Accelerating the delivery of Net Zero Carbon Buildings through planning

Topic resource part 1: Operational carbon emissions

Planning for the climate crisis: A guide for local authorities

Publication Date: December 2025

RTPI Royal Town Planning Institute

tcpa

Introduction

The heating of buildings accounts for 17% of the UK's carbon emissions, rising to 23% when 'indirect' emissions (the use of electricity) are included.[1] The Climate Change Committee have repeatedly warned that the decarbonisation of buildings is significantly off track to meet national carbon reduction targets and has set an ambitious pathway to reduce emissions from residential buildings by 66% by 2040.[2]

To credibly meet this target, we need to build genuinely net-zero carbon buildings as soon as possible. Local planning authorities (LPAs) should therefore go as far as they can in securing this through planning.

The primary strategy for reducing the operational emissions from buildings is to reduce their demand for electricity, heating and cooling. This can be achieved through a 'fabric first' approach to building design, which ensures buildings are energy efficient as a first principle. Policy in England is currently fairly constraining on this issue, but there are some levers available to LPAs to encourage this high standard of design. This guide aims to help authorities understand the actions they can take through planning to reduce the operational emissions from buildings.

The guide should be read alongside the topic resources on carbon literate planning and embodied carbon emissions and the appended legal advice on setting energy efficiency policies for new homes. These are available here.

Key principles

Local authorities should consider the following key principles in relation to the operational carbon demand of new buildings:

- Policies should be based on robust evidence that includes an understanding of the carbon emissions associated with proposed development, explores opportunities to reduce these emissions, and gives proper consideration to the technical feasibility and viability of designing buildings to a net zero emissions standard.
- Local development plans should require applicants to apply the energy hierarchy to maximise the emissions reductions achieved on-site through fabric efficiency and renewable energy.
- Align policy asks with credible industry recognised standards for net zero building design.

Publication Date: December 2025

RTPI Royal Town Planning Institute
tcpa

Box 1: Definitions

Operational carbon emissions
Operation carbon emissions are defined by the UK Green Building Council (UKGBC) as the emissions 'emitted through the day-to-day activities of a building – whether that's heating, cooling or ventilation, the running of key infrastructure like lifts or the powering of electronics and appliances.'[3]

Embodied carbon emissions
Embodied carbon emissions are defined by LETI as 'the greenhouse gas emissions and removals associated with materials and construction processes throughout the whole life cycle of an asset.'[4]

There are also further categories of embodied carbon, which are 'upfront', 'in-use' and 'end of life'. The UKGBC provide the following definitions:

- **Upfront embodied carbon: '**the emissions caused in the material production and construction phases of the lifecycle before the building or infrastructure begins to be used.'
- **In-use embodied carbon:** 'emissions associated with materials and processes needed to maintain the building or infrastructure during use such as for refurbishments.'
- **End of-life embodied carbon: '**the carbon emissions associated with deconstruction/demolition, transport from site, waste processing and disposal phases of a building or infrastructure's lifecycle which occur after its use.'[5]

Whole-life carbon
The combined total of embodied and operational emissions over the whole life cycle of a building.[6]

Net Zero Carbon Buildings
The term 'net zero buildings' has been used in recent years to mean different things in different contexts and often describes a general aspiration to build in a less carbon intensive manner. Definitions vary, as sometimes only operational energy is included in scope, and how carbon offsetting is used varies considerably.

The lack of a single clear definition for a net zero carbon building has caused confusion. To address this, the UK Net Zero Carbon Buildings Standard (UKNZCBS - see Box 7 for more information), has developed a definitive methodology created by UK industry for UK industry on what the characteristics of a built asset should be to be Net Zero Carbon aligned in the UK.

For the purposes of this guide, 'net zero buildings' is viewed as a goal of the planning system. However, it is acknowledged that the universal delivery of buildings to the standard set by the UKNZCBS is currently an aspiration. This guide therefore promotes the role that planning can play in accelerating the delivery of this goal, and pushing for implementation of policy requirements that are consistent with those used in the Standard.

Policy context

Building regulations

Building regulations are the primary framework for setting energy efficiency requirements for new buildings in England. Since the abolition of the Code for Sustainable Homes in 2015, which intended to achieve high energy performance standards for all new homes, building regulations have failed to keep pace with the urgency of the climate crisis. Changes to the energy efficiency requirements for new homes were introduced through the new Part L building regulations in June 2022 and require a 31% reduction in carbon emissions compared with the previous 2013 standards. This represents an improved baseline ahead of the **Future Homes Standard** (FHS) which is due to be published in 2025.

The government have made the following commitments regarding the Future Homes Standard:

- New homes will be zero-carbon ready and reduce carbon dioxide emissions by 75-80% compared to 2013 building regulations.
- No new homes will have fossil fuel heating.
- Homes will be 'future-proofed' with low-carbon heating and high levels of energy efficiency.
- There will be no need to retrofit these homes to enable them to become zero carbon by 2050 as the grid decarbonises.[7]
- Solar panels will be installed by default, which will mean the vast majority of new builds will have rooftop solar.[8]

While this will be an important step forward in achieving net-zero targets, there are significant limitations to the FHS. A government consultation on the FHS closed in March 2024 and as proposed, the standard will set a minimum level of building performance based on a number of different factors. This means a building won't necessarily require the highest level of energy efficiency because the benchmark could be met in other ways. This is because the FHS assumes emissions reductions from buildings will be achieved by grid decarbonisation - which is by no means guaranteed. The scope of the FHS does not include embodied carbon or unregulated energy (from equipment and appliances within the home) so cannot model a truly zero carbon building. The current approach to modelling also creates a significant performance gap,[9] whereby the energy performance of a building is much poorer in reality than predicted at design stage. This means actual emissions from

RTPI Royal Town Planning Institute
tcpa

new buildings are much higher than perceived, and difficult to monitor post-completion. The government consulted on introducing post occupancy performance testing for new homes as part of the FHS, but if this is bought forward it is likely to be on a voluntary basis.

Planning legislation and policy

There are two legislative requirements that local planning authorities should consider in relation to setting energy efficiency standards for new buildings that go beyond the Building Regulations:

- The Planning and Energy Act 2008, which provides powers for local authorities to require a proportion of the energy need related to new development to be sourced in the locality of the development, through renewable or low-carbon generation. It also sets out powers for local planning authorities to set energy efficiency standards that exceed the energy requirements of Building Regulations.
- Schedule 7 (15C) of the Levelling Up and Regeneration Act 2023 (which amends Section 19 of the Planning and Compulsory Purchas Act) contains a duty on plan making to mitigate and adapt to climate change.

The scope of the powers proffered under the **Planning and Energy Act** in relation to setting energy efficiency standards that go beyond building regulations have recently been subject to scrutiny in the courts through a legal challenge to a 2023 Written Ministerial Statement (2023 WMS) on Local Energy Efficiency Standards.

The 2023 WMS states that the government does not expect local authorities to set energy efficiency standards for buildings that go beyond building regulations, and where they do these should be expressed as a percentage uplift of a dwelling's Target Emissions Rate (TER) - a metric aligned with current Building Regulations. This has caused some frustration to the progression of local plan policies that seek to set net zero buildings standards which rely on the use of alternative, more stringent energy-based metrics (an explanation of different policy approaches is provided below).

In the court case, the appellant claimed that the 2023 WMS sought to unlawfully restrict the powers given to local authorities by the Planning and Energy Act. However, the Court of Appeal dismissed the claim and maintained that the 2023 WMS represents a sound interpretation of the legislation by setting the parameters under which the government expects the legislation to be applied, namely that 'a LPA is able to set a local standard up to the level of the draft FHS.' [10] At the time of writing, this judgement is subject to challenge in the Supreme Court.

The **Levelling Up and Regeneration Act** (LURA), through amending Section 19 of the Planning and Compulsory Purchase Act 2004, places a duty on local authorities to ensure the development plan is 'designed to secure that the use and development of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change.'[11] This legal duty on plan making should be interpreted as ensuring the plan aligns with the carbon budgets set through climate legislation. In many cases, carbon accounting may evidence that ensuring new buildings are built to net zero standards is an important lever for achieving this legislative requirement (see our topic resource on carbon literate planning for more detail).

There are important policy levers in the NPPF that justify net zero buildings policies including paragraph 161, which states that the planning system should support the transition to net zero by 2050 and contribute to 'radical reduction in greenhouse gas emissions.'[12]

Where does this leave local authorities seeking to set net zero buildings standards in development plans?

The 13 December WMS means that local planning authorities seeking to adopt a different policy approach to net zero buildings, for example by using energy-based metrics rather than target emissions rates, must provide a robust justification and evidence base. The Court of Appeal acknowledged the 'tension' between the WMS and the well-established right of local authorities to set policies that conflict with national policy where they are justified. Importantly, the court also underscored the status of the 2023 WMS as national policy and therefore 'no more than guidance.'[13] The 2023 WMS must therefore be understood only as a material consideration for plan making, which does not override the legal obligation on planning authorities to address climate change. It cannot be interpreted as an absolute direction on the way that local policies must be expressed if evidence demonstrates and justifies a better approach.

Figure 1: Solar panels on new homes need to become standard to align with net zero.
Source: Irene Millar / Shutterstock.com

Box 2: Legal opinion

This guidance is supported by a legal opinion from Alex Shattock of Landmark Chambers, to explain how the judgment impacts on the preparation of policies in development plan documents that seek to impose standards that exceed the requirements of the Building Regulations and/or the draft Future Homes Standard. In this opinion, he states that:

> 'In summary, my advice is that notwithstanding the firm wording in national policy, there is nothing in law that prevents local authorities from going beyond current or planned building regulations in their development plan documents or adopting different energy efficiency metrics to those set out in national policy. The Court of Appeal helpfully confirmed as much in in *R (Rights: Community: Action Ltd) v Secretary of State for Housing, Communities and Local Government* [2025] EWCA Civ 990.'

The full legal opinion is appended to this guide and available to view here. This has been made available thanks to generous support from Rights Community Action.

RIGHTS COMMUNITY ACTION

This interpretation of the status of the WMS is consistent with the recent examination of the Salt Cross Area Action Plan in West Oxfordshire and the Winchester District Local Plan, where the Inspectors found that the net zero carbon development policies, although not aligned with the WMS, could be found sound in the context of policy and legislative requirements to support the transition to net zero, in line with the Climate Change Act 2008.[1415]

Planning authorities should therefore continue to develop policy based on robust, carbon literate evidence. If this evidence justifies a diversion from the policy preference outlined in the WMS, there is space for local authorities to do this if their position is justified by the evidence. In addition, the 2023 WMS has been interpreted by the Court as being an interim policy measure intended to 'bridge a gap' before the Future Homes Standard comes into force.

RTPI Royal Town Planning Institute
tcpa

Good practice for plan making

Despite the challenging policy context outlined above, there are still policy opportunities for local planning authorities to set high standards for new buildings to reduce their operational carbon emissions. These sit broadly under three categories.

1) Set targets for energy-based metrics to achieve net zero emissions

This policy approach is based upon setting targets for the measurable energy performance of a building. This methodology sets absolute energy metrics (expressed as energy use intensity and space heating demand) for new buildings, the impact of which is to force a building design that achieves highly energy efficient buildings.

Box 3: What are energy based metrics?

Energy use intensity: EUI measures energy efficiency by expressing annual energy use per sqm of a building. It accounts for regulated and unregulated energy use, and all energy sources.

Space heating demand: this is the amount of thermal energy that is required to maintain a desired temperature per sqm of a building.

This approach is favoured by many local authorities and industry bodies as it reduces the energy demand of buildings (and is therefore less dependent on the grid to achieve net zero) and creates benefits for future residents by reducing energy demand, and therefore bills. In use building performance is also easier to monitor and check against targets, therefore helping to reduce the 'performance gap'

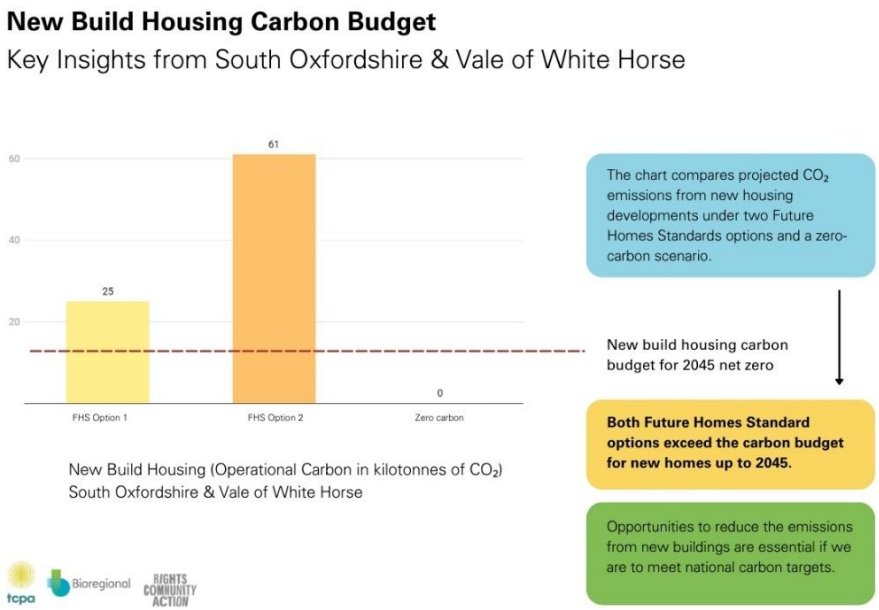

Figure 2: CO_2 emissions from new housing under two FHS options and a zero carbon home scenario. Source: Bioregional

RTPI Royal Town Planning Institute

tcpa

The approach forbids the use of fossil fuels in space and water heating and follows the energy hierarchy (see figure 3) to achieve a net-zero operational energy balance within new development, thus making it net zero. This policy approach also has the potential to make offsetting more robust than current commonly used policy approaches.

The LETI[16] Climate Emergency Design Guide and the Net Zero Carbon Building Standard[17] provide a proven approach to achieving net zero buildings. These form the basis of many emerging local plan policies, creating consistency in approaches across local authorities.

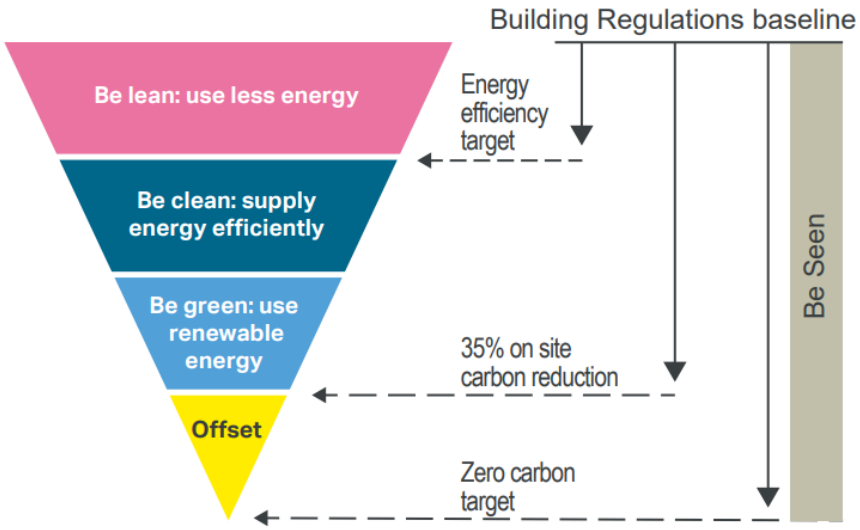

Figure 3: The energy hierarchy as depicted in the London Plan. Source: Greater London Authority

Box 4: Case study - Energy Efficiency Standards to Reduce Carbon Emissions in Winchester

Winchester District Council are developing a new local plan, with a key objective to support the district's net zero ambitions. The plan includes a policy (CN3) which requires all new residential development to demonstrate net-zero operational carbon on site by meeting the following standards:

i) The predicted space heating demand of the homes based on predicted energy modelling, showing that the target of <15 kWh/M²/year is met.

ii) The total kWh/yr of energy consumption of the building based on predicted energy modelling tools showing that the target of <35 kWh/M²/year is met.

iii) The total kWh/yr of energy consumption of the buildings on the site and the total kWh/yr of energy generation by renewables to show that the balance is met.

Box 4 continued.

iv) Onsite renewables to provide 100% of the energy consumption that is required by residential buildings, for example through the installation of photovoltaic solar panels or other suitable forms of renewable energy generating schemes that are appropriate for the location or the setting.

At the time of writing, examination hearings on the policy have been heard and the Inspectors initial response indicates that the policy is to be found sound.

Author: Winchester District Council **Date:** 2025
Link: https://www.localplan.winchester.gov.uk/examination-page

2) Increase the percentage reduction in carbon emissions from the building regulations baseline

This policy approach would align with the 2023 WMS by setting a percentage-based uplift of the Target Emissions Rate (TER). This would allow authorities to seek a higher level of carbon performance than the minimum set by current building regulations or through the proposed FHS. Although this would seek a higher level of carbon reduction than set in building regulations, this policy approach is likely to be less effective in securing emissions reductions than using energy-based metrics. This is because it doesn't cover unregulated energy, and is vulnerable to the 'performance gap', whereby the energy performance of a building in operation is much poorer than the original design predicts, leading to higher operational emissions than first anticipated. There is therefore a risk inherent in this policy approach as there is no robust mechanism to ensure that the carbon reductions have in fact been secured.

Box 5: Case study - Lancaster City Council

Policy DM30a of Lancaster City Council's Local Plan sets a trajectory for reducing regulated carbon emissions in new residential developments, beginning with a 75% uplift against the 2013 Part L Building Regulations baseline by 2025, and reaching net zero (100% reduction) by 2028. Applicants are required to submit an Energy and Carbon Statement as part of their planning application to demonstrate compliance with the carbon reduction targets and the fabric-first approach, which prioritises passive design and energy efficiency measures before the application of renewable technologies.

Author: Lancaster City Council **Date:** 2025
Link: Lancaster Local Plan Part One climate emergency review DPD

Box 6: Key ingredients for net zero buildings policies

We asked some leading consultants in planning and net zero buildings to share their top tips for local authorities to support energy-based metrics policies through examination.

1) **Evidence base:** The policy evidence base must show that the policy is technically feasible, with uplift in capital costs clearly understood and inputted into the whole plan viability evidence. It can be useful to draw on comparable examples to demonstrate where similar standards have been successfully adopted and implemented.
2) **Viability and costs:** Ensure that a cost consultant has calculated the uplift in capital cost to deliver the net zero policy. It's important that communication is maintained between the cost consultant and the viability consultants, so that there is shared understanding about how the costs have been translated in the viability study and that both parties could defend this at examination. The Council can also demonstrate long term benefits from the policy to demonstrate long term value, for example through reduced energy bills and long-term resilience.
3) **Engage your consultants:** It's recommended that LPAs engage technical consultants throughout the development plan process, including:
    - Reviewing the policy prior to submission,
    - Supporting the Council with their hearing statement and responses to representations,
    - Making sure officers are familiar and briefed on the evidence base, and
    - Supporting the authority at the examination in public.
4) **Locally relevant:** Make sure you have a clear, locally relevant case for deviating from the recommendations in the WMS. This may be to achieve local climate goals, ease wider development pressures on the grid, or addressing inequalities and fuel poverty.
5) **Clear flexibility**: If the policy requires flexibility, ensure this is framed as clear, evidence-based exceptions, rather than a general 'opt out', which can leave the policy vulnerable to push-back through development management.

Clarity on policy application: Be clear in policy working about expectations, the scale of development it applies to and what is required at different planning stages. Councils can support implementation through providing visual aids such as process diagrams for applicants. These can also aid examination by making it clear to Inspectors what will be expected to achieve policy compliance.

3) Set clear design principles and encourage adherence to recognised building standards

The design of buildings and streets have significant bearing on their associated emissions. The National Model Design Code includes guidance on how design principles can be promoted that reduce operational energy demand. This includes setting policies that require development to follow an energy hierarchy (see Figure 3), consider design and orientation to support renewable energy generation, and choosing materials that secure thermal comfort.[18]

Development plan policies can also encourage developers to utilise industry recognised standards to enhance the energy performance of buildings. There are many standards available that drive highly energy efficient building design, some of which are outlined in table 1 below. This policy approach can also be used to encourage higher sustainability standards for non-residential buildings.

Building standard	Scope	Webpage
Passivhaus	The Passivhaus standard applies to any type of new builds (residential, commercial, etc.), focusing on passive design and efficient ventilation (including heat recovery) to reduce space heating demand and provide comfortable indoor environments.	https://www.passivhaustrust.org.uk/
BREEAM (homes and commercial)	The BREEAM standards apply to new build residential and commercial development, covering net zero carbon, whole-life performance, energy and water efficiency, as well as health and wellbeing.	https://breeam.com/breeam-uk-new-construction-residential/
LETI Climate Emergency Design Guide	The guide focuses on new buildings only, setting requirements to ensure climate targets are met. It covers 5 key areas: operational energy, embodied carbon, the future of heat, demand response and data disclosure.	https://www.leti.uk/cedg
Net Zero Carbon Buildings Standard	The Net Zero Carbon Buildings Standard covers the construction, operation and demolition of buildings, focusing on operational and embodied carbon; it is verified based on actual performance rather than design stages. See box 7 for an explainer on its potential to support planning policy.	https://www.nzcbuildings.co.uk/

Table 1: A summary of some buildings standards that promote net zero buildings.

Box 7: Making use of the UK Net Zero Carbon Buildings Standard in planning

The UK Net Zero Carbon Buildings Standard (the Standard) has been created through widespread collaboration across the UK built environment industry. It is currently in Pilot Version, with Version 1 to be launched in early 2026. It is a voluntary standard which will require third-party verification.

Implementing embodied carbon and operational energy limits in policy

To meet the Standard, buildings must be fossil fuel free, meet upfront embodied carbon and operational energy limits, and meet other requirements. Conformity with the limits must be evidenced based on 12-months of in-use performance data.

The Standard uses metrics that are already familiar to industry and have been developed through UK-wide industry input, demonstrating national level support and buy-in across industry for using these metrics to define buildings within a single agreed Net Zero Carbon methodology. The Standard can therefore be used by Local Authorities to support implementation of upfront embodied carbon and operational energy reporting requirements or limits. For example, it can be referred in support of the introduction of policies that use these metrics, to show that the Local Authority is being consistent with industry best practice. The Standard also provides a robust definition of how buildings need to perform to be Net Zero Carbon Aligned, this is useful as part of the examination.

Using the Standard and its Limits in Policy

It is not yet appropriate for policy to state that buildings need to be verified to meet the Standard, because a) buildings can't be verified to meet the Standard until it is launched in early 2026, and until then the cost of this verification is unknown, and b) the Standard is based on in-use performance, requiring 12 months post-occupancy monitoring which is currently difficult to secure through planning.

There is some scope for Local Authorities to use the Standard's Limits to inform their policy. However, this must be done in a considered way. The Standard's limits have been created to be achievable but ambitious, particularly for new buildings, informed by the required pathway for the UK built environment to stay within its energy and carbon budgets by 2050. This is based on staged uptake, starting with fewer buildings and increasing over time. This means that its suitability for adoption in development plans will vary across Local Authorities and would need (as for other aspects of policy) to be supported by an assessment of viability specific to that Local Authority.

Once the Standard's Version 1 is launched, the evidence base which supported its development will become publicly available and can then contribute to the evidence base supporting local policies. Furthermore, in 2026, the Standard's team is aiming to make available the model of the UK building stock which informed the Standard's limits. It is also a goal to develop a version of the model which could be adapted to the local level to inform local trajectories and building-level limits.

The UK Net Zero Carbon Buildings Standard's verification process will be launched at the same time as its Version 1. In tandem with this, the Standard will explore how it can support RTPI and TCPA to develop resources to help Local Authorities implement net zero polices in future.

RTPI Royal Town Planning Institute
tcpa

Evidence to support policy on net zero carbon buildings

A robust evidence base is essential to support development plan policies that seek to set standards for operational energy that go beyond building regulations. This should include:

- A carbon literate understanding of the emissions reductions that can be achieved through setting higher energy efficiency standards than building regulations.
- Evidence of the technical feasibility of delivering new buildings to the standards proposed, with consideration of local housing demand and common building typologies.
- Understanding of cost implications for developing to the standards proposed, which in turn should feed in to the plan viability assessment.

Box 8: Case study - Delivering Net Zero An evidence base

A consortium of London boroughs joined forces to commission an evidence base for net zero carbon developments, which was produced by a consortium of leading consultancies.

The study reviewed policy options for zero carbon development (broadly reflecting options 1 & 2 outlined above). It explores the positive and negative elements of the two approaches, tests how the policies would apply to example development schemes and calculated the expected impacts of the policy.

Author: Levitt Bernstein, Introba, Inkling, Currie & Brown and Etude
Link: The main report, together with an executive summary and a 20-minute summary version are available to download from Haringey and Merton Councils websites.
Date: May 2023

RTPI Royal Town Planning Institute
tcpa

Decision making

In determining planning applications, local planning authorities are advised to expect proposed new development to:

- Be consistent with national targets to reduce greenhouse gas emissions set out in the relevant Climate Change Acts and relevant carbon budgets by using landform, layout, building orientation, tree planting, massing and landscaping to reduce likely energy consumption and increase resilience to increased temperatures.

Where local planning policies allow:

- Ensure developers have provided appropriate evidence or assessments to demonstrate their compliance with energy efficiency and sustainable design requirements.
- Ensure that development is monitored through an effective approach so that compliance with relevant local policy can be reviewed.

Horizon scanning

It is acknowledged that the **UK Net Zero Carbon Buildings Standard** could be used to support policy development, and there is an intention to support much needed consistency in local net zero policy and/ or resources that can help local authorities implementing net zero polices in future.

The **Future Homes Standard** is due for publication in 2025, with the timeline for implementation currently unknown.

RTPI Royal Town Planning Institute
tcpa

Further Resources

Essex County Council has made evidence and resources to support climate policies available on the **Essex Design Guide** website. These include low carbon and net zero buildings evidence, openly available legal advice and model policies. Whilst these are specific to the Essex area, much of the approach and guidance is of relevance to other local authorities. https://www.essexdesignguide.co.uk/climate-change/

The **LETI Climate Emergency Design Guide** sets clear evidence-based requirements for new buildings to meet UK climate change targets and support the transition to net zero carbon. Developed by over 100 built environment professionals, it provides practical guidance across five key areas: operational energy, embodied carbon, future of heat, demand response, and data disclosure.
https://www.leti.uk/cedg

The **UK Net Zero Carbon Buildings Standard** Pilot Version provides a science-based, cross-industry framework for a range of building types, new and existing, can be defined as net zero carbon. Developed collaboratively by leading UK institutions including CIBSE, RIBA, UKGBC, and LETI, the Standard sets clear performance targets for both operational and embodied carbon, aligned with the UK's carbon budgets and a 1.5°C trajectory. https://www.nzcbuildings.co.uk/pilotversion

Acknowledgments

With thanks to the following organisations for their input into this topic resource:

- **Chartered Institute of Building Services Engineers** https://www.cibse.org/
- **Etude** https://etude.co.uk/
- **Good Homes Alliance** https://goodhomes.org.uk/
- **Rights Community Action** https://www.rightscommunityaction.co.uk/
- **UK Green Building Council** https://ukgbc.org/
- **UK Net Zero Carbon Buildings Standard** https://www.nzcbuildings.co.uk/

SUPPORTED BY:

RIGHTS COMMUNITY ACTION

RTPI Royal Town Planning Institute

tcpa

Publication Date: December 2025

References

[1] *The Sixth Carbon Budget: Buildings.* Climate Change Committee, 2020. https://www.theccc.org.uk/publication/sixth-carbon-budget/

[2] Ibid.

[3] *What is Operational Carbon in buildings?* UKGBC. https://ukgbc.org/news/what-is-operational-carbon-in-buildings/

[4] *Embodied Carbon.* LETI, RIBA and WLCN. https://www.leti.uk/publications

[5] Taken from the UKGBC *'Operational & Embodied Carbon explainer guide'* available here: https://ukgbc.org/wp-content/uploads/2023/02/operational-and-embodied-carbon-1.pdf

[6] House of Commons Environmental Audit Committee, 2022.

[7] *Future Homes and Buildings Standards: 2023 Consultation.* MHCLG, 2023. https://www.gov.uk/government/consultations/the-future-homes-and-buildings-standards-2023-consultation

[8] This was confirmed in a government press release in summer 2025. https://www.gov.uk/government/news/rooftop-solar-for-new-builds-to-save-people-money

[9] As evidenced by the UK Green Building Council. See for example Net Zero Whole Life Carbon Roadmap Summary for Policy Makers. UKGBC, November 2021. https://ukgbc.org/wp-content/uploads/2021/11/UKGBC-Whole-Life-Carbon-Roadmap-Summary-for-Policy-Makers.pdf

[10] *Rights Community Action Limited, R (on the application of) v The Secretary of State for Housing, Communities and Local Government.* (Paragraph 68) The Court of Appeal judgment can be accessed here.

[11] *Levelling Up and Regeneration Act 2023 Schedule 7.* https://www.legislation.gov.uk/ukpga/2023/55/schedule/7

[12] National Planning Policy Framework. MHCLG, 2024. https://www.gov.uk/government/publications/national-planning-policy-framework--2

[13] *Court of Appeal Gives Judgment on Local Energy Efficiency Standards and a Key Environment Act Duty.* Cornerstone Barristers, 2025. https://cornerstonebarristers.com/court-of-appeal-gives-judgment-on-local-energy-efficiency-standards-and-an-environment-act-duty/

[14] See the post-hearing letter on the Salt Cross AAP from the Inspector dated 1 August 2025 found here: https://www.westoxon.gov.uk/planning-and-building/planning-policy/salt-cross-garden-village/salt-cross-area-action-plan-examination/salt-cross-area-action-plan-re-opened-examination-2024/

[15] Also see the post-hearing letter on the Winchester District Local Plan, September 2025: https://www.localplan.winchester.gov.uk/assets/inline/2670/ED38a-Inspector-Note-16-Post-hearing-action-points.pdf

[16] *LETI Climate Emergency Design Guide.* London Energy Transformation Initiative (LET), 2020. https://www.leti.uk/cedg

[17] *UK Net Zero Carbon Buildings Standard,* April 2025. https://www.nzcbuildings.co.uk/pilotversion

[18] *National Model Design Guide, part 2.* MHCLG, 2021. https://www.gov.uk/government/publications/national-model-design-code

Cover image: Homes built to Passivhaus standards in Closeburn, Scotland. Source: John Gilbert Architects / Tom Manley
Icons: Flaticon.com by iconixar

Accelerating the delivery of net zero carbon buildings through planning.
Part 1: Operational carbon emissions
Topic Resource 7
Planning for the Climate Crisis: A Guide for Local Authorities

Fifth Edition

Publication Date: December 2025

RTPI Royal Town Planning Institute

tcpa