Carbon Literate Planning

Topic resource

Planning for the Climate Crisis: A guide for local authorities

Publication Date: December 2025

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Introduction

National policy is clear that plan-making and development management must fully support the transition to a net-zero and resilient future in a changing climate. A powerful basis for local action is created by the requirement to achieve radical reductions in carbon dioxide emissions in order to be consistent with and support the carbon budgets published by the Climate Change Committee. Unlike many other planning objectives, planning authorities have a legal obligation to consider climate mitigation in plan making.

Local development plans need a strong and precise policy narrative to show how reductions within their direct control or influence will be achieved in line with national targets. This can only be achieved through applying a carbon literate approach to planning, which requires clear assessment and understanding of the carbon impact of development. This must inform all aspects of policy development and planning decisions from broad locations to detailed design criteria.

Box 1: Carbon budgets and development plans

Carbon budgets are five-year emissions limits set by the UK government which provide a clear trajectory to achieving net zero carbon emissions by 2050. Because the time frame for development plans is generally 15-20 years, they must align with the carbon budgets over the same period. Ultimately, development must be net zero as soon as possible, as what we plan now will outlive the 2050 net zero deadline.

Carbon budget 4	2023 – 2027	52% reduction on 1990 levels
Carbon budget 5	2028 – 2032	58% reduction on 1990 levels
Carbon budget 6	2033 – 2037	77% reduction on 1990 levels
Carbon budget 7	2037 - 2042	87% reduction on 1990 levels*

We are currently within the 4th carbon budget. The UK has exceeded the targets in the first three carbon budgets, largely due to transformation in energy generation away from coal. Upcoming carbon budgets are likely to be harder to achieve because they will rely on significant emissions reductions across more sectors of the economy. Planning has a direct influence on some of the more stubbornly high emitting sectors, including buildings and transport.

*This is the level recommended by the Climate Change Committee, although it has not yet been adopted by the UK government, which is required to set a new budget by June 2026.

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Policy Context

In England, planning legislation ties plan making to the provisions of the Climate Change Act (see the national policy and legislation resources for more detail). This is emphasised in the National Planning Policy Framework (NPPF) paragraphs 161 and 162 and footnote 61, which requires plans to contribute to 'radical reductions' in greenhouse gases and take a 'proactive approach to mitigating and adapting to climate change'[1] 'in line with the objectives and provisions of the Climate Change Act 2008.'[2]

Planning authorities must therefore understand their legal and policy obligations for action on climate change, including the carbon budgets and how these national targets apply to actions that can be controlled or influenced locally.

There is also no doubt that carbon dioxide emissions are a material consideration in planning decision-making. This was given additional clarity in the December 2024 update to the NPPF which now states that:

> *'The need to mitigate and adapt to climate change should also be considered in preparing and assessing planning applications, taking into account the full range of potential climate change impacts.'*[3]

There are significant differences in fossil fuel extraction policy across the four nations and regions of the UK. However, to meet the UK's net-zero ambitions, fossil fuel extraction can have no medium or long-term role in energy generation or industrial processes. The sixth carbon budget provides for a limited short-term role, but this should not require the consenting of any new mineral extraction.

Figure 1: The location of development will significantly influence its carbon impact. Source: Ian Luck / Shutterstock.com

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Key principles

To embed carbon literacy into local planning, planning authorities should adopt the following principles:

- Ensure that there is comprehensive relevant evidence base on climate mitigation and the carbon implications of development.
- Use this evidence to assess options and then develop policies that are consistent with achieving carbon reduction targets.
- Ensure that requirements placed upon development are clear and precise wherever possible, in order to create certainty for the community and applicants.
- Support climate action through ensuring that relevant officers and elected members have good levels of carbon literacy and the levers available to local authorities to support climate mitigation.
- Support policy implementation through setting appropriate requirements for carbon assessment and monitoring.

Evidencing carbon emissions

An understanding of baseline carbon dioxide emissions and a sound understanding of local trends is key to successful carbon mitigation policies in development plans.

Data on local authority carbon dioxide emissions are held by the Department for Energy Security and Net Zero, which produces disaggregated figures for local authorities in the UK.[4] Once baseline emissions are established, local authorities will need to understand localised emissions reduction requirements to keep in line with national targets, which may be aggregated by sector. Carbon accounting and budget setting could be done as part of a broader local authority approach to developing carbon action plans.

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Evidence should test different spatial development and policy options for their potential to contribute to carbon emissions reductions. This should include a range of policy areas and considerations including:

- Transport – implications of location and travel behaviour
- Buildings – both operational and embodied carbon
- Energy – reducing demand and decarbonising supply
- Infrastructure – the carbon implications of the infrastructure requirements necessary to support development
- Nature based solutions and carbon sequestration and storage.

Evidence can also identify co-benefits of certain policy interventions, for example reducing household bills through energy efficient buildings, and reducing air pollution through policies that deter private car use.

There are several carbon accounting tools available online,[5] but for a sophisticated scenario testing of policy options consultant support is likely to be required. Local authorities will need to consider carefully their scope and methodologies to find an approach that meaningfully supports spatial planning.

Good practice for plan making

Development plans should reflect the spatial and design implications of the need to radically reduce greenhouse gas emissions over the plan period, through the spatial strategy and plan policies. These should be supported by evidence, and should:

- Be founded on a target-led approach to policy on mitigation, ensuring, for example, that there is direct reference to the 2008 Climate Change Act carbon budget regime and local emissions reduction targets.
- Demonstrate how the spatial strategy and policies will reduce carbon emissions, for example through the location of development, mix of uses, densities, energy and transport strategies as well as technical requirements for buildings and design.

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- Drawing on carbon evidence, policy options should be carefully assessed to ensure the most powerful contribution to reducing emissions which reflect local priorities. The package must, taken as a whole, deliver the necessary local contribution to national carbon reduction targets.
- Set requirements for planning proposals to adequately assess carbon impacts to ensure compliance with the overarching strategy for reducing carbon emissions.
- Identify where cross boundary and strategic interventions will be the most effective scale to deliver carbon reduction strategies, and work proactively with neighbouring authorities and relevant partners to secure consistent policy support across authorities.
- Support a managed end to the extraction and use of coal and fossil fuel extraction.

Box 2: Case Study - West Oxfordshire emerging local plan

West Oxfordshire District Council has taken an evidence-led approach to assessing the carbon impact of development in its emerging Local Plan 2043. A Sustainability Appraisal incorporating a Strategic Environmental Assessment tests policies and site options against climate objectives, supported by evidence such as the Infrastructure Delivery Plan and transport assessments. Draft policies require Climate Impact Assessments for developments, while the Council's Carbon Action Plan (2024–2030) sets a district-wide framework, including a proposed Carbon Offset and Inset Fund. This ensures carbon considerations are embedded throughout plan-making and implementation.

In addition, WODC identified Bioregional's *Net Zero Spatial Planning Tool* as a valuable way to assess the carbon impacts of different growth strategies. The Council commissioned modelling of nine growth scenarios for 2026–2041, analysing embodied, operational, and transport-related emissions. The results showed that a 'new settlement' approach was the most carbon-efficient, while dispersed rural growth produced the highest emissions. This analysis forms part of the Local Plan's evidence base and informs the Sustainability Appraisal.

This analysis has directly shaped the preferred spatial strategy, focusing growth primarily at a number of new communities along a sustainable east–west growth and innovation corridor. It is also guiding policies on energy efficiency, renewable energy, and reducing embodied carbon across new development.

Link: https://www.westoxon.gov.uk/planning-and-building/planning-policy/local-plan-2043/

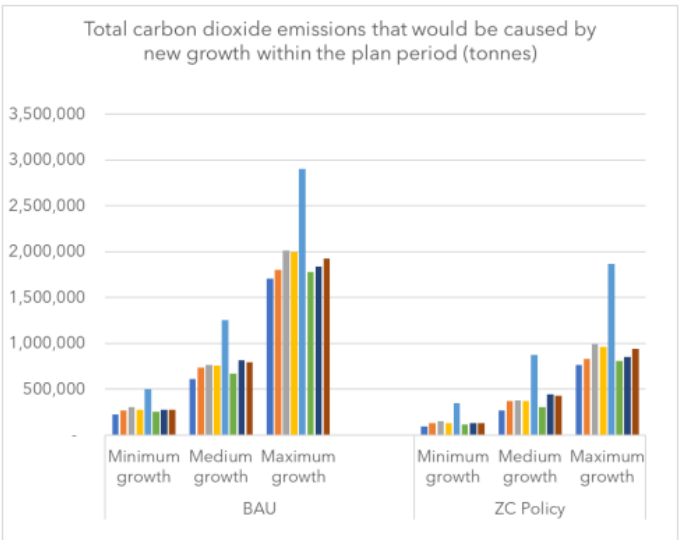
Box 3: Case study - Greater Cambridge Net Zero Carbon Evidence

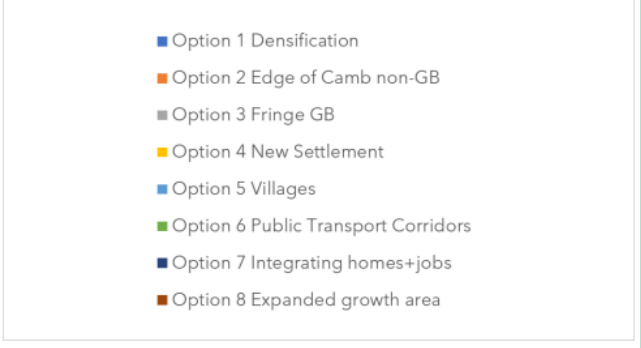
Cambridge City Council and South Cambridgeshire District Council are working together to create a joint Local Plan and has placed the reduction of carbon emissions at the heart of the plan's vision and objectives.

As part of the initial evidence base findings, modelling of the carbon impact of growth and spatial options under consideration has been undertaken. This has helped to inform choices at an early stage of plan making, ensuring that the carbon impacts of spatial and policy options are understood from the outset. The report considers three sources of emissions:

- building construction materials and processes (embodied upfront carbon);
- building heating and electricity usage (operational carbon); and
- occupant and visitor transport (transport carbon).

Different growth scenarios were tested through a model to understand the carbon implications of different growth options within the plan period.





Figures 2&3: The evidence base models the carbon emissions from potential growth scenarios.

The model also considers the implications of policies to reduce carbon emissions and demonstrates that zero carbon policies result in major reductions to total plan period carbon emissions for all options and growth levels, providing a useful evidence base to support net zero carbon policies.

Authors: Bioregional, Etude, Currie & Brown, Mode
Link: Greater Cambridge Net Zero Carbon Evidence Base Non-technical summary
Date: August 2021

Decision making

In determining planning applications, planning authorities should:

- Ensure that assessments are provided by the applicant in line with national, regional and local policy, to ensure that the carbon emissions arising from a proposal have been understood, assessed and reduced through the scheme design.
- Local authorities must have an effective monitoring regime to ensure that there is clear evidence of progress on reducing carbon dioxide emissions, and this progress must be clearly recorded in their Annual Monitoring Reports.
- When considering applications for fossil fuel extraction, local planning authorities should adopt a presumption against approval unless there are exceptional demonstrable reasons why the application should be approved.

Box 4: Case Study - Welsh government coal policy statement

The Welsh Government has developed policy to restrict coal extraction proposals to avoid the continued extraction and consumption of fossil fuels.

The policy requires proposals to provide clear evidence of need 'in the context of climate change emission reduction targets' and is clear that Welsh Ministers do not intend to authorise new licenses for coal mining other than in 'wholly exceptional circumstances', setting a clear presumption against new coal extraction.

Author: Welsh Government
Link: **Coal Policy Statement, March 2021**
Date: March 2021

Horizon scanning

In the government response to the 2024 NPPF consultation, MHCLG committed to updated planning practice guidance on the consideration of carbon emissions for plan making and decision making.[6] No further update on timing has been provided.

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Further Resources

Climate Change Committee - Local authorities and the sixth carbon budget

Advice and recommendations on how local authority action can align with the national carbon emissions reduction pathway. Link: https://www.theccc.org.uk/publication/local-authorities-and-the-sixth-carbon-budget/

Carbon Literacy Project – Toolkit for local authorities

A suite of adaptable training resources to build climate awareness and action across council teams. Link: https://carbonliteracy.com/local-authorities/

Impact – Community Carbon Calculator

A free, place-based tool that estimates carbon footprints for parishes, wards, and local authorities across the UK, modelling emissions from housing, transport, food, waste, and consumption. Link: https://impact-tool.org.uk/using-impact

Local Partnerships – Greenhouse gas accounting tool

Offers a consistent method for councils to calculate their carbon baseline and annual emissions. Link: https://localpartnerships.gov.uk/resources/greenhouse-gas-accounting-tool/

References

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

[2] Ibid. Footnote 61.

[3] Ibid. Paragraph 163.

[4] *UK greenhouse gas emissions: local authority and regional.* DESNZ, July 2025. https://www.data.gov.uk/dataset/723c243d-2f1a-4d27-8b61-cdb93e5b10ff/local_authority_carbon_dioxide_emissions

[5] See for example, Local Partnerships Greenhouse gas accounting tool, Greenhouse Gas Protocol for Cities, Impact Community Carbon Calculator and PAS 2070.

[6] *Government response to the proposed reforms to the National Planning Policy Framework and other changes to the planning system consultation.* MHCLG, February 2025. https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system/outcome/government-response-to-the-proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system-consultation

Acknowledgments

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