2025”.¹¹⁹ This includes ensuring that buildings have:

- adequate outside space for heat pumps,
- adequate space inside for water cylinder to store hot water, and
- adequately sized heat emitters, suitable for low temperature heating or underfloor heating to ensure compatibility with heat pumps.

In addition to the above, no new buildings should be connected to the gas grid from 2025 onwards.¹²⁰

Further, if EHDC were not able to stipulate the deployment of renewable energy installations, policies could help ensure that the right conditions are created to enable their implementation at a later date. The most commonly deployed building-integrated renewable energy technology is photovoltaics (PV). Policies should ensure that the four main constraints are mitigated against from the outset. These are: overshadowing on the roof (e.g., from chimneys or other rooftops), roof shape, ability to export surplus energy to the grid, and visual impact on historic buildings or in conservation areas.¹²¹

The overarching policy priority should be to enable maximum solar output. This can be achieved through mixed developments and appropriate roof geometries (see Figure 6).

Figure 6. Comparison of electricity generation from PV on houses with different roof shapes. Source: AECOM.¹²²



6.2.2.3 Climate Adaptation and Resilience

To further strengthen the existing climate resilience policy, EHDC could adjust it to be less qualitative. Suggestions for this are made below for the different types of climate impacts.

Overheating. EDC could mandate that proposals include assessments using the Good Homes Alliance (GHA) Early Stage Overheating Risk Tool.¹²³ This should be done at the pre-planning or outline application stage. The Greater London Authority (GLA), for example, requires these assessments to be done at full planning and reserved matters application (RMA) stages.¹²⁴ The New Homes Policy Playbook further recommends that local authorities require detailed appraisals when early screenings flag potential issues. This could be done using a full dynamic analysis tool.¹²⁵

In order to reduce overheating, developers are encouraged to implement a number of passive and active measures. Passive measures include using materials with high thermal mass, using green infrastructure, using

¹¹⁹ CCC (2019). UK Housing Fit for the Future. Available at: <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>

¹²⁰ Ibid.

¹²¹ AECOM (2021), The Royal Borough of Kensington & Chelsea Evidence Study on Greening Issues. Available at: <https://planningconsult.rbkc.gov.uk/gf2.ti/f/1457218/149420997.1/PDF/-/02%20Blue-Green%20Future%20Evidence%20Study%20on%20Greening%20Issues%20Jul%2021.pdf>

¹²² <https://planningconsult.rbkc.gov.uk/gf2.ti/f/1457218/149420997.1/PDF/-/02%20Blue-Green%20Future%20Evidence%20Study%20on%20Greening%20Issues%20Jul%2021.pdf>

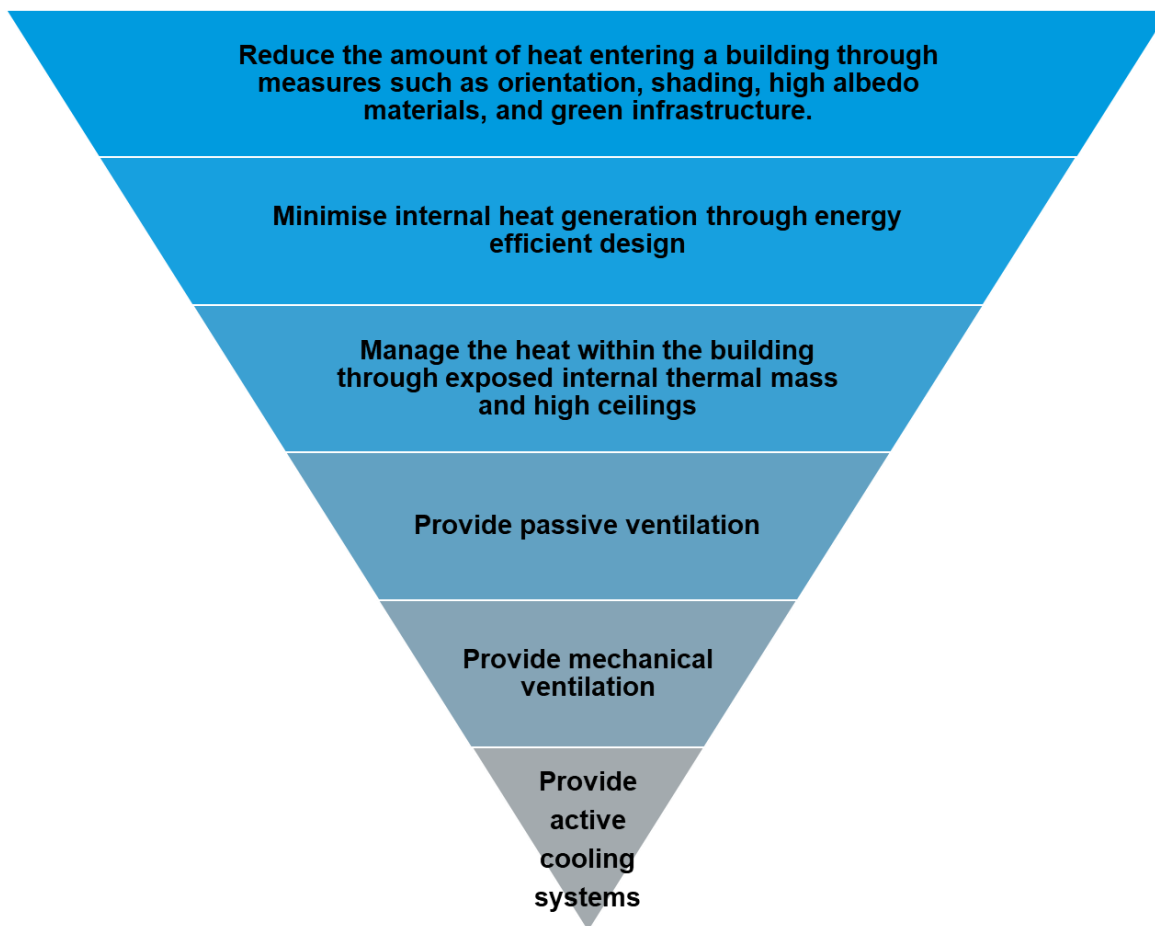
¹²³ <https://goodhomes.org.uk/overheating-in-new-homes>

¹²⁴ The Mayor of London (2021). The London Plan. Available at: https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf

¹²⁵ <https://ukgbc.org/wp-content/uploads/2021/01/New-Homes-Policy-Playbook-January-2021.pdf>

materials with high albedo surfaces, using smaller windows on south and west facing sides, using well-designed shading measures (such as shutters and balconies), and designing the buildings in a way that enables passive ventilation. Active measures include efficient energy lighting to minimise internal heat generation and efficient ventilation and cooling systems.¹²⁶ Developers are encouraged to follow the cooling hierarchy (see Figure 7).

Figure 7. Cooling Hierarchy. Adapted from The London Plan 2021.¹²⁷



Flooding and extreme weather. A further major concern for both new and existing buildings is extreme weather and flooding – including both river and flash flooding. As outlined in policy CLIM5, proposals should include “measures that ensure the safety, comfort, health and well-being of occupiers and visitors”. However, more concrete stipulations may be incorporated into the policy, such as the design of Sustainable Drainage Systems (SuDS).¹²⁸

Both challenges from overheating and flooding and extreme weather can, at least in part, be addressed through green and blue infrastructure. For overheating, both green spaces (e.g., parks or woods) and blue spaces (such as rivers, lakes, and canals) can significantly reduce the urban heat island effect. At the building-scale, green roofs can reduce overheating through transpiration cooling.¹²⁹ Green and blue space management is also essential to help mitigate against increasing flood risk, e.g., by ensuring that there is sufficient space for water during extreme rainfall (e.g., wetlands and storage ponds) and by managing both the speed of rainfall

¹²⁶ Mayor of London (2014), Sustainable Design and Construction Supplementary Planning Guidance. Available at: https://www.london.gov.uk/sites/default/files/gla_migrate_files_destination/Sustainable%20Design%20%26%20Construction%20SPG.pdf

¹²⁷ The Mayor of London (2021). The London Plan. Available at: https://www.london.gov.uk/sites/default/files/the_london_plan_2021.pdf

¹²⁸ Ibid.

¹²⁹ Technology Strategy Board (2018). Designing for future climate. Available at: [ukgbc.org/wp-content/uploads/2018/09/Design-for-future-climate-full-report.pdf](https://www.ukgbc.org/wp-content/uploads/2018/09/Design-for-future-climate-full-report.pdf)

and runoff through tree planting. At a smaller scale, rain gardens can be a simple yet effective solution.¹³⁰ Including more detailed specification and quantification of these requirements within the policies could be a way to mitigate for any alteration of the primary net zero policies.

6.2.2.4 Changes to implementation and/or monitoring

Finally, EHDC could make changes to implementation and/or monitoring. This will depend on the implementation and monitoring strategy that EHDC decide to adopt that is presented within the Local Plan. However, if there are challenges to the net zero policies through the key risks identified, it will be pertinent to ensure that the reduced policies are being achieved with a heavier emphasis on monitoring the performance gap. EHDC could therefore exert more pressure on developers to enforce the as-designed performance. This could be done through mandating one of the more detailed monitoring approaches described in section 5.3.3, such as Assured Performance Schemes, a medium-or-long-term monitoring programme, or detailed Post-Occupancy Evaluations (POEs).

Should changes be required to implementation or monitoring, either as a result of challenge or during the lifetime of the Local Plan as a result of updated evidence or understanding, or government policy, EHDC could make use of the Supplementary Planning Document (SPD)¹³¹ process which allows for updated compliance information to be developed and published in a shorter duration of time than the Local Plan itself. For example, updating and expanding the map which details suitable and sustainable wind farm locations within the district could be updated within an SPG that would more swiftly allow development to utilise this protocol.

6.3 EHDC'S CORPORATE PRIORITIES

The proposed policies have been assessed against EHDC's corporate priorities as set out in the Corporate Strategy 2020-2024 and the Climate and Environment Strategy 2020-25.^{132,133} This section sets out what EHDC's corporate priorities are and highlights their relevance to the proposed Local Plan policies. It then provides commentary on (a) how each policy contributes to those priorities and (b) how the priorities would be impacted by any issues arising, either at Inspection stage or during implementation.

6.3.1 Corporate Strategy 2020-2024

6.3.1.1 What are EHDC's priorities?

Table 6. Corporate priorities listed in the EHDC Corporate Strategy 2020-2024

Category	Priorities	Relevance to net zero Local Plan policies
A fit for purpose council	A successful transformation programme (Shaping our Future) that delivers real change for residents not just cost savings	N/a
	Financial Strategy: <ul style="list-style-type: none"> • Generate funding options for capital projects • Update Treasury Management Strategy and produce a new Capital Strategy 	N/a
	Asset Management Strategy: <ul style="list-style-type: none"> • Rebalance the investment portfolio • New Asset Management and Investment Portfolio Strategy to be completed 	N/a

¹³⁰ The Rivers Trust. Natural Flood Management. Available at: <https://theriverstrust.org/our-work/working-with-nature/natural-flood-management>

¹³¹ It is noted that the process for SPD's is proposed to change under the Levelling Up and Regeneration Bill, which received royal assent on 26th October 2023. The scope for what can be introduced under the new proposed Supplementary Plans is still to be confirmed. It is understood that supplementary plans will address site-specific needs or opportunities which require a new planning framework to be prepared quickly (like a new regeneration opportunity), or to act as a vehicle for setting out authority-wide or other design codes.

¹³² <https://www.easthants.gov.uk/media/3779/download?inline>

¹³³ <https://www.easthants.gov.uk/media/5978/download?inline>

Category	Priorities	Relevance to net zero Local Plan policies
	Review and consideration of the Penns Place office	N/a
	Consideration of the creation of customer access hubs across the district shared with Police and Crime Commissioner	N/a
A safer, healthier and more active East Hampshire	<p>Delivery of the Welfare and Wellbeing Strategy</p> <p>Create an affordable housing strategy and generate options for delivery of affordable housing to assist with homelessness prevention</p>	<p>N/a</p> <p>This indirectly links to Policy CLIM2 which would impact the energy and GHG performance standards of any new housing</p> <p>Removing or watering down the requirements of CLIM2 would result in higher energy bills for occupants of the affordable housing</p>
A thriving local economy with infrastructure to support our ambitions	<p>Unlock spending of Community Infrastructure Levy and S106 particularly Hampshire County Council funds</p> <p>Economic recovery across the District:</p> <ul style="list-style-type: none"> • Increase local jobs • Business engagement <p>Enhance East Hampshire:</p> <ul style="list-style-type: none"> • Identify priority projects • Prioritise CIL spend 	<p>Relevant if EHDC chooses to introduce a carbon offsetting fund, as payments are normally secured through S106 agreements</p> <p>Potential to create more green jobs due to the increased focus on retrofitting and renewable energy within the Local Plan, although impacts are likely to be small/indirect</p> <p>Relevant if EHDC chooses to introduce a carbon offsetting fund because more projects will need to be identified and delivered</p>
An environmentally aware and cleaner East Hampshire	<p>Deliver the Climate Change Strategy with focus on:</p> <ul style="list-style-type: none"> • Creating a Green Team • Create green bursary • Create our environmental strategy for local government using PhD student <p>Develop the new Local Plan</p> <ul style="list-style-type: none"> • Develop a Supplementary Planning Document (SPD) for climate and environment • Deliver a sound Local Plan at pace • Net zero carbon Local Plan for 2023/24 	<p>The Green Team and any associated funding would potentially contribute towards the successful implementation and monitoring of the proposed policies if it means there is more officer resource and greater understanding of climate change issues</p> <p>This is a key priority that is addressed through all the Local Plan policy recommendations that have arisen from this work</p>

Category	Priorities	Relevance to net zero Local Plan policies
	<ul style="list-style-type: none"> Innovation pilot for digital plan 	
	Increase recycling rates including: <ul style="list-style-type: none"> Reduction in contamination rates Review potential introduction of food waste collections in line with government timetable and availability of central government funding	N/a

6.3.1.2 How do the proposed policies contribute to EHDC's corporate priorities?

The proposed policies contribute directly to EHDC's priority of introducing a "net zero carbon Local Plan for 2023/24". Ensuring that the net zero policies are practical, viable and evidence-based will also contribute towards EHDC's ability to "Deliver a sound Local Plan at pace". The proposed policies also link indirectly to other priorities related to provision of affordable housing, green jobs, and unlocking CIL/S106 funds to deliver local projects.

6.3.1.3 What are the impacts of the identified risks on EHDC's corporate priorities?

The main corporate priorities that are affected by the proposed policies relate to the delivery of the new Local Plan under the 'An environmentally aware and cleaner East Hampshire' category. If the proposals were successfully challenged and either watered down or removed from the Local Plan through its Examination in Public, this would directly compromise EHDC's ability to introduce a net zero Local Plan and pose a risk to the timely reduction of greenhouse gas emissions to a net zero level.

In addition to the potential impact on the net zero policies, a challenge to the Local Plan at inspection would directly impact the delivery of a sound Local Plan at pace. While several LPAs have had their net zero Local Plan policies approved,¹³⁴ there have been recent cases of rejection. Lancaster City Council's Local Plan was rejected in November 2022¹³⁵ and is, at the time of writing in December 2023, still not currently adopted.¹³⁶ Due to the requirement to gather additional evidence, as well as consult on any material changes or main modifications requested, the process following rejection can add a significant amount of time to Local Plan adoption. The process to appeal and/or redevelop policies would therefore be a significant impact to the priority of delivering a sound plan at pace.

EHDC has so far not confirmed their use of an offsetting fund, however, should this be a route EHDC further consider there could be an impact to how these funds are accessed should the government change their Offsetting funds are typically secured through S106 provisions. However, changes to these mechanisms are to be brought in through the Levelling Up and Regeneration Bill, which received royal assent on 26th October 2023.¹³⁷ S106 agreements and the Community are to be replaced with the Infrastructure Levy. Details of how the Levy will be introduced are still to be confirmed by additional legislation stipulating the regulations for the Levy, however the primary focus of the Levy is to support affordable housing provision. Changes could impact the process of gathering offsetting funds including setting limits on how much can be required from the Levy, the process for accessing the funds, or stipulations for how it needs to be spent. This priority could equally be indirectly impacted by the risk of resource constraints for the Council for implementing the Local Plan. Offsetting funds will need administration and careful managing which may be a challenge is the time and costs associated are not acknowledged and planned for within resourcing strategies. The impacts of this may be

¹³⁴ Including Greater London Authority, Cornwall Council, Bath and North East Somerset Council

¹³⁵ [Climate Emergency Local Plan Review Examination - Lancaster City Council](#)

¹³⁶ While the consultation period is over and Representations have been given to the Inspectorate, due to the Salt Cross Garden Village Area Action Plan legal challenge, the Inspectors review and response to the changes is expected to be delayed. The Salt Cross Garden Village AAP legal challenge also relates to the rejection of net zero policies, whereby the Inspectorate questioned the higher energy standards set in relation to the Written Ministerial Statement (WMS) of 2015, the same WMS that was referred to in the decision on Lancaster City Council's Local Plan. This was subsequently challenged by the third party group, Rights Community Action, and this will be heard in High Court in late 2023. [Salt Cross Garden Village - West Oxfordshire District Council \(westoxon.gov.uk\)](#)

¹³⁷ [National Housing Federation - Levelling Up and Regeneration Bill receives Royal Assent](#)

reduced effectiveness of the offsetting fund, with slow or stunted delivery of the funds for additional emission reduction projects across the district.¹³⁸

6.3.2 Climate and Environment Strategy 2020-2025

6.3.2.1 What are EHDC's priorities?

Table 7. Corporate priorities listed in the EHDC Climate and Environment Strategy 2020-2025

Category	Priorities	Relevance to net zero Local Plan policies
A1: Priorities for tackling the emissions from Council Estates and operations	i. Reduce emissions from council buildings and vehicles to zero by or before 2050 by switching to renewable energy and EVs	Indirect link to Policies CLIM3 and CLIM4 which support this aim by promoting renewable energy and retrofitting
	ii. Harness new technology for a transition to innovative low-carbon on-line and cloud-based working practices. Reduce office space requirements.	N/a
	iii. Mandate that all business cases, proposal papers and decision-making and assessments include criteria to address the climate emergency	N/a
	iv. Change the culture of the organisation with carbon literacy awareness at all levels	To implement the net zero policies, carbon literacy and other training will be required
	v. Reduce emissions from staff commuting and members attending meetings	N/a
A2: Priorities for tackling the emissions from our partners and contractors	i. All new or reviewed contracts and procurement will embrace the net-zero by or before 2050 target from 2020	N/a
	ii. Strategic long-term partners' emissions will be managed to net-zero by or before 2050 within existing contracts e.g. in leisure centres and from refuse collection.	N/a
	iii. Income earned from the Property portfolio will be refocused on economically viable and marketable low-carbon sustainable investments	N/a
B1: Priorities for engaging positively and working in partnership on climate and environment for the community	i. Promote climate crisis messages to raise awareness and stimulate public engagement to foster change	N/a
	ii. Extend retrofitting for existing homes by promoting and expanding schemes funding installation energy-efficiency measures like cavity-wall insulation and smart thermostats	This links to Policy CLIM2 which would help to avoid increases in energy use and emissions from the existing stock

¹³⁸ Some London boroughs have reported that limited staff resource has constrained their ability to spend offset funds. According to the GLA's 2020 survey on carbon offset funds, 75% of collected funds remain unspent.

Category	Priorities	Relevance to net zero Local Plan policies
	iii. Engage and facilitate a network of 'Green Groups' to enable effective sharing of successful initiatives for behaviour change	N/a
	iv. Support Parish and Town councils with energy audits of occupied buildings	N/a
	v. Allocate 25% of Councillor Grants to support Climate and Environment Initiatives in the community	N/a
B2: Priorities for guiding future development e.g. through the planning system	i. Minimise the climate impact of new development through our Local Plan policies and development management decisions	This is a key priority that is addressed through all the Local Plan policy recommendations that have arisen from this work
	ii. Ensure new builds are meeting or exceeding their planning permission conditions and obligations	Recommendations on implementation and monitoring address this topic, highlighting the importance of close collaboration between Planning Policy, Development Management and Building Control teams
	iii. Reinforce and implement plans and strategies which support low-carbon transport alternatives, including the Local Cycling and Walking Infrastructure Plan	The draft strategic policy on transport contributes towards this as it refers to the concept of living locally, which aims to facilitate walking and cycling
B3: Priorities for providing incentives for businesses and enterprise	i. Encourage the switch electric vehicles (EV) including taxis	The draft strategic policy on transport contributes towards this as it requires developments to provide infrastructure to support the use of alternative vehicle types, e.g. EV charging
	ii. Climate and Environment criteria and impacts will be a material consideration when awarding grants and funding	May be relevant if EHDC introduces an offsetting fund
	iii. Identify and secure external funding opportunities for transition to sustainable and low-carbon practices	
	iv. Celebrate best practice amongst our local businesses and shops, for instance to improve energy efficiency, or innovation to address the climate crisis	N/a
C1: Priorities for Environmental improvements	i. Increase tree cover in the district and see that 120,000 trees are planted in East Hampshire, one for every resident	Indirectly linked to the draft strategic policy on protecting natural resources which would safeguard existing carbon sinks and promote increased tree cover in developments

6.3.2.2 How do the proposed policies contribute to EHDC's corporate priorities?

The proposed policies are critical for achieving EHDC's priorities around future development, specifically B2(i) Minimising the climate impact of new development and B2(ii) Ensuring new builds are meeting or exceeding their obligations.

They also indirectly support priorities such as A1(i) Reducing emissions from council buildings and vehicles, B1(ii) Extend retrofitting for existing homes, B2(iii) Supporting low-carbon transport alternatives, B3(i) Encouraging the switch to EVs and C1(i) Increasing tree cover, by creating a supportive policy framework and acting as enabling measures.

To successfully implement the proposed policies, EHDC will also need to achieve Priority A1(iv) as it would involve increasing carbon literacy within the organisation.

Priorities B3(ii) Climate and Environment criteria for grants and funding and B3(iii) Identify and secure external funding opportunities for transition to sustainable and low-carbon practices might both be relevant if EHDC chooses to introduce a carbon offset scheme. Clearly, climate and environment impacts would be at the forefront of considerations when allocating funds. If EHDC decides to pool resources with other LPAs to deliver carbon offsetting projects, then this might be considered a source of "external funding" that supports the "transition to sustainable and low-carbon practices".

6.3.2.3 What are the impacts of the identified risks on EHDC's corporate priorities?

Weakening or abandoning the proposed net zero policies would severely limit EHDC's ability to achieve priorities B2(i) Minimising the climate impact of new development and B2(ii) Ensuring new builds are meeting or exceeding their obligations. Priority B2(i) would be most affected, because EHDC would then be reducing the climate impact of new development to a lesser extent than currently proposed. In principle, EHDC could still seek to ensure that developments meet or exceed their obligations in line with Priority B2(ii), which is worded in such a way that it does not matter what the developers' basic obligations are. However, that would rely on having an effective implementation and monitoring regime.

As described in section **Error! Reference source not found.**, being challenged at inspection would likely incur delays for EHDC in adopting the Local Plan. These would directly impact how swiftly priority B2(i) could be delivered, as well as indirectly B2(iii). The timescale for this impact would depend on how long the process for providing a response, and, if required, redeveloping the policies takes for EHDC. The grounds for the challenge would also influence the impact as it could lead to the weakening or removal of the net zero policies – as described above, this would severely limit EHDC's ability to deliver the Climate Change Strategy priority of minimising the climate impact of new development.

The risks identified relating to resource challenges, including capacity and knowledge, could also limit the ability to deliver on priority B2(ii). Without sufficient resource to critically assess the evidence provided with applications that detail how the development is meeting the Local Plan policies or provide guidance on how to rectify any apparent issues, there will be lower confidence that developments that are delivered across the district are reducing their emissions. Inadequate levels of staffing are already a challenge for EHDC and so ensuring the implementation approach for the net zero policies is appropriately supported, including cross departmental collaboration to reduce constraints will be key.

7. CONCLUSION

EHDC has made the important and challenging commitment to develop a Local Plan that will ensure development within the district will contribute to their net zero targets. Along with how these policies are framed, it is important to understand how these policies will be implemented to provide clear guidance to developers, as well as consider how the policies are to be monitored to ensure the aims of the Local Plan are achieved in practicality. This report provides evidence gathered from industry best practice, as well as other LPAs that are also implementing or developing net zero Local Plans. EHDC is encouraged to review these options thoughtfully, acknowledging both the imperative of meeting their, and the UK national government's, net zero commitments, and the resource requirements required to implement and monitor these effectively.¹³⁹

¹³⁹ As discussed in Box 3, the provisions within this report have been gathered pre-dating the government announcements regarding Local Plan Energy Efficiency. It will be key to review the recommendations within this report considering this updated policy landscape.

APPENDIX A: ADOPTED NET ZERO LOCAL PLAN POLICIES

7.1.1 Bath & North East Somerset Local Plan Partial Update (LPPU) – adopted 2023

The LPPU contains net zero policies for residential and non-residential new builds:¹⁴⁰

Policy SCR6 Sustainable Construction Policy for New Build Residential Development

New build residential development will aim to achieve zero operational emissions by reducing heat and power demand then supplying all energy demand through onsite renewables. Through the submission of an appropriate energy assessment, having regard to the Sustainable Construction Checklist SPD, proposed new residential development will demonstrate the following;

- *Space heating demand less than 30kWh/m²/annum;*
- *Total energy use less than 40kWh/m²/annum; and*
- *On site renewable energy generation to match the total energy use, with a preference for roof mounted solar PV*
- *Connection to a low- or zero-carbon District heating network where available*

Major residential development

In the case of major developments where the use of onsite renewables to match total energy consumption is demonstrated to be not technically feasible (for example with apartments) or economically viable, renewable energy generation should be maximised and the residual on site renewable energy generation (calculated as the equivalent carbon emissions) must be offset by a financial contribution paid into the Council's carbon offset fund where the legal tests set out in the Community Infrastructure Regulations are met.

Policy SCR7 Sustainable Construction Policy for New Build Non-Residential Buildings

New build non-residential major development will maximise carbon reduction through sustainable construction measures. Through the submission of an appropriate energy assessment having regard to the Sustainable Construction Checklist SPD all planning applications will provide evidence that the standards below are met.

Major development is to achieve a 100% regulated operational carbon emissions reduction from Building Regulations Part L 2013 (or future equivalent legislation), following the hierarchy set out below.

- *Minimise energy use through the use of energy efficient fabric and services*
- *Residual energy use should be met through connection to a low- or zero-carbon heat network if available.*
- *Maximise opportunities for renewable energy to mitigate all regulated operational emissions.*
- *Residual carbon emission that cannot be mitigated on site should be offset through a financial contribution to the council's carbon offset fund.*

7.1.2 Cornwall Council Climate Emergency DPD – adopted 2023

Cornwall's Climate Emergency DPD includes a policy requiring residential proposals to achieve net zero carbon emissions and sets specific targets for space heating demand and total energy consumption, allowing offsite contributions where this cannot be achieved on-site. Major non-residential schemes are required to achieve BREEAM Excellent "or an equivalent better methodology".¹⁴¹

Policy SEC1 – Sustainable Energy and Construction

¹⁴⁰ BANES, 'Local Plan Partial Update' (2023). Available at: <https://beta.bathnes.gov.uk/sites/default/files/2023-01/Adopted%20LPPU%20Jan%202023.pdf>

¹⁴¹ Cornwall Council, 'Climate Emergency Development Plan Document' (2023). Available at: <https://www.cornwall.gov.uk/media/uxgik4jn/climate-emergency-dpd.pdf>

- 1) *The Energy Hierarchy - All proposals should embed the Energy Hierarchy within the design of buildings by prioritising fabric first, orientation and landscaping in order to minimise energy demand for heating, lighting and cooling. All proposals should consider opportunities to provide solar PV and energy storage.*
- 2) (a) *New Development – Major Non-Residential: Development proposals for major (a floor space of over 1,000m²) non-residential development should demonstrate how they achieve BREEAM ‘Excellent’ or an equivalent or better methodology.*
- 2) (b) *New Development – Residential: Residential development proposals will be required to achieve Net Zero Carbon and submit an ‘Energy Statement’ that demonstrates how the proposal will achieve:*
 - *Space heating demand less than 30kWh/m²/annum;*
 - *Total energy consumption less than 40kWh/m²/annum; and*
 - *On-site renewable generation to match the total energy consumption, with a preference for roof-mounted solar PV.*

Where the use of onsite renewables to match total energy consumption is demonstrated to be not technically feasible (for example with apartments) or economically viable renewable energy generation should be maximised as much as possible; and/or connection to an existing or proposed low carbon district energy network; or where this is not possible the residual energy (the amount by which total energy demand exceeds the renewable energy generation) is to be offset by a contribution to Cornwall Council’s Offset Fund.

Where economic viability or technical constraints prevent policy compliance, proposals should first and foremost strive to meet the space heating and total energy consumption thresholds. Proposals must then benefit as much as possible from renewable energy generation and/or connection to an existing or proposed low carbon district energy network. As a last resort, any residual energy is to be offset by a contribution to Cornwall Council’s Offset Fund, as far as economic viability allows.

Appendix B: Developing recommendations on implementation and monitoring

This appendix describes the process that was undertaken to develop recommendations on implementation and monitoring.

7.1.3 Summary of approach

Step 1: Initial research and information gathering. Using our list of LPAs that have adopted energy/GHG performance standards that exceed Building Regulations, we undertook desk-based research to understand how they are (a) implemented and (b) monitored.

Step 2: Contact LPAs and other relevant organisations or individuals for further details. The table below summarises who was contacted and what information was requested.

Description	Information sought
Councils that have already introduced performance standards that are higher than Building Regulations: <ul style="list-style-type: none"> Greater London Authority 	Current approach to implementation and monitoring and what issues they have encountered
Councils that have recently adopted net zero policies: <ul style="list-style-type: none"> Bath and North East Somerset Council (BANES) Cornwall Council 	Proposed approach to implementation and monitoring and why this was chosen
Councils that are seeking to adopt net zero policies (including those that have been rejected): <ul style="list-style-type: none"> Winchester Reading Lancaster West Oxfordshire Greater Cambridgeshire North East Cambridgeshire 	What approaches they have considered and why
Other industry bodies: <ul style="list-style-type: none"> Royal Town Planning Institute (RTPI) and Town and Country Planning Association (TCPA) UK Green Building Council (UKGBC) 	Guidance on obligations for LPAs to the Climate Change Act and how this relates to the NPPF.
Individuals with relevant expertise on net zero planning policies and the LETI standard	Various

7.1.4 Questions asked

- Please describe the requirements of your policy relating to new non-residential and residential development.
- What was the evidence sought that informed those thresholds?
- Please provide detail on what information is sought at each stage of the planning application process:
 - Pre-planning?
 - Outline?
 - Full?
 - Reserved matters?
 - Post-construction?

- How does this process differ for heritage assets, building extensions, or redevelopments?
- How do you/do you plan to assess applications – in terms of resource/staffing/training requirements?
- Does this policy require different ways of working/collaborating between the policy officers, Development Management colleagues, and Building Control teams? If so, how?
- What is your approach to monitoring and what were the reasons for developing this approach?
- How have you found developers respond to these requirements?