Oxfordshire County Council

Carbon Management Plan Residual Carbon and Offsetting Policy

November 2025

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1. Introduction

Oxfordshire County Council (OCC) is committed to becoming carbon neutral by 2030 and acknowledged a climate emergency in 2019. OCC has significantly reduced its operational and estate emissions since 2010/11. The council is targeting an 88% reduction by 2029/30 through the Carbon Management Plan 2022-2030 (CMP). Not all reduction activities are currently funded.

The CMP follows a decarbonisation hierarchy of saving energy, improving energy efficiency, switching to alternative fuels/energy sources, generating energy, buying zero carbon power (including through PPAs), followed by offsetting the residual emissions. Once the council has maximised its reduction of emissions, it will have residual emissions in 2030 that require offsetting to meet its target. This will decrease year-on-year from 2030 onwards through grid decarbonisation and zero-emission vehicle uptake. A further decision was made to go beyond the 2030 target through carbon removals subject to funding, with a target figure to be agreed later.

This policy outlines the principles that will guide offsetting the residual emissions of the CMP for its 2030 target onwards through emissions reduction and carbon removal credits. It will also outline principles and enabling actions for going beyond carbon neutrality. It will also be applied to select infrastructure projects.

It prioritises credits from Oxfordshire-based projects or those with local benefits where possible, while excluding carbon avoidance credits and those originating outside the United Kingdom. While the cheapest solution would be to procure overseas credits, doing so may expose OCC to the risk of investing in low-quality projects. A local approach also offers residents, local businesses, and the local environment the advantages of inward investment and the associated benefits of the projects in the medium to long-term.

This policy has been developed to align with internationally recognised standards for buyer and carbon credit integrity. Due to the lack of specific guidance for local authorities, these standards have been adapted where necessary, while retaining their original intent. It also acknowledges the significant market gaps, particularly in Oxfordshire. The action plan (Appendix 1) seeks to remedy these gaps while still enabling timely progress to carbon neutrality. Addressing these markets gaps also aligns with OCC's commitment to go beyond carbon neutrality[1] and build the carbon removal market.

[1] This target has previously been described as beyond net zero but is more accurately described as beyond carbon neutrality given OCC's 2030 target does not include all material scope 3 emissions.

2. Types of Carbon Credits

Carbon credits are a purchasable and tradeable certificate representing one tonne of carbon prevented from entering or directly removed from the atmosphere. Carbon credits can be traded or 'retired' in a given year, allowing the owner to offset them against emissions for that year. Credits are generated from projects that follow a published methodology, which may be nature-based, technological or a hybrid. The credits fall into three main categories[2]:

- **Emissions avoidance**: credits issued from projects that prevent potential future emissions compared to a counterfactual scenario, such as an energy project that would have been fossil fuel rather than renewable based or preventing planned deforestation.
- **Emissions reductions:** credits issued from projects that reduce or eliminate sources of emissions such as carbon capture and storage or energy efficiency measures.
- **Carbon removals:** credits issued from projects that directly capture carbon from the atmosphere and store it in the biosphere (e.g. afforestation and soil carbon sequestration) or the geosphere (e.g. biochar and enhanced rock weathering).

OCC will only be purchasing or generating credits from emissions reductions and carbon removal projects. Credits from reduction projects that simply improve the efficiency of fossil fuel use, such as more efficient gas boilers, will be excluded.[3] When going beyond the carbon neutrality target, only carbon removals will be pursued.

3. High Integrity Carbon Credits

Although the voluntary carbon market is highly diverse there are widely endorsed principles recognised within the United Kingdom and internationally. Taken together, the Climate Change Committee, Integrity Council for the Voluntary Carbon Market (ICVCM), Oxford Principles for Net Zero Aligned Carbon Offsetting and Government state that carbon credits must:

- Be additional, both regulatory and financial.
- Be permanent or have minimal risk of reversal (including measures to compensate reversal).
- Be robustly (and conservatively) quantified, monitored and reported.
- Be independently validated and verified.
- Not be double counted.
- Avoid negative impacts on (or better yet, support) social and environmental goals.

[2] Deep Dive: The Role of Carbon Credits in SBTi Corporate Net-Zero Standard V2 - Science Based Targets Initiative

[3] Based on a conservative interpretation of the ICVCM Core Carbon Principles that recommend carbon credits contribute to progress on net zero and avoid locking-in levels of greenhouse gas emissions.

- Avoid locking-in future greenhouse gas emissions.
- Avoid 'leakage' by displacing emissions elsewhere.

High-integrity carbon credits are always calculated using a recognised methodology or 'code', most of which adhere to these principles. Some codes have endorsements from the Government such as the Woodland Carbon Code (WCC) and Peatland Carbon Code (PCC). Others are endorsed by international quality assurance organisations such as ICROA or ICVCM. However, individual credit-generating projects should be evaluated on a case-by-case basis for adherence to a code where possible.

Appendix 2 details carbon credit projects possible within Oxfordshire.

4. High Integrity Use of Carbon Credits

Beyond the issue of low integrity credits, the voluntary carbon market has seen the use of carbon offsetting to maintain the status quo of high carbon emissions rather than as the last step in decarbonisation. OCC will adhere to best practice for buyers of carbon credits to ensure offsetting is done with integrity. This includes:

- Prioritising reducing organisational emissions as outlined in the CMP.
- Regularly revising offsetting policy, accounting practices, targets and credits or other investments to reach carbon neutrality.
- Measuring and disclosing the use of carbon credits and reporting on risks.
- Monitoring for underperformance of carbon credits that issue ex ante.
- Shifting from emissions reductions to carbon removals, and from carbon removals to durable carbon removals as the global net zero date of 2050 approaches.
- Purchasing carbon credits in advance of their retirement year to promote market development.
- Supporting the development of innovative and integrated approaches to achieve net zero.

Where possible, OCC will pursue a portfolio-based approach to purchasing and generating carbon credits to minimise the risk that a project unexpectedly fails to adhere to the principles in section 3. This will mean offsets are spread across multiple project types, providers, and locations.

OCC recognises ongoing debate about whether carbon credits used for offsetting should be 'like-for-like', meaning that residual emissions should be matched with carbon removals that store carbon for a similar duration to the atmospheric lifetime of the greenhouse gas being offset.[4] OCC will monitor best practice and shape future iterations of this policy accordingly.

[4] Deep Dive: The Role of Carbon Credits in SBTi Corporate Net-Zero Standard V2 - Science Based Targets Initiative, CCC Voluntary Carbon Markets and Offsetting Report. Note: for net zero target residuals, SBTi uses the term neutralise rather than offset.

5. Maximising Benefits for Oxfordshire

Carbon offsetting can support health, social and environmental co-benefits beyond climate change mitigation when responsibly and strategically used. For example, retrofit credits can improve the quality of social housing, lower energy bills for low-income households and reduce health impacts from cold and damp homes. Woodlands created through afforestation schemes such as the Woodland Carbon Code (WCC) have the potential to significantly improve biodiversity and water quality, and lower flood risk.[5] Biochar sourced from local waste and distributed to local farms can increase yields, as well as soil nutrient and water retention, promoting circular economy principles.

For Oxfordshire residents to realise the co-benefits of OCC's offsetting efforts, carbon credit projects will be prioritised that originate locally or within a 'strategic boundary' that are expected to have a positive impact on Oxfordshire. For example, nature-based woodland schemes upstream of Oxfordshire could also reduce the county's flood risk.

Given the lead times required for carbon savings to be verified and credits generated from a project, OCC will likely need to purchase carbon credits across the United Kingdom to achieve the 2030 carbon neutrality target. For example, Woodland Carbon Code projects generate usable credits over decades, and very few credits will be ready by 2030 within Oxfordshire. Most nature-based projects started today will enable OCC to remain carbon neutral after 2030 and go beyond this target.

OCC will seek to minimise the need for credits outside Oxfordshire and its strategic boundary by working with partners to launch a variety of projects with different credit generation timelines in the lead up to 2030 and beyond.

6. Carbon Credit Procurement Hierarchy

Recognising the market for carbon credits is currently immature, OCC will take a hierarchical approach to the procurement of carbon credits in seeking to balance the immediacy of the 2030 carbon neutrality target, prioritisation of local solutions, cost variability, integrity of credits and buyer standards. The hierarchy is as follows:

1. Carbon removals credits from Oxfordshire or strategic boundary with an established high-integrity methodology.
2. Carbon removals credits from Oxfordshire or strategic boundary with an emerging high-integrity methodology.
3. Emissions reductions credits from Oxfordshire or strategic boundary with an established high-integrity methodology.
4. Carbon removals from the United Kingdom with an established high-integrity methodology.

[5] Achieving net zero: A review of the evidence behind potential carbon offsetting approaches – Environment Agency

5. Carbon removals from the United Kingdom with an emerging high-integrity methodology.

Here, 'high-integrity' refers to the exclusions from section 2 and the list of qualities from section 3. 'Established' or 'emerging' refer to the reputation or level of endorsement of a code by the Government, ICROA, ICVCM or similar. While OCC will endeavour to procure what is available in each tier before moving down the hierarchy there will be some carbon credit prices that are prohibitive. Market variability and a limited market will require OCC to exercise discretion on a case-by-case basis while still employing the hierarchy as the standard.

The council may also have some scope to develop its own credits through nature-based projects like woodland creation on its land, but this is thought to be limited and would be a long-term proposition given the time taken for woodlands to mature.

7. Future Developments

This policy primarily guides decision-making for offsetting residual emissions from the CMP. New build and infrastructure offsetting should aim to align with this policy but be assessed case by case.

Appendix 1: Action Plan

Implementation Framework & Milestones

The following action plan provides a structured plan for activities to help grow the availability of local offsetting opportunities and ensure timely progress toward meeting carbon credits needs to achieve carbon neutrality from 2029/30 onwards.

Phase 1 (November 2025 - March 2026): Establishing the Foundation

Action	Lead Responsibility	Delivery Quarter	Key Deliverables
Develop and test carbon credit purchasing mechanism.	Legal and Procurement, Climate Action	Q3 – Q4 2025/26	Execute initial forward purchase of carbon credits for retirement in 2029/30.
Explore opportunity for carbon removal projects within Oxfordshire.	Legal and Procurement, Climate Action	Q4 2025/26	Develop business case.
Strengthen partnerships to aggregate local offset demand.	Climate Action, ZCOP, OLNP	Ongoing	Establishment of ZCOP sprint group with OLNP support.

Phase 2 (April 2026 - March 2028): Scaling Up Local Offsetting

Action	Lead Responsibility	Delivery Quarter	Key Deliverables
Identify opportunities for carbon credit projects on council-owned land	Climate Action	Q1 2026/27	Land identified, project type selected, cost and credit volume modelled.
Forecast Long-Term Carbon Credit Demand (OCC & Future Unitary Authority)	Climate Action	Q1 – Q4 2026/27 2027/28	Forecast OCC's demand for credits (for existing estate) through 2040 Produce internal report on future residual demand of new estate based on Government's chosen unitary proposal.
Engage with relevant sectors on development of standards that would support urban tree planting codes to generate carbon credits from OCC tree planting activities.	Climate Action, Tree Service	Q2 2026/27	Internal report with potential codes surveyed, additionality requirements clarified, and credit volume modelled.

Investigate Oxfordshire retrofit credit scheme.	Climate Action	Q2 2026/27	Business Case developed.
Develop Oxfordshire wide Offsetting Credit Scheme with Local Nature-Based Projects.	Climate Action, ZCOP, Legal & Procurement	Q4 2026/27 and Ongoing	Develop model with ZCOP sprint group.
Align internal carbon and nature market needs across services.	Climate Action	Ongoing	Carbon and nature market needs communicated to project developers.[6]

[6] Carbon credits and other nature credits like biodiversity net gain cannot come from the same project due to double counting and additionality constraints. However, OCC is working to pursue nature-based climate adaptation solutions, and similar projects may alleviate flooding challenges for highways, for example. This may add cost to final carbon credit prices but reduce the overall cost of sourcing solutions to these challenges separately. Due consideration will be given to the high-integrity standards, like additionality, outlined in this policy.

Appendix 2: Current Carbon Credit Options

The Environment Agency's (2021) Achieving Net Zero report offers a comprehensive review of the evidence behind different carbon offsetting approaches. The key findings and challenges are summarised below for the options most likely to be available in Oxfordshire.

Woodland Carbon Code (WCC)

- A UK-based, Government-backed standard for afforestation and reforestation and credits are issued based on verified carbon sequestration in trees planted.
- Offers long-term benefits including biodiversity enhancement and flood prevention.
- Delayed issuance of credits (verification process takes time), land constraints.

Biochar Carbon Credits

- Produced by pyrolysis of organic waste, biochar locks carbon into stable solid form.
- Likely to be certified under emerging Biochar Carbon Code, ensuring permanence with potential in Oxfordshire for leveraging local agricultural waste for production.
- Not currently accredited, market still developing, ensuring certification compliance.

Retrofit Carbon Reduction Credits

- Reduces energy use and emissions by improving building heat retention and installing renewable energy.
- Widely implemented with strong data on cost and effectiveness.
- Difficult to quantify carbon savings precisely; limited standardisation for offsets.

Peatland Carbon Code (PCC)

- Effective carbon sink, biodiversity co-benefits.
- Requires extensive land access and restoration funding.
- Limited applicability in Oxfordshire but worth exploring with regional partners.

Enhanced Rock Weathering

- Crushed rock spread to speed up natural CO_2 absorption.
- Uses existing farm machinery and offers soil benefits.
- High cost and lack of field trials; environmental risks from dust and metals.

Floodplain Restoration

- Reconnects rivers to floodplains, enabling vegetation to sequester carbon.
- Offers biodiversity and flood risk reduction alongside carbon benefits. High cost and complex ownership; additionality is hard to prove.

Grassland Management

- Managing mowing on verges and embankments can enhance soil carbon.
- Some evidence of co-benefits like biodiversity and reduced maintenance costs.
- Low confidence in carbon impact; safety and visibility take priority.

Agricultural Soil Management

- Practices like reduced tillage and legumes can increase soil carbon.
- Conservation agriculture may offer modest mitigation and co-benefits.
- Net costs often high; economic return can be negative without subsidies; results vary by soil type and climate; evidence of impact is mixed.