

Aligning local and national governance for net zero—what is the potential for locally determined contributions?

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Abstract

The UK has just published its Seventh Carbon Budget and Nationally Determined Contribution (NDC), setting out the nation's contribution to climate change. Despite recognition by government of the importance of the local government role in delivering Britain's climate commitments, local government remains relatively constrained in pursuing emissions reduction locally. One challenge is that local authorities do not have 'locally determined contributions' (LDCs), which are based on a scientifically robust approach and which mirror the NDC. This creates challenges in terms of planning and prioritising investment, and engaging with partners and government funding.

This paper outlines insights from the development of an LDC guidance framework for local authorities. The paper brings together early findings and summarises progress to date. The research highlights a consensus on the need for scientifically robust, locally tailored emissions targets aligned with national goals, to support local plan-making, and enhance local stakeholder buy-in and private sector investment. It also identifies significant challenges, including: limited local government capacity, inconsistent methodologies, and outdated data. This highlights an urgent need for more accessible and flexible tools to support local climate planning and implementation.

Keywords

locally determined contributions, nationally determined contributions, local government, net zero, investment, climate

1. Introduction: nationally determined contributions

Nationally Determined Contributions (NDCs) are the reporting mechanism agreed to by international parties to the United Nations Framework Convention on Climate Change (UNFCCC) under the Paris Agreement¹ to keep global average temperature increases as close to 1.5° as possible.

National governments use the NDCs to outline their emission reduction targets and strategies, strengthen climate resilience, and to direct financial flows towards this goal. NDCs must contain information on targets, policies, and measures for reducing emissions and for addressing the impacts of climate change. The NDCs may also contain information on the requirements relating to technology, finance, and capacity building. The intention is that NDCs should be updated every five years, and that each NDC should be more ambitious than the last, such that there is 'a ratcheting up of aggregate and individual ambition over time'.²

The UK's latest NDC, announced on 30 January 2025, establishes the UK's national ambition and commitment on climate change. It sets a target to reduce greenhouse gas emissions by at least 81 per cent by 2035 compared to 1990 levels.³

2. The role of local delivery in supporting the NDC

The NDC sets an overall UK target. However, the government in publishing its latest NDC also recognises the importance of local delivery via local government being an essential component of achieving the ambition, specifically stating that 'local government, including strategic authorities, play an essential role in driving action to help realise our national net zero targets'.⁴

This essential role was spelt out in comprehensive terms by the previous government's Net Zero Growth Plan, which stated:

Local areas play an integral role in supporting the transition to net zero. Local authorities have strong powers, assets, and responsibilities across many of the areas where emissions reductions are needed, and civil society organisations can enable communities to take collective action to accelerate the net zero transition in their neighbourhoods. Local government is also uniquely placed to attract private sector net zero investment that wouldn't otherwise be obtained; maximising the local opportunities the transition will bring, such as the growth of green jobs and skills.⁵

One practical commitment in the NDC is the government's decision to endorse the Coalition for High Ambition Multilevel Partnerships (CHAMP) for Climate Action pledge, which represents a 'commitment to support local government and the devolved governments to drive greater action to address the urgency of the climate crisis'.⁶

The increasing emphasis on the role of local government and place-based action is not unique to the UK. In 2021, the Glasgow Pact text from COP26 highlighted for the first time

¹ United Nations Framework Convention on Climate Change (2015).

² United Nations Framework Convention on Climate Change (2024).

³ UK Government (2025).

⁴ UK Government (2025).

⁵ Department for Energy Security and Net Zero (2023).

⁶ UK Government (2025).

the important role of local governments. Local and regional governments sent more than 100+ political leaders to COP29, with Local Governments and Municipal Authorities (LGMA) constituency delegates participating in more than 170 events across the negotiations space, plenary sessions, pavilions, and Green Zone.

At COP29's Urbanization Day, LGMA released its COP29 Joint Position, which called for the urgent acceleration of inclusive, multilevel, and gender-responsive climate action by embedding local and subnational governments within new Nationally Determined Contributions (NDCs).

And other countries are working to reinforce the role of local/sub-national government in delivering national climate targets. For example, Brazil's NDC includes the establishment of a 'Commitment to Climate Federalism' between the Union, states, and municipalities of Brazil. This is significant because it recognises and underlines the crucial role of local governments in the NDC and in the delivery of its objectives.

With the IPCC also working on their special report on the role of cities, for launch in 2025, there is increasing national and international recognition of the role that local government and place-based delivery plays in the collective response to climate change.

Despite the recognised importance of the role of local areas and local government in supporting reduced emissions, the specific responsibilities of local government in relation to emissions reduction are poorly defined. This is addressed in the Seventh Carbon Budget produced by the Climate Change Committee, which states that, while local government has shown ambition, local delivery 'is currently inconsistent, hindered by a lack of clarity on who should be doing what, limited resources, competing priorities, and a fragmented, short-term funding landscape'.⁷

This is not a new observation. For example, the previous government's Net Zero Review similarly found that 'Local authorities are a key partner in delivering net zero, but current central government funding arrangements are standing in the way of effective local action.'⁸ Independent studies have similarly emphasised that the local net zero governance in the UK is hindered by a fragmented and unclear policy landscape, as well as competitive allocation of funding streams which work to short-term, rather than longer term, time planning horizons that are inconsistent with overall net zero delivery.⁹

Recent evidence suggests that a place-based approach to net zero has the potential to deliver more emissions reductions per pound invested with greater co-benefits. A 2022 report by UK Research and Innovation (UKRI) estimated that a place-agnostic approach 'requires £195bn of investment to meet targets set out in the sixth Carbon Budget, and this investment releases £57bn of energy savings'.¹⁰ In contrast, a place-specific scenario with tailored interventions for local places 'requires just £58bn of investment and releases £108bn of energy savings for consumers'.¹¹ The opportunity extends to co-benefits, with the report finding that, 'the wider social benefits are significant in both scenarios but the place-specific

⁷ Climate Change Committee (2025).

⁸ Skidmore (2023).

⁹ Bedford *et al.* (2023), Nolden *et al.* (2024), Place-based Climate Action Network (2023).

¹⁰ Dowling *et al.* (2022).

¹¹ Dowling *et al.* (2022).

investment of £58bn generates wider social benefits of £825bn. This is compared to £195bn investment realising £444bn of wider social benefits in the place-agnostic approach.’¹²

3. The need for locally determined contributions

One of the principal challenges in ensuring that local authorities can play an effective role in emissions reduction is the lack of consistent emissions targets at a local level—in other words, a local counterpart to the NDCs.

In the absence of clear direction from central government, many local authorities have set their own council and community-wide targets and goals in recent years, with many having declared a ‘climate emergency’. 84 per cent of local authorities have a climate change plan in place.¹³ In its counterpart report to the Sixth Carbon Budget’, the Climate Change Committee stated that local authority action plans represent the ‘locally determined contributions’ to the national net zero target.¹⁴

However, the lack of cohesiveness with national targets means that it is challenging to understand exactly how local places will contribute to delivering the NDC, where there may be a shortfall in activity locally, and what might be needed to remediate this. In sum, this makes it likely that these plans will not deliver national aspirations. An example of the lack of cohesion is the wide variety of target dates for net zero locally, with target years ranging from 2030 to 2050.¹⁵ 67 per cent of councils report that they are very or fairly unconfident their local authority will achieve its net zero targets within the timescales set out in its strategy LGA.¹⁶

The starting point for our work, therefore, has been to consider how the UK might achieve an effective regime of locally determined contributions (LDCs). This has been initially prompted by the Centre’s discussions with Cambridgeshire County Council, and MP for South Cambridgeshire Pippa Heylings, who both noted the challenge of addressing climate change without clear, scientifically based targets. Without such targets, local authorities and their partners will struggle to effectively prioritise investments, and what they do achieve will not necessarily enable the UK to meet its NDC.¹⁷

By LDCs we mean:

- An overall, area-wide carbon budget for a local authority area which is consistent with the UK’s NDC.
- A defined emissions reduction pathway that shows how emissions could be reduced in a manner consistent with the area’s carbon budget. The pathway should provide for sector-specific breakdowns (for example, transport and housing) such that it supports local emissions reduction planning. Pathways would need to be updated over time as local context changes.

¹² Dowling *et al.* (2022).

¹³ Climate Change Committee (2025).

¹⁴ Climate Change Committee (2020).

¹⁵ Key Cities (2023).

¹⁶ Local Government Association (2024).

¹⁷ McMillan *et al.* (2024), Nolden *et al.* (2024).

The same logic that underpins NDCs as a vital building block of international climate change coordination—supporting improved national accountability responding to scientific benchmarks—also applies to LDCs.

We also recognise that local target-setting alone is necessary but likely insufficient to achieve the UK's NDC, given the range of identified issues affecting local authority emissions reduction delivery, including availability and fragmentation of finance, local officer capacity, and the role of private sector action and investment.¹⁸ Nonetheless, we suggest that LDCs are an important enabling component to ensuring that local authorities are able to convene and engage local partners, make an effective case for outside funding, and to prioritise elements of delivery that will be most impactful.

4. The LDC project

This hypothesis has been the focus of our research work over the past twelve months on the LDC project. Specifically, the project aims to test the concept of LDCs and develop guidance to support local authorities, in Cambridgeshire and around the UK, to adopt LDCs in a scientifically robust way.¹⁹

The focus on Cambridgeshire reflects the relatively well-progressed status of local-government-led climate action in the area, with the Cambridgeshire & Peterborough Combined Authority (CPCA) having established an Independent Commission on Climate in 2019, which published a report in 2021 with recommendations for how to address climate change in the region.²⁰ Within the CPCA, Cambridgeshire County Council has a Climate Change Strategy and Action Plan²¹ and many projects delivering upon these plans, including rollout of electric vehicle charging via solar canopies, replacing carbon-intensive heating infrastructure in schools, and striving towards a cleaner future by driving down its own carbon emissions.

The partnership with local authorities in Cambridgeshire and Peterborough has enabled us to test an approach to developing LDCs and gain direct feedback from local authorities themselves, ensuring that the final framework is robust and practical.

This work was funded as part of a continuation of—and complementary to—Innovate UK's £3.5 million investment in Cambridgeshire & Peterborough as part of the Net Zero Living Programme, the focus of which was:

- removal of the non-technical barriers to net zero scaling,
- driving widespread business growth and innovation across the economy,
- unlocking significant additional private investment to enable true levelling-up both between and within places.

¹⁸ Climate Change Committee (2025).

¹⁹ The project has been funded by Innovate UK and led by Cambridgeshire County Council, with the Centre for Climate Engagement (CCE) at Hughes Hall, University of Cambridge as the research partner, and working in partnership with Cambridgeshire & Peterborough Combined Authority (CPCA), and the constituent Cambridgeshire authorities. It builds on previous work by CCE and Cambridgeshire County Council on identifying non-technical barriers to net zero delivery.

²⁰ Cambridgeshire & Peterborough Independent Commission on Climate Change (2021).

²¹ Cambridgeshire County Council (2022).

This study identified three ‘conditions of success’ for providing market and investor confidence, which included the coordination of ambition and delivery across actors and linking local and national targets.

As part of the LDC project, we have conducted a two-phase review of the need for and the potential for delivering LDCs in an effective and equitable way. The first phase focussed on a 2023 workshop with senior academics of the Cambridge Zero Policy Forum and senior representatives from local authorities in Cambridgeshire. The workshop considered the role of LDCs in UK policy, with an in-depth discussion on how an LDC framework could add value to national net zero ambition, what an LDC should consist of, and some of the challenges that would need to be overcome to transition to an LDC model in the UK, including resource and capacity constraints, training requirements, local powers at play, spheres of influence, and equity.

The second phase of our work started in early 2024 and is currently ongoing. The focus of phase 2 was to develop guidance for LDCs that would optimise alignment with the NDC.

In the second phase, the team at CCE (working with the local authority partners across Cambridgeshire and Peterborough), devised a process of broad stakeholder consultation to set out the evidence, propose ideas for discussion, encourage blue-sky thinking, and identify the key challenges for local authorities seeking to implement net zero strategies.

In May 2024, CCE, Cambridgeshire County Council, and the other project partners held a series of three workshops to gain insights from both local and national politicians, experts, and council officers, on how a framework for locally determined contributions should be designed. The workshops focussed in turn on: Data, Investment, and the Cambridgeshire context. In total, 130 participants took part over the course of the three workshops. As well as local representatives, the workshops included wider experts, such as the UK Infrastructure Bank, the Green Finance Initiative, and the Institutional Investors Group on Climate Change.

The first draft of the LDC guidance framework is currently being developed based on the input given at these workshops, and in February 2025 we ran a second set of workshops to test the draft framework guidance with practitioners, politicians, experts, and local stakeholders. To test specific elements of the draft LDC framework in greater detail, we are also working with CPCA to apply some parts of the guidance. The final outputs of the work will be completed in June 2025.

5. Findings

The workshops and research identified several important themes, issues, and challenges relating to the practical implementation of LDCs.

The need for scientifically based local targets

The research provided an opportunity to validate the intuition underpinning the project, namely that it would be valuable for local areas to have scientifically valid targets that were consistent with national (and international) targets. The consensus amongst participants was that this was important, not least because there was an acknowledgment that many existing local targets—in Cambridgeshire and elsewhere in the UK—were based on local preferences rather than a detailed analysis of emissions reduction requirements.

Having scientifically robust targets would therefore make it easier to work with local politicians, businesses, and the community to emphasise the necessity of specific investments/policy as this was more robustly (clearly/directly?) linked to the area's role in delivering net zero.

The need for a place-based approach

Local authorities are one of many actors in their local area, alongside other public sector organisations, businesses, and third sector and community groups among others. Indeed, in Cambridgeshire and Peterborough, as in many areas around the country, there is a complex overlapping set of local government geographies, including (lower-tier) districts, upper tier authorities, and a combined authority. Whilst this may be changing due to local government reorganisation (see below), there were concerns about local capacity to develop LDCs, ownership of and responsibility for delivering LDCs, and interoperability if LDCs were developed separately.

Consensus agreement was found on several points:

- LDCs should be area-wide in scope (rather than referring to local government's own emissions). Fulfilling them should not (and cannot) be the sole responsibility of local government. By being area-wide, LDCs will support engagement and dialogue with other important local emitters, such as businesses, with the hope that this supports wider behaviour change.
- Local areas face different issues relating to emissions reduction. For example, in Cambridgeshire these issues include: being a relatively rural area with high levels of agriculture, the presence of internationally significant high-tech industries, and existing concentrations of environmental goods and services in the local economy. Other areas may face other issues, such as a legacy of energy-intensive industries, or a higher proportion of off-grid properties, that may make emissions reduction more or less difficult.

Challenges in national data disaggregated to local level

There is a tension between 'top-down' national data disaggregated to local level and the resource intensity of developing genuinely local emissions data, with inherent issues around a lack of standardised approaches for taking the latter approach across different areas. In practice, this means that most areas will be reliant on the local authority emissions data produced by the Department for Energy Security & Net Zero (DESNZ), which is produced with a time lag of two years (that is, data released later in 2025 will provide statistics up to 2023).²²

This means that developing genuinely place-based approaches, while maintaining alignment and comparison across local authorities, is likely to be an ongoing challenge. One way of addressing this will be to improve the fidelity and timeliness of nationally produced datasets, though this will require engagement with DESNZ and national data providers. This is tangential to the objective of developing LDCs, but is important for the operationalisation of LDCs, as up-to-date data is important to track progress towards targets.

²² Department for Energy Security and Net Zero (2024).

Using existing tools

There is a range of tools available which can support local authorities to calculate LDCs—in whole or in part. Some are publicly developed and free-to-use, whilst others are commercial platforms that require a fee. There are a range of challenges involved in using these tools:

- There is lack of methodological transparency of some off-the-shelf tools for calculating carbon budgets and possible sectoral pathways.
- Different tools use different methodologies. For example, some local authority carbon budgeting tools allocate according to population, whereas others look at past emissions and take a ‘grandfathering’ approach.
- Many free-to-use tools are the products of academic projects which have not been maintained.
- Commercial platforms that require a fee can pose a barrier to councils that have limited resources for non-statutory services.

The lack of tools to support LDC development has emerged as a key area for future work. Our engagement with consultees found that there is an urgent need for more intuitive, flexible, and accessible, place-focussed tools that help local authorities to set robust carbon targets, determine pathways, and monitor progress.

Top-down targets versus bottom-up LDCs

In the course of the research, we have considered the relative merits of developing LDCs centrally compared to developing them in a decentralised way, as envisaged at the outset of the project. The arguments for central government developing LDCs are that:

- It would simplify the process and reduce the capacity demands on local government. In doing so, it would accelerate the process of LDC adoption by local government which would benefit climate change action.
- It would ensure that LDCs were aligned (that is, that they summed to the NDCs).

Local government consultees throughout this process were generally consistent in wanting to develop LDCs in a decentralised way, rather than being imposed on them. This reflected a concern that nationally developed targets would not take account of local place-based challenges (see above), and that they might be rejected by local leaders and stakeholders for this reason. Consultees recognised that there were also challenges associated with local development of LDCs: in particular, that the LDCs might use different methodologies such that the sum of the LDCs would not deliver the NDC. Nonetheless, this debate has helped reinforce the need for robust guidance for LDCs due to the continued desire of local areas to lead on this process themselves.

Facilitating increased private sector investment

The bulk of net zero investment will need to come from private finance, but structuring deals to make them attractive is currently a significant challenge. It was felt by consultees that having a clearly defined set of local targets, with clear pathways for emissions reduction, had the potential to facilitate better coordination between national and local government, which in turn would provide a more stable environment for investors. It was also argued that the LDC

framework—by providing a clearer set of local emissions reduction targets in local areas—would be a necessary, though not sufficient, step towards developing skills around financial modelling and financial management that are lacking in many local authorities, but which are essential to develop and manage complex net zero pipelines. It was agreed that more work is needed to understand how best to use LDCs to support increased private investment.

Broader considerations around local government

The discussions as part of this research helped situate the LDCs in the wider context of contemporary local government. Local government is currently undergoing significant change following the publication of the Government’s English Devolution White Paper,²³ which is prompting the development of new strategic authorities as well as local government reorganisation and consolidation. Cambridgeshire & Peterborough already has a Mayoral Combined Authority, but the constituent local authorities have been invited to submit proposals for reorganisation by November 2025.²⁴

Such reorganisation is likely in due course to create significant disruption in the capacity of local government, with many consultees noting that capacity in local government is already limited, though in the long term it may result in a smaller number of local authorities with more strategic capacity. The reorganisation might also make it easier to develop a collaborative approach to LDCs. It might also increase the capacity for local approaches to data collection and usage, including through partnerships with external experts such as academics and government agencies. As has been noted elsewhere,²⁵ different starting points in terms of devolution powers and local government structures are likely to lead to differing levels of net zero delivery, with those furthest advanced in terms of devolution more likely to make more progress.

Engagement with local authority stakeholders also emphasised the importance of addressing inequalities within the region, considering diverse lived experiences, and fostering a sense of stewardship and custodianship of the natural environment.

6. Conclusions and next steps

The output of the current study should be a framework that enables divergent local approaches to ‘talk’ to each other, and to the NDC, more coherently. Recognising that there are a number of nascent tools available to support the development of LDCs, the LDC guidance framework will aim to signpost existing tools and resources, and provide guidance on how to use them effectively.

Feedback from the research has informed the development of a set of LDC guiding principles supporting this best-practice approach. These principles have been tested and iterated with consultees. They are shown in Box 1.

We suggest that these principles fit well with the perspective on local government set out most recently in the Seventh Carbon Budget.²⁶ In particular, the need to ‘focus on the most impactful changes needed locally and help their communities understand what these are’, a recognition of ‘varied capacity and capability’ within local government, and the emphasis on

²³ Ministry for Housing, Communities, and Local Government (2024).

²⁴ Ministry for Housing, Communities, and Local Government (2025).

²⁵ For example, Institute for Community Studies *et al.* (2024).

²⁶ Climate Change Committee (2025).

‘a longer-term, programmatic approach ... [which] ... would allow authorities to plan and develop capabilities, as well as making it easier to leverage other sources of finance’.²⁷

In recognising some of the practicalities of local working (for example, the need for LDC ownership at the highest level of local government, and the need for a fair approach which recognises the different starting points of different local authority areas), we suggest that the principles set out here build upon existing thinking in a useful and pragmatic way.

Box 1: Principles for developing locally determined contributions

Principle 1: An LDC is part of the national ‘whole’

- It should be developed and presented so that it can be understood as a building block/constituent part of the UK’s Nationally Determined Contribution (NDC).
- It should be developed and presented so that it is comparable with other LDCs.

Principle 2: An LDC is ambitious and grounded in science

- It should provide local authorities with a clearly defined, robust path to reduce emissions in line with the Paris Agreement goals.

Principle 3: An LDC is area wide

- An LDC should cover GHG (greenhouse gas) emissions from all the sources in the local authority area, not just those the local council is directly responsible for.
- It should take into account emissions from production (goods and services, transport) and final consumption (households, government, gross fixed capital formation).

Principle 4: An LDC is place based

- As much as is practicable, an LDC should be developed using data and approaches that take into account the circumstances specific to the local area.

Principle 5: An LDC is ‘nested’ under the highest level of local government

- An LDC should be owned by the highest tier of local authority governance, but all levels of local government should contribute to it, and feel ownership of it.
- It should aim to inspire and empower all levels of local government.

Principle 6: An LDC is fair

- The share of the international carbon budget owned by the local authority should be demonstrably fair.
- The division of emissions across the local area should be demonstrably fair.
- The consideration of ‘ownership’ of different sets of emissions within the local area should be demonstrably fair.
- An LDC should respond to social inequities and the needs of those impacted by climate change and/or climate policy.

Principle 7: An LDC shines focus on hotspot areas

- An LDC should identify those areas which are key to reducing emissions, and those areas where local authorities have the greatest ability to deliver or influence change.

Principle 8: An LDC enables resilience

- Adaptation to climate change should be integral to an LDC.

²⁷ Climate Change Committee (2025).

- An LDC should take a whole system approach where possible, and consider the co-benefits/trade-offs of proposed actions as a minimum.
- The consideration of resilience should help inform the ‘hotspots’ identified in Principle 7.

Principle 9: An LDC should facilitate funding

- An LDC is a tool that can enable the development of an investible project pipeline.

Principle 10: An LDC should be practical

- An LDC should build on existing efforts
- An LDC should consider the data and resource constraints local authorities operate within.
- An LDC does not need to be perfect. It can be iterated and improved on over time. Because of the urgency required to address climate change, results-focused action should be prioritised.

Principle 11: An LDC is transparent

- An LDC should be based on maximum possible transparency around what approaches have been taken and why. This supports many of the other principles.

Additional process principle: An LDC is developed through a process of consensus building

- An LDC should help to eliminate silos. Different climate-related issues are often managed separately. The LDC approach has the potential to enable more collaborative responses.
- Stakeholder engagement is at heart of all aspects of LDC development—stakeholders are responsible for making sure that the eleven LDC principles are taken into account throughout the process.

The final project output will be completed in June 2025. It will make recommendations around the following areas:

- Prioritising investments that are high impact and where local partners have relatively high levels of control/influence.
- Developing local carbon budgets.
- Developing place-based carbon pathways.
- Encouraging and de-risking investment in priorities.
- Assessing co-benefits.

In doing so, we intend that this can support local authorities around the country to develop robust net zero plans, based on scientifically valid LDCs, the better to help local places contribute to the UK’s climate ambitions.

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