



Wales Centre for Public Policy
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A local authority-led transition to net zero: Lessons for Wales from other countries and regions

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IPPO Mission



The International Public Policy Observatory aims to find, distil and share the best global evidence for policy and practice across England, Wales, Scotland and Northern Ireland.

It has been funded over a four-year period from 2020-2024 by the ESRC and is a collaboration between UCL, Wales Centre for Public Policy (WCPP) at Cardiff University, University of Glasgow, Queen's University Belfast, the Evidence for Policy & Practice Information Centre (EPPI), the International Network for Government Science Advice (INGSA), and academic news publisher The Conversation.

Established at the height of the global pandemic, the observatory was quick to produce reviews of evidence on topics such as the impact of school closures on children and young people in education for the UK Department of Education.

The team later widened its scope to explore the challenges posed by Net Zero, Covid Recovery, Place and Spatial Inequality and Socio-Economic Inequalities, and works with governments at the local, national and devolved level to help bring evidence into their policy development.

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Summary

- This report synthesises evidence and case studies relevant to Welsh local government on the local authority-led transition to net zero.
- We focus on two main areas:
 - i) how local authorities can prioritise climate change actions, and
 - ii) private-sector sources of funding.
- There are several criteria local authorities could use to prioritise their climate change actions, including: projected emissions reductions; ease of implementation; local authority influence; and costs.
- We highlight the potential for local authorities to develop inventories for community emissions as well as municipal emissions and to create climate change pathways and actions based on these. Additionally, we show how local authorities have assessed the potential to affect behaviour change within their areas.
- Local authorities overwhelmingly rely on traditional funding sources, particularly the Public Works Loan Board (PWLB), although other forms of financing are increasingly available.
- Some private finance is now relatively widespread but tends to be either small-scale (such as local climate bonds) or large-scale and blended, involving significant public finance (e.g. Bristol City Leap).
- Some local authorities have made notable progress in setting out clear, detailed proposals for private investment, including Glasgow's Greenprint for Investment and Greater Manchester's partnership with the Green Finance Institute. However, these city examples may be of limited relevance to rural parts of Wales.
- We suggest that efforts may be most effectively directed at creating pooled opportunities for private investment across several authorities. This could be facilitated through a shared online platform, similar to Sell2Wales. Corporate joint committees could also support regional coordination. We suggest examining a partnership with the Green Finance Institute and conducting small trials of local climate bonds.
- Finally, evidence on the real impact of interventions on emissions is limited. Effective evaluation of initiatives and sharing of best practice is therefore crucial; and should involve consistent, comparable and validated measures. This could be agreed through collaboration between WLGA and the Welsh Government.

Introduction

The Welsh Local Government Association (WLGA) is coordinating a climate change transition and recovery support programme to meet the net zero by 2030 ambition and the targets outlined in the 'Net Zero Wales Carbon Budget 2' (CB2) (Welsh Government, 2021a).

The CB2 aims to help local authorities reduce emissions in procurement, land use, transport, and buildings, as well as adapt to climate change and become more resilient.

However, there are significant budgetary pressures on both Welsh local authorities and the Welsh Government, a key funding source for local authority net zero projects. Therefore, it is necessary to consider other funding sources, including from the private sector, and additional means of supporting the transition in local areas, for example, by influencing behaviour in sectors outside the local authority estate. Local authorities could benefit from guidance and case studies illustrating good practices from local governments elsewhere in the UK and overseas.

The WLGA asked WCPP to review the available evidence on policies and approaches pursued by local authorities in other small countries and/or devolved regions concerning a local authority-led transition to net zero.

Given the current financial pressures facing local authorities in Wales, we focus on the following two questions.

What are the lessons for Wales from other countries and regions in a local authority-led transition to net zero in terms of:

- i) The prioritisation of climate change interventions; and**
- ii) Private-sector financing?**

Part 1 of this report examines how local authorities can prioritise climate change interventions to reduce area-wide emissions. In Part 2, we focus on innovative, primarily private, sources of finance for local authority-led net zero interventions. Procurement is only included where it is prominent within case studies, given the extent of existing work in the area. The report synthesises evidence from relevant case studies within and outside the UK and presents a summary of key sources.

PART 1: Local authority influence on reducing emissions

Besides control over emissions from their own services and activities, local authorities also hold many policy levers to influence the reduction of emissions from residents and businesses in their areas.

In a context of limited capacity and financial resources, questions arise as to whether local authorities should focus on municipal emissions or community emissions.

- **Municipal emissions** are those over which the local authority has control, including buildings, fleet, street lighting, and waste (scope 1 and 2 emissions), as well as emissions from its procurement (scope 3 emissions).
- **Community emissions** are all other emissions in the local authority area, including energy use by residential and commercial buildings, private transport, and industry.

In 2021, the Welsh Government published its Net Zero Carbon Reporting guide, aiming to develop a universal methodology for meeting the goal of a net zero public sector by 2030 (Audit Wales, 2022). This guidance sets organisational boundaries and criteria for what counts as municipal emissions for local authorities in Wales (Welsh Government, 2024).

Table 1: Emissions from local authorities in Wales

Included in local authority emissions		Not included in local authority emissions
<ul style="list-style-type: none"> • School education and transport • Municipal waste collection and disposal, and street cleansing • Highways and street lighting • Libraries and archives • Environmental and animal health • Electoral administration • Registrar services (births, marriages and deaths) • Trading standards • Social services • Housing and homelessness services (except energy use by residents in council housing) • Planning and building control • Licensing services • Benefits administration • Disabled parking permits • Allotments • Play facilities 	<ul style="list-style-type: none"> • Conservation and rights of way • Childcare provision • Car parking and parking enforcement • Collection and disposal of trade waste • Flood protection • Burial and cremation services • Sport and leisure services • Economic development and business support • Maritime and coastal services (e.g. slipways, marinas and lifeguards) • Museums, galleries and support for the arts • Parks and gardens • Promotion of tourism • Adult and lifelong learning • Ancillary functions 	<ul style="list-style-type: none"> • Energy use by residents in council rented housing and social housing • Public transport services • Electricity use related to charging EVs owned outside the organisation

Source: Welsh Government, 2023a

The Welsh Government's Public Sector Decarbonisation Route Map states that its 'focus is the public sector's own footprint, though acknowledging there is an important wider influence and leadership role' (Welsh Government, 2021b: 2). It concentrates on four areas where local authorities have significant control over emissions: buildings, transport, procurement, and land use. The Welsh Government has already implemented measures in some areas, such as requiring all new schools and colleges to be carbon neutral from 2022 (Welsh Government, 2021c).

While recognising the potential for reducing community emissions, the strategic direction set by the Welsh Government is for local authorities to prioritise reductions in municipal emissions to meet the 2030 ambition. Reducing emissions from buildings and transport, which constitute 17% and 8% of direct local authority emissions respectively (and are the second and third largest sources of local authority emissions), is likely to be capital-intensive. Common barriers to reducing municipal emissions in Wales include leadership, data, skills, and finance (Audit Wales, 2022). Finance is especially critical in the current economic crisis, with limited room in council budgets for funding capital projects. Potential models for funding climate change projects are discussed in the second part of this report.

In the current economic climate, local authorities face the question of where to focus their efforts to reduce emissions and what to prioritise. It may be more cost-effective for local authorities to reduce emissions by influencing community behaviour through regulation and behaviour change. Local authorities might also address both municipal and community emissions simultaneously by taking a lead in areas such as buildings decarbonisation. The remainder of this section synthesises evidence on the influence local authorities have on both municipal and community emissions. It then discusses approaches to prioritising climate action based on community-level emissions reporting and the potential to encourage behaviour change.

How can local authorities seek to reduce emissions?

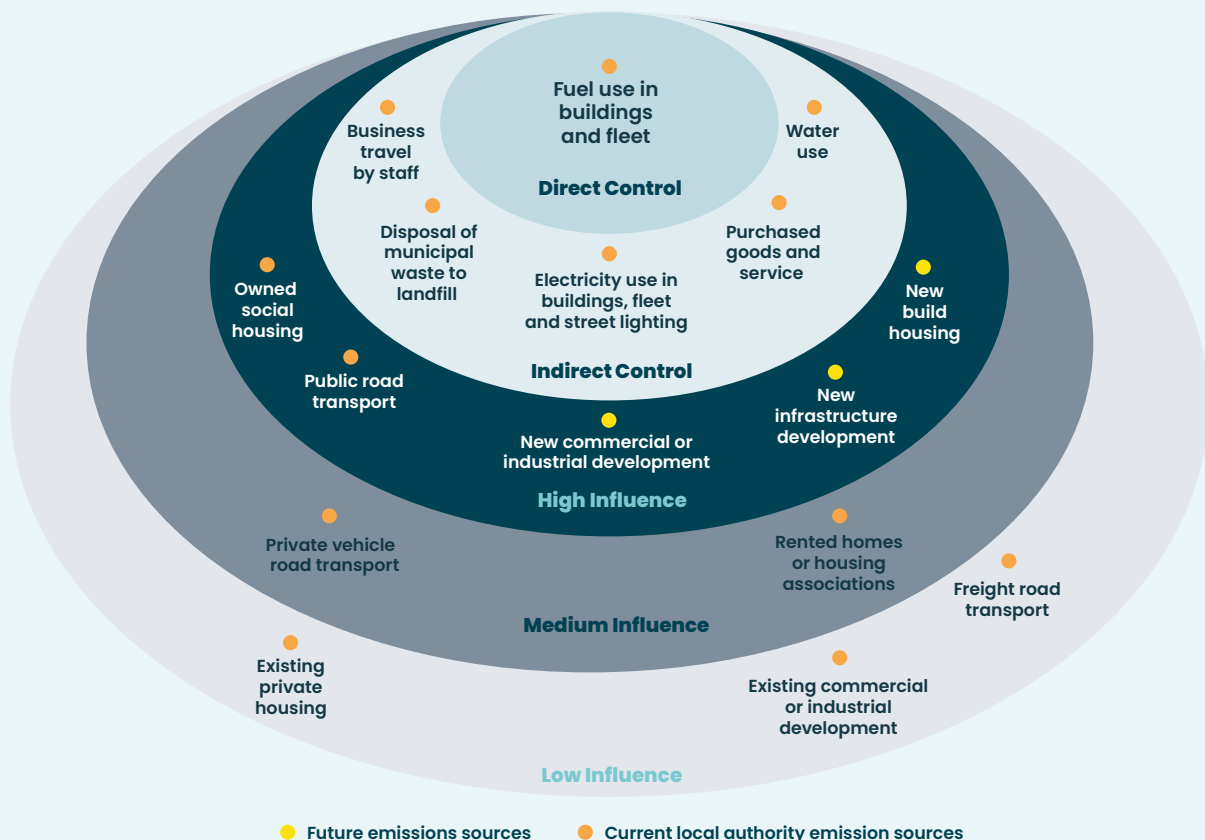
Municipal emissions are those which local authorities can control, either directly or indirectly. This includes those resulting from the generation of heat for municipal buildings, where local authorities have direct control. In areas where they cannot directly control emissions, such as electricity use in municipal operations, they can indirectly influence emissions by limiting demand (UK CCC, 2020). However, reducing municipal emissions often requires extensive capital investment and staff capacity (UK CCC, 2020). Local authorities can also reduce emissions from purchased goods and services through tendering and procurement processes. Figure 1 shows policy areas where local authorities have control or influence on emissions, with the inner two circles (direct and indirect control) representing controllable municipal emissions. Estimates of the percentage of total area emissions that are municipal emissions vary, ranging from 2% to 9% due to differences in categorisation (see UK CCC, 2020; Edinburgh Climate Change Institute, 2021).

In addition to direct and indirect control, local authorities have various powers to influence community emissions reduction through regulation and behaviour change. There are examples of local governments in the UK and internationally taking action to reduce emissions in different policy areas (see Sherlock and Noori Khah, 2019; C40 Cities, 2023). This influence spans several policy areas, as highlighted in Figure 1. This report does not explicitly consider consumption emissions, which arise, for example, when goods produced outside an area but are consumed within it, though local authorities might develop specific strategies to target these emissions.

Planning and place-shaping are key levers for local authorities, influencing emissions in multiple sectors. Local Development Plans and Local Energy Area Plans are the responsibility of Welsh local authorities (UK CCC, 2020; Fenna and Marix Evans, 2023). Additionally, local authorities hold significant transport planning powers: they are responsible for 95% of roads in Wales and, alongside potential new bus franchising powers, can enable modal shift through active travel infrastructure and improved public transport (Welsh Government, 2022; WLGA, n.d.).

Beyond planning and place-shaping, local governments can demonstrate potential solutions through pilot projects and innovation projects, allowing them to share what works with other local authorities (UK CCC, 2020).

Figure 1: Local authority control and influence over emissions



Source: Edinburgh Climate Change Institute (2021: 45)

Where local authorities lack policy levers to drive emissions reduction, they can use their convening power to bring together partners and stakeholders, generate buy-in, forge connections, and share experiences. They can also use their communicative power to engage with the local community and stimulate action (UK CCC, 2020; Edinburgh Climate Change Institute, 2021).

Given the small proportion of municipal emissions relative to total area emissions, it may be more effective for local authorities to use these other powers and levers, such as place-shaping and communication, to aid the reduction of community emissions, rather than municipal emissions. This approach could contribute to a greater overall reduction in total area emissions. Many sectors which need to decarbonise most quickly, including buildings, transport, waste, and land use, have a strong local dimension (UK CCC, 2020). Understanding the local context is crucial for implementing net zero strategies, as one-size-fits-all solutions are unlikely to be successful given the diverse sizes and geographical characteristics of local authorities in Wales.

However, while local authorities have a wide range of potential powers, council plans tend to be 'relatively high level, focussing on the "what" needs to be done, rather than the "how", by when and at what cost' (County Councils Network, 2021: 15). Therefore, it is essential to consider how councils can identify and prioritise potential actions to make the best use of limited resources and capacity.

Measuring and reporting emissions

Data issues are a major barrier to generating a collective understanding of the scale of the net zero challenge and identifying potential solutions (Audit Wales, 2022). Therefore, gaining insight into an area's emissions profile can help local authorities prioritise short-term actions and develop longer-term strategies (Edinburgh Climate Change Institute, 2021).

The Welsh Government's advice on the public sector path to net zero emphasises direct municipal emissions as a primary focus while acknowledging the wider leadership role of the public sector (Welsh Government, 2021b). Reporting and monitoring of municipal emissions is mandatory in Scotland and is required under non-statutory guidance in England and Wales (see Welsh Government, 2023a). Across the UK, only some local authorities report community emissions, using secondary data (Edinburgh Climate Change Institute, 2021). Some local authority action plans aim to combine actions for reducing municipal and community emissions, whereas in many cases, they are discussed separately (Edinburgh Climate Change Institute, 2021).

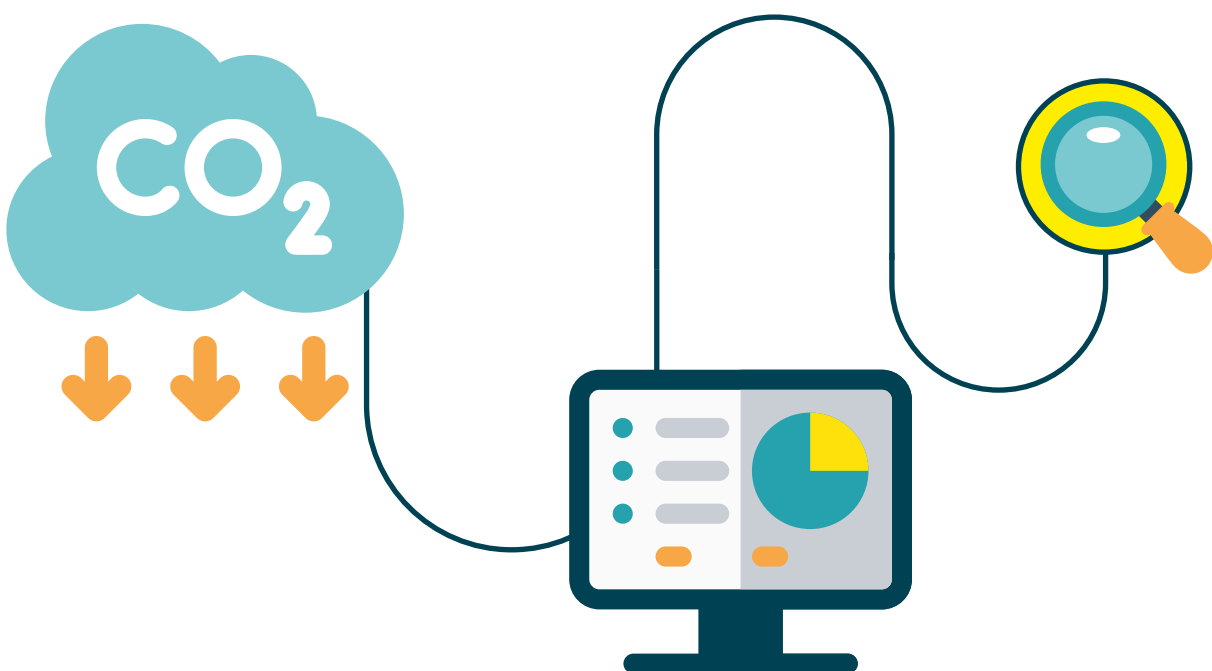
So far, the collection and reporting of municipal emissions in Wales has been a learning process. Accuracy and completeness in reporting are expected to improve as the process is refined (Aether, 2023). There may therefore be opportunities for community emissions to be collected as part of these refinements. Methods for reporting and monitoring community emissions are less mature than those for municipal emissions but are rapidly developing to reflect the importance of public sector influence in this area (Scottish Government, 2021).

Community-scale emissions reporting

To plan effective emissions reduction strategies and track progress, public bodies need to understand the sources of their emissions.

One way to achieve this is to go beyond the statutory requirement to report municipal emissions and develop emissions inventories for community emissions. This can help establish a baseline inventory, set interim targets, and monitor performance. Using a consistent methodology, data could then be aggregated to an all-Wales level (C40 Cities, 2014). While this can help determine and prioritise actions, the UK Climate Change Committee (UK CCC) does not recommend local authorities implement binding carbon budget targets for community emissions, given that various drivers of emissions are beyond their control (2020).

The most commonly used framework is the [Global Protocol for Community-Scale Greenhouse Gas Inventories \(GPC\)](#) (Fong et al., 2014). This protocol provides guidance for estimating emissions from various sectors within their boundaries, offering options to develop inventories of varying levels of detail and is considered internationally to be good practice (C40 Cities, 2014). The [SCATTER](#) inventory, developed in collaboration with central and local government, academia, and a consultancy, is free to UK local authorities. It uses GPC guidance to develop emissions baselines and carbon reduction pathways for British local authorities based on existing official statistics (Energy Cities, 2019; SCATTER, n.d.). The first case study of Wiltshire provides an example of how SCATTER data can help develop pathways and actions, informing the Council's action plan. The second and third case studies from the rest of the UK and Canada, respectively, illustrate other ways in which local governments have prioritised climate action based on existing area-wide emissions data.



Pathways for reducing community emissions in Wiltshire

Wiltshire's emissions baseline, as developed in SCATTER, is shown in Table 2. It highlights on-road transport, residential and industrial buildings, and livestock as the highest sources of emissions. Using this baseline and carbon budgets developed by the [Tyndall Centre for Climate Research](#), SCATTER then provides a pathway to align local authorities with the targets in the Paris Agreement. Wiltshire must reduce its emissions by 13.5% every year to meet the Paris Agreement target, a significant increase from the average reduction rate of 3.3% between 2005 and 2018 (Anthesis, 2022). Moreover, despite Wiltshire Council's ambition to be carbon neutral by 2030, analysis shows that even if the proposed 13.5% annual reduction is achieved, it would only result in a 65% reduction in total emissions compared to this baseline by 2030 (Anthesis, 2022).

In addition to developing the emissions inventory, SCATTER includes pathways 'designed to help local authorities inform priorities for emissions reduction' (Anthesis, 2022: 18). These pathways illustrate emissions savings for four different levels of ambition, based on various interventions. However, for Wiltshire, none of the four pathways achieve the reduction rate required to meet either the 2030 carbon-neutral ambition or the Paris-aligned reduction rate (Anthesis, 2022). The highest ambition pathway, which represents the maximum level of feasible action without accounting for challenges such as skills or funding, is projected to reduce emissions by only 77% by 2045.

While SCATTER does not recommend specific policies, the report provides detailed information on what is required to achieve the highest ambition pathway, highlighting interventions across different sectors, including:

- Interim milestones;
- Co-benefits;
- Potential carbon savings;
- Projected costs and revenue savings; and
- The council's level of influence (Anthesis, 2022).

For Wiltshire, the cumulative investment required to achieve the highest ambition pathway is estimated to exceed £5.3 billion (Anthesis, 2022). However, 'the Council will only bear a small amount of the significant investment required,' with a substantial portion of the investment potentially offset by savings of up to £4.5 billion (Anthesis, 2022: 78). Although the exact proportion of investment to be borne by the Council is not specified, it is acknowledged that the Council can use its place-shaping and communicative roles to influence change where it does not have direct control (Anthesis, 2022).

The SCATTER report made a significant contribution to Wiltshire's overall climate change strategy, with input from council officers on how the Council might act on the pathways and areas of focus, informing the actions (Wiltshire Council, 2022a). Wiltshire Council's climate strategy delivery plan (2022a) outlines actions for reducing community emissions and emphasises similar prioritisation criteria to those identified in the SCATTER report: carbon savings, cost, feasibility, and co-

benefits (Wiltshire Council, 2022a). There is also a separate delivery plan focusing on municipal emissions and governance arrangements, informed by separate analysis (similar to SCATTER, but produced using internal council data) (Wiltshire Council, 2022b).

However, it is acknowledged that the SCATTER methodology, which models high-level national data scaled to the county level, may not account for local factors in a largely rural county like Wiltshire. Therefore, different measures may be emphasised in the final action plan (Wiltshire Council, 2022a). Transport is one such area, given that the pathways rely heavily on electrification.

Table 2: Wiltshire's Emissions Baseline

	<p>50.1% of emissions in Wiltshire come from buildings</p> <ul style="list-style-type: none"> • Residential buildings (23.1%): Households of all tenure types. • Industrial buildings & facilities (13.4%): Larger industrial facilities, including factories, warehouses and workshops associated with manufacturing and engineering. • Commercial buildings & facilities (6.4%): Buildings from which commercial businesses operate e.g. shops, shopping centres, offices, restaurants etc. • Institutional buildings & facilities (2.5%): Public sector buildings including schools, colleges and educational buildings, health centres, hospitals, leisure centres, Council buildings etc. • Agricultural fuel use (2.5%): Fuel consumption from static machinery in agricultural facilities. This does not include direct emissions from livestock or fertiliser. • Fugitive emissions (2.2%): Fugitive emissions are leaks and releases of gases from a pressurized containment – such as appliances, storage tanks and pipelines
	<p>11% of emissions in Wiltshire come from livestock and land use acts as a net carbon 'sink' of -3.3%</p> <ul style="list-style-type: none"> • Livestock (11%): Including emissions from both dairy and non-dairy cattle as well as other farm livestock. • Land use (-3.3%): These emissions estimations rely heavily on DEFRA estimations on land use types and include emissions produced as well as sequestration. Only CO₂ is considered for land use, so the figure quoted for sequestration is likely to be an underestimate.
	<p>34.9% of emissions in Wiltshire come from transport</p> <ul style="list-style-type: none"> • On-road transport (33.2%): Emissions from all forms of onroad passenger vehicle, including cars, vans, motorcycles, buses and taxis. • Diesel rail (1.3%): Emissions from diesel-fuelled rail transport. Emissions from electricity consumption within the rail sector are included in the commercial and industrial sectors as it is not possible to separate these emissions. • Off-road (0.3%): A base assumption of 1% of total on-road emissions • Waterborne navigation (0.1%): Emissions from fuel consumption associated with waterborne transportation
	<p>2.7% of emissions in Wiltshire come from waste disposal</p> <ul style="list-style-type: none"> • Solid waste disposal (1.8%): Incorporates various waste streams across commercial, industrial and municipal sources. • Wastewater (0.9%): Scaled directly from national wastewater data by population. • Emissions from Incineration are currently nil. See Appendix 2 for discussion of the Northacre Renewable Energy plant
	<p>4.6% of emissions in Wiltshire come from industry</p> <ul style="list-style-type: none"> • Industrial processes (4.6%): National industrial processing emissions associated with heavy industry, such as iron & steel and chemicals, have been scaled down for Wiltshire

Source: Anthesis (2022)

Note: Percentages may not sum to 100% due to rounding.

The Place-Based Climate Action Network

[The Place-Based Climate Action Network](#) has developed roadmaps for Belfast, Edinburgh, and Leeds, using local authority emissions data to create an emissions baseline and outline the pathway for these cities to reach total net zero municipal and community emissions. The roadmaps focus on four key sectors: industry, transport, residential buildings, and public and commercial buildings. They assess the potential of approximately 130 interventions to reduce emissions (Gouldson et al., 2020, 2021; Williamson et al., 2020).

Interventions are classified into four economic scenarios:

- 1. Cost-effective options:** Interventions where direct costs are outweighed by the direct benefits from energy savings, though potentially also generating indirect benefits through job creation, improved air quality, and reduced fuel poverty;
- 2. Cost-neutral options:** Includes measures that may not be cost-effective individually but have a near-zero net cost when combined with others;
- 3. Technical potential options:** Interventions where direct costs are not currently covered by direct benefits; and
- 4. Innovative (or 'stretch') options:** Interventions not yet widely adopted, with insufficient data on costs and benefits. Some may be cost- and carbon-effective.

Table 3 shows the potential emissions reductions achievable by implementing each of the first three scenarios, as well as the projected percentage of residual emissions. The cities have different net zero targets, with Edinburgh and Leeds aiming for 2030 and Belfast targeting 2050.

Adopting all technically viable options, regardless of cost-effectiveness, would only reduce emissions in the three cities by up to 65%. To reach net zero, innovative options must be identified and implemented to address the remaining residual emissions.

In terms of prioritising the interventions considered across the roadmaps, carbon-effectiveness and cost-effectiveness are key considerations. Job creation is also considered but only at the sector and economic scenario levels, not for individual interventions.

Table 3: Percentage of potential reductions to business-as-usual emissions through the adoption of interventions

	Edinburgh		Leeds		Belfast	
Cost-Effective	51%		41%		41%	
+ Cost-Neutral	+6%	57%	+11%	52%	+11%	52%
+ Technical potential	+8%	65%	+8%	60%	+7%	59%
Residual emissions	35%		40%		41%	

Table 4: Most cost-effective interventions to reduce emissions (£/tCO₂e)

- | | |
|----------|--|
| 1 | Compressed air systems in industry |
| 2 | Pump upgrades, repairs and maintenance in industry |
| 3 | Modal shift: diesel car → diesel bus |
| 4 | Fabric improvements to retail buildings |
| 5 | Modal shift: petrol car → diesel bus |

The most carbon-effective options are relatively similar across the three cities, primarily involving retrofitting domestic buildings with insulation, upgraded heating controls, and heat pumps, and modal shift from petrol and diesel cars to walking, cycling, and electric buses. Interventions are also evaluated for cost-effectiveness, considering purchase, installation, and maintenance costs, as well as the direct benefits of energy and fuel savings. Although their relative cost-effectiveness differs, the five most cost-effective interventions are the same in each of the three cities, as highlighted in Table 4.

Three of the most cost-effective measures relate to improvements in industry and commercial buildings, where councils have less direct influence and are likely to play only a promoting and communicating role. In comparison, councils can play a broader place-shaping role in encouraging modal shifts to cycling, walking, and public transport. Fabric and lighting improvements to public buildings were also highlighted as cost-effective measures. However, installing heat pumps in public buildings was significantly less cost-effective than in domestic and commercial properties.

To reach net zero, some innovative, or stretch, measures will also need to be considered. These include those which are currently technologically infeasible, such as zero-carbon heavy goods vehicles, and those for which it is difficult to calculate costs and benefits, such as increased afforestation. Councils could plant trees or consider other carbon sequestration methods on publicly owned land. There are already examples of this happening: Belfast aims to plant one million trees across the city by 2035 as part of a collaboration between the public, private, and voluntary sectors (Belfast City Council, n.d.).

The roadmaps indicate how these measures may prove cost-effective when applied to a Welsh context. However, the focus of these case studies is on densely populated cities, and there is no comparable modelling for rural areas. Different contexts would likely lead to different potential levels of emissions reduction and varying carbon and cost-effectiveness of measures.

It is important to note that the roadmaps were not produced to directly inform local authority climate change strategies but to inform local climate commissions. These groups aim to complement local authority activities and

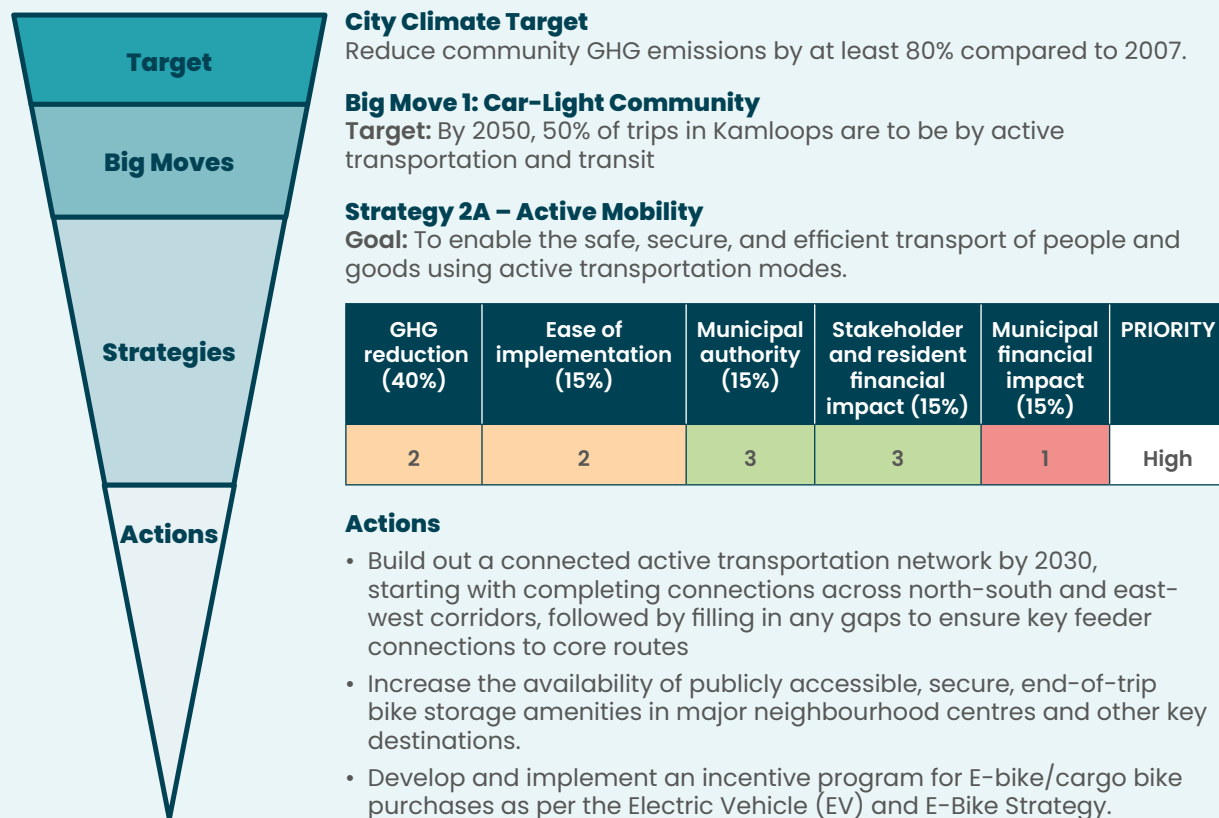
build capacity to tackle the climate crisis by facilitating collaboration between the public, private, and third sectors (Gouldson and Lock, 2020). However, the documents have still formed a core part of local authority strategy, providing the evidence on which the cities have developed their vision and actions (see City of Edinburgh Council, 2021; Cook, 2021).

Big Moves in Kamloops, Canada

Kamloops is a city of around 97,000 people located in British Columbia, Canada (Statistics Canada, 2023). Its approach to climate change has been informed by strategies pioneered in Vancouver and adapted by several other municipalities across Canada, developing sectoral targets for key areas crucial in advancing towards net zero. Given the capacity and resource constraints of local governments, the Community Energy Association developed [resources](#) and previously ran a community of practice, supporting a cohort of Canadian local governments to develop implementation plans based on the approach described below (Community Energy Association, 2022).

Kamloops published its [Community Climate Action Plan](#) in 2021 (City of Kamloops, 2021). This plan sets an overall target of reducing total area emissions by at least 80% (compared to 2007) by 2050 (City of Kamloops, 2021).

Figure 2: Hierarchy of objectives in the Kamloops Climate Action Plan



Source: City of Kamloops (2021)

The plan's development comprised four phases, written between October 2018 and June 2021:

1. **Understanding the present:** Conducting background research and developing baseline data to understand Kamloops' emissions profile and explore opportunities for action (October 2018 – February 2019).
2. **Exploring the future:** Developing preliminary emissions reduction strategies and actions in collaboration with internal stakeholders (March 2019 – March 2020).
3. **Choosing our future:** Further developing strategy options, followed by community engagement through in-person open houses, a survey, and a discussion forum (April – November 2020).
4. **Planning our future:** Refining and developing a draft plan based on feedback, along with detailed emissions modelling of proposed strategies. Further stakeholder and public engagement was conducted in preparation for presenting the plan to the city council for adoption (December 2020 – June 2021).

Table 5: Prioritisation of strategies in the Kamloops Climate Action Plan for Big Move 2: Car-Light Community

Score	GHG Reduction (40%)	Ease of Implementation (15%)	Municipal authority (15%)	Resident and stakeholder financial impact (15%)	City financial impact (15%)
1	Annual projected reductions between 0 and 4,999 tCO ₂ e by 2050	Difficult to implement, with high probability of resistance or other barriers	Little authority to enact or enforce relevant policy measures and must rely on lobbying or partnerships	There is potentially a substantial cost for residents or businesses within the city	Direct cost to the City is over \$100,000 per year
2	Annual projected reductions between 5,000 and 19,999 tCO ₂ e by 2050	Potentially problematic to implement, with some work needed to get buy-in and/or unclear implications	The City may have authority but the process is complex, or the authority is shared or indirectly held by the City	There is some cost, which may be fully or partially offset by potential savings. There may be a net benefit of \$1,000 or less per household	Direct cost to the City is under \$100,000 per year
3	Annual projected reductions above 20,000 tCO ₂ e by 2050	Relatively simple to implement with obvious beneficial implications and existing buy-in	The City has clear authority to enact or enforce relevant policy measures and the process is relatively simple	There are few or not costs for residents and/or there is net benefit of \$1,000 or more per household	Direct cost to the City is under \$100,000 (one-time cost). May also be a net benefit to the City.

A total score out of ten for each strategy is calculated, with categories of prioritisation assigned based on score: **Very High > 7.5; High 6.5–7.5; Medium 5.5–6.5, Low <5.5.**

Source: City of Kamloops (2021)

These four phases highlight the opportunities for residents to provide input at several stages, including on specific policy options. The city government has also [published key documents](#) from these phases, including key revisions and amendments, showing how the action plan developed in response to feedback from residents, internal staff, and elected members. One revision in response to public feedback was the inclusion of an interim target of reducing total area emissions by at least 30% by 2030, indicating the urgency of action and enhancing accountability.

To achieve both the interim and overall climate goals, the action plan presents a hierarchy of objectives, as illustrated in Figure 2. The overall climate goal is supported by ‘Big Moves’—strategies and actions developed from the emissions inventory created in the first phase of the action plan (City of Kamloops, 2021).

‘Big Moves’ are individual targets in the sectors that will have the biggest impact towards achieving the overall 2050 target. The action plan presents eight Big Moves across various sectors, including buildings, transportation, waste, municipal leadership, and land use (City of Kamloops, 2021: 15).

Co-benefits are identified for each Big Move to demonstrate their alignment with other community priorities. These co-benefits include improved air and water quality, enhanced public health, economic benefits, and increased resilience in an area already experiencing the impacts of extreme weather (City of Kamloops, 2021; Government of British Columbia, 2023).

Each Big Move is underpinned by strategies indicating the sub-goals needed to achieve the Big Move target. A framework was developed to prioritise the strategies based on five weighted implementation factors: emissions reduction potential (40%), ease of implementation (15%), municipal authority to influence emissions (15%), financial impact on both residents and stakeholders (15%), and the city government (15%) (City of Kamloops, 2021). Each strategy was assigned a RAG rating and a score of 1–3 for each implementation factor, then categorised from very high to low priority. For example, as shown in Figure 2, the active mobility strategy is accorded a high priority. Table 5 provides an overview of the scoring criteria for each implementation factor.

Each strategy is divided into actions with lead and supporting agencies responsible for delivering them within a specific timeframe. An implementation report is published annually to summarise progress on the actions outlined (City of Kamloops, 2023).

Combined with existing policy commitments at national, provincial, and local levels, the outcomes of all Big Moves will reduce emissions by a total of 70%, leaving a 10% shortfall to meet the city’s target. This will require further innovation, particularly in decarbonising heavy goods vehicles, or mandating some measures such as fuel switching or building retrofit (City of Kamloops, 2021). While the city government recognises that net zero emissions should be the ultimate goal rather than the current 80% target, it notes that ‘the City currently has limited jurisdiction over some key emissions sources, principally heavy-duty transportation and existing buildings. As future technology and policy solutions emerge, there will be opportunities to address these emissions and update the target’ (City of Kamloops, 2021: 8).

This case study highlights how, starting with an emissions inventory, a hierarchy of actions can be developed to reduce emissions. In comparison to Wiltshire, which has a separate plan for reducing municipal emissions, the Kamloops plan encompasses both community and municipal emissions. Big Move 7 of the Kamloops plan aims to reduce municipal emissions by 40% by 2030 and 100% by 2050. Zero-carbon municipal operations are one strategy within this Big Move, prioritised in the highest category, with additional strategic goals related to climate governance and communication (City of Kamloops, 2021).

Encouraging behaviour change

Using existing data to develop emissions inventories and climate pathways is a crucial method for local authorities to identify where to target resources most effectively to reduce area-wide emissions.

Beyond this, several local authorities in England have explored opportunities to use their influencing and communication roles to encourage behaviour change. Given their higher levels of trust, nuanced knowledge of residents, and greater access, local authorities are ideally positioned to promote behaviour change (Localis, 2023).

The case studies below from Hampshire and Cornwall exemplify how local authorities can identify and harness the potential for behaviour change.

Hampshire County Council

Hampshire County Council's Climate Change Strategy states that 'a key strand of the climate change work programme will therefore focus on how the Council engages, educates, and communicates with residents to encourage and enable changes in behaviour across the community' (Hampshire County Council, 2020: 38). As part of this, the council tasked its Insight and Engagement Unit with initial research to inform its approach, examining two research questions:

1. Where do the most significant opportunities lie to reduce carbon consumption through citizen behaviour change?
2. How can behaviours be most effectively influenced to reduce carbon?

This research combined a desk review with modelling the potential carbon impact of various behaviour change measures, as well as focus groups and an online survey (Baker et al., 2020). The study explored the potential carbon impact of each intervention, the willingness to change behaviour, and the impact of a potential behaviour change campaign. This evidence on the most effective ways to communicate and ultimately achieve behaviour change 'underpins all the communications and engagement work that will be delivered' in the Council's efforts (Hampshire County Council, 2020: 38).

Home energy and travel were identified as having the most significant potential impacts on emissions, with installing heat pumps and solar panels in homes being the single most impactful actions (Baker et al., 2020). However, interventions should be measured based on their combined carbon impact. If more people are willing to change behaviours with relatively lower carbon savings, these can still be highly valuable from a local authority perspective. The report also emphasises that 'any climate change strategy that does not address home energy will not capture the biggest opportunity' (Baker et al., 2020: 26), justifying the allocation of additional resources to this policy area due to its potential carbon impacts.

Aligned with existing evidence on behaviour change, the study found that environmental messaging is rarely the most effective way to stimulate change. Instead, financial benefits and ease of implementation are the best approaches (Baker et al., 2020). There was also a lack of knowledge about the carbon impacts of some interventions, especially the savings from reduced meat and dairy consumption. The report identifies the demographic groups most likely to be willing to take specific actions, ensuring that 'budgets are maximised by connecting with those willing to act' (Baker et al., 2020: 27).

Cornwall Council

Cornwall Council has collaborated with the UK Centre for Climate Change and Social Transformations (CAST) to develop recommendations for 'encouraging low-carbon behaviours and to provide an evidence base to inform the Council's climate action' (Wilson and Whitmarsh, 2023: 3). The first of three reports from this collaboration focuses on a survey of residents. The research aimed to understand current behaviours, readiness for change, and perceptions of climate change and the Council's climate policies.

Respondents attributed greater responsibility for climate action to central government and businesses than to the Council or individuals but identified a clear role for the Council in terms of:

- Enabling low-carbon travel;
- Developing renewable energy infrastructure; and
- Using planning regulations to raise environmental standards for new housing.

The survey collected residents' willingness to engage in low-carbon behaviours, revealing a low level of readiness for change in travel behaviours. There was strong interest in active travel and moderate interest in using public transport. However, respondents reported numerous barriers to modal shift, with inconvenience and infrequency of service being the most common. There was broad support for travel policies that reduced emissions and improved health and wellbeing, including road safety improvements and more traffic-free neighbourhoods (Wilson and Whitmarsh, 2023). Given it accounts for a high proportion of individual carbon footprints, this is considered the area where the most support is needed to change behaviour.

Regarding household energy use, there was similar support for policies that both cut carbon emissions and reduced costs, such as incentives for installing products like solar panels or home insulation. This aligns with findings from the Hampshire case, emphasising the co-benefits of environmental policies. There was also more willingness to invest in widely adopted home decarbonisation measures (such as loft insulation, energy-efficient appliances, and energy-efficient glazing) than in emerging technologies such as heat pumps.

The report highlights a need to 'address misconceptions about the efficacy of different low-carbon behaviours. Specifically highlight the impact of dietary choices to reduce carbon footprints' (Wilson and Whitmarsh, 2023: 52). This echoes the Hampshire case, noting information deficits about the impact of some low-carbon behaviours, with diet again being singled out. Emphasising co-benefits is crucial: 'health is considered a stronger motivation for shifting towards more sustainable diets than environmental concern' (Wilson and Whitmarsh, 2023: 52).

CAST also worked with Cornwall Council to develop 'a resource for local authorities and other organisations wanting to encourage low-carbon behaviours in their workforce to help meet internal carbon reduction targets' (Toy et al., 2023: 2). Staff attitudes were similar to those of the wider population, with the most resistance to changing travel modes and existing adoption of measures to reduce waste and save energy (Toy et al., 2023). There was also a similar underestimation of the carbon impact of sustainable diets.

Council staff tended to support the introduction of carbon literacy training and sustainable procurement, but there was division over restricting meat in workplace canteens. Overall, policies to encourage behaviour change among staff were more likely to be accepted if they were perceived as fair, incentivising rather than punitive, and co-designed with staff (Toy et al., 2023).

Discussion

This section highlights the significant potential for local authorities to use their powers to reduce carbon emissions in both their municipal operations and their communities.

In addition to emissions within their direct or indirect control, local authorities can use their place-shaping and influencing roles to encourage and stimulate action. However, there is a need to prioritise action to meet climate targets, a need that is exacerbated by the current financial pressures on local authorities in Wales.

Across the literature and case studies, we identify several potential criteria for prioritising local authority climate actions:

- Potential emissions reductions;
- Cost (to both local government and other stakeholders);
- Local authority control and influence; and
- Ease of implementation.

It is essential to consider multiple criteria when prioritising climate action. The first three case studies highlight that, based on current modelling, it is highly unlikely that community emissions in various contexts will reach net zero by 2050. Therefore, political decisions must be made about which actions should be prioritised and when, with a need to be responsive and adaptive in the future. Even where local authorities have direct control, cost or implementation barriers may mean other interventions are prioritised. This is particularly relevant for projects requiring significant capital investment to reduce municipal emissions (for example, from buildings). Local authorities might achieve a larger reduction in community emissions at a lesser cost by using their communicative powers to enable behavioural interventions, such as encouraging more sustainable diets or active travel.

Some local authorities are developing emissions inventories for community emissions to complement existing data on municipal emissions. This approach allows pathways to be developed that consider multiple levels of ambition towards net zero, provides clear and consistent data on progress and policy success, and signals to external stakeholders about the overall climate vision and current and future priorities for action. This can help develop buy-in from external partners and attract external investment, which will be increasingly necessary in the current financial context.

WCPP work on policy implementation highlights that for a policy to succeed, policymakers need to consider the degree of policy ambiguity and the degree of alignment between the proposal and the implementation context (Baan et al., 2023). Local authorities are already well-placed to understand the implementation context of potential climate change actions. Clear prioritisation of what, how, and in what sequence they wish to tackle climate change goals can reduce ambiguity and enable better implementation. Policymakers also need to consider how they frame different climate change actions to implement them successfully. Evidence from the case studies suggests that economic or health and wellbeing framings can work better than environmental ones.

Local authorities in both the UK and overseas are grappling with the challenge of climate action, with some choosing to consider municipal and community emissions as one connected challenge and others developing strategies to plan and deliver action separately. In the UK context, Wales is the only nation with a specific ambition for a net zero public sector (by 2030). Given the commitment from the Welsh Government and Welsh local authorities to meeting this, developing evidence-informed action plans for municipal and community emissions separately (as seen in the case of Wiltshire) might prove the most practical approach. If this approach is taken, consideration must be given to the interlinkages between actions. For example, how pilot projects in municipal buildings can be scaled up to the community level, or how increases in home-working by municipal employees impact emissions from residential heating.

PART 2: Alternative forms of financing net zero interventions

All levels of government are currently facing severely constrained public finances across all policy areas.

There is a risk that there may not be sufficient public funding to achieve the legally binding net zero target of 2050 or the Welsh Government's ambition of a net zero public sector by 2030. Therefore, it is crucial for local authorities to explore and understand alternative forms of financing, especially given the large capital investments needed to fund the transition.

This section of the report examines key forms of finance for local authority-led net zero interventions, emphasising alternative, private sources. It highlights the major financing options available to local authorities and showcases a library of existing resources on green finance, including general guides for public bodies, specific guidance for local authorities, and exploratory, theoretical examinations of prospective forms of financing. Finally, it explores key case studies of interventions that may be feasibly used by Welsh local authorities. The aim of this part of the report is to guide and support local authorities in understanding the available evidence and implementing guidance in their areas.

Exploring alternative forms of finance

Local authorities face two primary barriers regarding utilising alternative sources of finance: i) the fragmentation of the funding landscape and ii) limited technical expertise within local authorities (Environmental Audit Committee, 2023).

These problems are interlinked. Capacity constraints within local government mean that local authorities cannot track the full range of finance options, especially emerging and innovative sources. They also cannot adequately assess the potential benefits and risks of the options they are aware of. While not acting in a deliberately risk-averse manner, the lack of capacity to assess alternative forms of financing means that local authorities may miss opportunities to fund policy interventions and end up paying higher interest rates by choosing more traditional forms of finance.

Successfully encouraging increased private investment in local authority net zero projects will require capacity building to develop knowledge and expertise on alternative forms of financing. This likely requires building capacity directly within local authorities and developing pooled resources linked to local authorities, such as the Sustainable Energy Agency in Canada, Local Net Zero Hubs, and the Net Zero Go platform.

There is also a perceived reluctance to invest in local authority net zero projects due to the lack of data needed to build robust business cases and inconsistencies between small projects at the local level (Scottish Parliament Net Zero Energy and Transport Committee, 2023: 23). Besides capacity constraints in understanding the range of potential finance sources, developing cases for investment in local net zero projects requires technical and legal support that is often not present within local authority teams (Environmental Audit Committee, 2023). Local authorities frequently struggle to convince private investors of the feasibility and commercial viability of their proposals, a challenge that may be enhanced by a communication gap due to the different language used by local authorities and investors.

Moreover, proposals put forward by local authorities are often relatively small-scale and do not offer the long-term stream of investment required by investors. Many of the existing partnerships between private investors and local government in England have taken place at the combined authority level (as discussed below), where there is a larger and more well-developed pipeline of potential projects and better economies of scale. To attract more investment opportunities, local authorities elsewhere in the UK will likely need to collaborate and package similar projects or purchases together, developing the pipelines of guaranteed work needed to attract investors (Scottish Parliament Net Zero Energy and Transport Committee, 2023: 24). An example of similar collaborative procurement in Wales is the recent joint purchase of electric vehicles (EVs) by local authorities. This initiative, modelled on achieving cost savings across its lifespan, demonstrated the benefit of investing an upfront sum for lifecycle returns. It also showed how local authorities can achieve savings and prioritisation by procuring collaboratively and at scale (Welsh Government, 2023c). Corporate joint committees in Wales could be considered by local authorities as a regional structure to package proposals for net zero projects, making them attractive to private investors.

The UK government has indicated that it would like pension funds to provide significant capital for prospective net zero projects (Department for Work and Pensions, 2022). Heat decarbonisation and EV charging are two examples of projects that could be supported using pension funds, given their potential to be long-term and low risk. However, there has been substantial pushback from the pension sector, with representatives reluctant to support government policy objectives over their core mission of building retirement funds for members (Gordon, 2023). There also remains suspicion of Private Finance Initiative-style investment following the relative failure of the policy, primarily undertaken during the New Labour Westminster governments (Gordon, 2023).

Guidance and tools for local authorities

Public bodies and private organisations have developed guidance to support local authorities in engaging with both traditional and new forms of financing for local net zero interventions.

While some guidance is broad and theoretical, other guidance focuses on implementing specific forms of financing like Green Bonds and Energy Performance Contracts (EPCs).

All guides have value, with strategy and skills development being an important step in the process. However, given the timescales involved in the transition, it may be important for local authorities to select interventions that are feasible in the short term and to consolidate their existing approaches. This approach is likely to be guided by internal capacity and resourcing.

The UK government's [Green Finance Strategy](#) sets out its ambitions and forms of support for key actors in the pursuit of net zero. It indicates that it:

'...will support local authorities to develop their ability to attract private investment through the work of the Local Net Zero Hubs and the UKIB [UK Infrastructure Bank], as well as through promotion of programmes such as the Local Investment in Natural Capital programme and Investment Zones. This is alongside plans to promote net zero investment in the eight Freeports across England, two in Scotland and two in Wales.'

(HM Government, 2023: 13)

The report highlights, in particular, the role of government at all levels in supporting the development of private sector financing:

'The right policy frameworks and signals can shape and accelerate the growth of the sectors and technologies, supporting the market to drive solutions. Central government, public finance institutions and local authorities all have a critical role. This includes providing the funding and incentives that both de-risk projects and improve the clarity of policy direction to instil investor confidence.' (HM Government, 2023: 75)

The strategy prioritises local capacity building to attract green investment, including through Local Net Zero Hubs and the Net Zero Go platform (Energy Systems Catapult, 2024), which are described in greater detail below. Alongside the Green Finance Strategy, the UK government released the [Powering Up Britain report](#) (HM Government, 2023b). This report covers areas mentioned in other sections, including Net Zero Go, the Local Net Zero Forum, and Local Net Zero Hubs. More generally, it refers to devolution deals that include retrofit funding (as in Greater Manchester and the West Midlands) and shared agreements covering net zero, climate adaptation, and clean energy. It also mentions green business initiatives as part of Investment Zones, the UK Shared Prosperity Fund, and pilots for community energy projects.

Unfortunately, London Councils responded to the March 2023 release of the reports by stating:

‘...this tranche of new policy documents does not do enough to recognise local government’s key role in reaching net zero, nor to empower local government to take holistic place-base climate action commensurate with our ambition and as a critical plank in the overall national target.’

(Bond, 2023)

The Environmental Audit Committee (2023) released a [report](#) in November 2023 on the financial sector and the UK’s net zero transition. This report highlighted the role of the UK Infrastructure Bank (UKIB) as a key source of blended finance. The report cites claims from UK100, a group of local authority leaders, that ‘a £5 billion injection from UKIB could unlock £100 billion in local energy systems in 2030’ (Environmental Audit Committee, 2023: 54). It also references the Government’s Green Finance Strategy and three announced blended finance models: the ‘£30 million Big Nature Impact Fund, which aims to crowd in private sector investment in nature recovery’, the ‘£50 million Woodland Carbon Guarantee, which offers a price guarantee for verified carbon credits sold to the UK government to accelerate woodland planting rates’, and the ‘Environmental Land Management schemes, in particular the Landscape Recovery scheme, which involves trialling different ways to secure private funding alongside public funding’ (Environmental Audit Committee, 2023).

The report quotes the Minister for Energy Efficiency and Green Finance, stating that ‘all £6.6 billion of the Government’s funding for energy efficiency is delivered through local authorities’ (Environmental Audit Committee, 2023). It also cites evidence from the MCS Charitable Foundation on Demand Aggregation Finance schemes, ‘typically sponsored by local authorities’, which allow residents to come together to ‘form a group with sufficient purchasing power to bulk order and mass install low carbon technologies’ (Environmental Audit Committee, 2023). This option is being examined by the Greater Manchester Combined Authority (see below).

The report also references [Local Net Zero Hubs](#), formerly known as local energy hubs (Department for Energy and Net Zero, 2024). These hubs, funded by the UK government, operate only at a regional level in England. They previously provided advice and technical support for community energy projects to access funding from the Rural Community Energy Fund, but now they support local authorities and other public sector organisations in developing and financing local net zero projects across various policy areas, including retrofit, transport, and public sector decarbonisation. This reflects a shift from a sectoral to a broader place-based approach to net zero. Retaining a sectoral approach could increase the commercial viability of projects. Developing a pathway for implementing one intervention (such as heat networks) across multiple areas may be more attractive to investors than numerous smaller projects concentrated in one area. Regardless of whether a place-based or sectoral approach is preferred in Wales, a centralised knowledge transfer and support scheme could be promoted by the Local Government Climate Strategy Panel to help address barriers related to local authority capacity and attract investors.

Additionally, the [Local Net Zero Forum](#) (Government Digital Service, 2024) was set up to provide better communication and engagement between central government officials and local government organisations in England on net zero matters. It aims to improve understanding of key policy and delivery issues and discuss how local government can provide place-based leadership to support net zero attainment. While this group has no ministerial representation, two accompanying meetings per year are scheduled between ministers from the Department of Energy Security and Net Zero and local councillors. A similar approach in Wales could build on the work of the Local Government Climate Strategy Panel, allowing local authorities and the Welsh Government to regularly discuss key issues related to net zero and encouraging collaboration between different local authorities.

The following subsections summarise several specific tools and guides that support local authority engagement with net zero financing.

Net Zero Go

The [Net Zero Go platform](#) (Energy Systems Catapult, 2024) offers a suite of resources and tools to guide local authorities through developing local net zero initiatives. Access is restricted to local authorities and strategic partners. Detailed guides to [financing](#) (Energy Systems Catapult, 2023b) are available on the platform, covering public, private, and mixed forms of investment. Specific guides include funding options, building business cases, developing financial strategies, and establishing project costs. Many resources are collated in the Knowledge Library on financing. There are also case studies, such as from Oxfordshire County Council, on using the platform and specific aspects of establishing and implementing projects. Net Zero Go is intended to be a 'one-stop shop for local authority-led energy projects' (Energy Systems Catapult, 2023a) and is likely the most comprehensive support source for local governments seeking to understand and explore private sector financing.

Innovate UK and PWC – Financing Local Net Zero Projects: A Guide for Local Authorities

In December 2023, Innovate UK and PWC (2023) released a [guide](#) for local authorities on financing local net zero projects. The guide outlines the background to such projects, the policy context and local authority powers, the process from planning to building business models for projects, typical funding options, and implications. It also provides case studies, resources, and examples of the processes involved. The guide suggests that local authorities can consider projects in any of six main areas, as shown in Table 6.

The guide details clear revenue streams for a range of possible interventions and delivery structures (whether public sector-led, public-private, or private sector-led), with associated case studies. Long-term borrowing sources for local government mainly come from the Public Works Loan Board (PWLb) (78%) (Innovate UK and PWC, 2023: 77).

Regarding diversifying sources of capital, the guide (Innovate UK and PWC) claims that many:

‘Local Authorities have yet to tap into the full suite of financial products. As a result, current funding for infrastructure is almost exclusively sourced from the Public Works Loans Board [PWLb]... While a cheap source of capital at ~3%, the PWLB’s capacity to lend is quickly decreasing.’
(Innovate UK and PWC, 2023: 77)

The guide highlights the limitations local authorities face in accessing finance, particularly limits on the amount of funding that can be raised, the counterparties that may be used, and the purposes funds can be used for. It also recognises the need for careful planning of funding for projects, as private investors will only invest money when there is a clear return available. If there are no revenue streams to make that return possible, private financing may not be the best option for local authorities. The different sources of funding are shown in Table 7, with more detail and case studies provided in the relevant sections of the guide.

The guide built on a July 2022 [guide](#) by UKRI and the Green Finance Institute on challenges and opportunities for local authority financing of local net zero investments, as well as previous [work](#) by PWC.

Table 6: Possible local net zero project initiative areas		
Energy		
Renewable energy generation Using renewable energy sources to generate electricity such as solar, onshore wind, geothermal and energy from waste*	Private wires & Heat networks Delivering electricity and/or heat through private networks that are not part of the National Grid. Electricity and heat may be generated from a range of renewable energy sources.	Energy storage and flexibility services Technologies that store energy – mainly batteries – as well as services that enable and incentivise the balancing of energy supply and demand, such as smart tariffs and vehicle-to-grid technology.
Buildings		
Building energy efficiency and retrofits Installing measures that improve the energy efficiency of existing buildings – such as insulation – and/or replace fossil fuel heat sources with low carbon technologies such as heat pumps.	EV infrastructure The infrastructure and services required to charge electric vehicles, predominantly EV charging points	Public transport and mobility services The infrastructure and services required to enable the adoption of active and low-carbon public and privatemobility, including car sharing, cycle lanes and traditional public transport.

Source: Innovate UK and PWC, 2023:24

Table 7: Major types of funding for local authority net zero initiative

Public Instruments			Private Instruments		
Grant Funding			Loans & Bonds		
Government Grants		Council Funds		Green Bonds	Fixed-rate Loans
Urban Development Funds		Natural Environment Funds		Social Impact Bonds	
Loans & Bonds			Community Schemes		
Green Bonds		Municipal Bonds	Social impact bonds	Community Municipal Investment	Peer-to-peer lending
Public Works Loans		Concession Loans	UKIB Local Lending	Local Authority Security	
Balance Sheet Funding			Direct (Equity) Investment		
Cash / Liquidity		Asset sales / lease (land, property etc.)		Equity Financing	
		Innovative			
				Crowdfunding	Property Linked Finance
				Performance Based Financing	Land Value Capture
				Blended finance	

Source: Innovate UK and PWC, 2023:78

Local Government Association – Identifying and promoting green growth opportunities

The Local Government Association’s (2023) [report](#) on identifying and promoting green growth opportunities highlights how local authorities can use their powers and influence to ‘attract and stimulate a low carbon business base.’ It provides key recommendations for the Local Government Association, national (i.e., UK) government, and local authorities. The recommendations for local authorities focus primarily on overall strategy and direction. They include ensuring that net zero ambitions align with local growth opportunities and are embedded across local authority operations, recognising the strengths and weaknesses in local supply chains. Importantly, the report emphasises the need for clear leadership in building demand for low- and zero-carbon investments, goods and services, with local authorities able to stimulate demand both directly (through procurement) and indirectly (through climate leadership).

EnergyRev – Net zero localities: ambition and value in UK local authority investment

EnergyRev, a multi-institutional project funded by UKRI, produced a report in September 2020 (Tingey and Webb, 2020) on local authority investment in net zero. The report highlights the social returns on investment in net zero and suggests ways to expand such investment. For example, it notes that Edinburgh could reduce emissions by 55% from 2019 levels with a £4 billion investment, which would be paid back over 7.5 years, yielding annual savings of around £553 million (Tingey and Webb, 2020). The report identifies heat networks as ‘low regrets options’ and emphasises the need to move from ‘project-by-project’ approaches to ‘systematic area-based programmes’ (Tingey and Webb, 2020: 4). It also addresses the need for policy certainty and coordination to reassure investors (Tingey and Webb, 2020). Additionally, the report provides a bank of case studies that utilise different forms of financing.

3Ci (Cities Commission for Climate Investment): Unlock Private Investment for Net Zero – A Practical Guide for Local Authorities

3Ci is a ‘partnership between Connected Places Catapult, Core Cities UK, London Councils, Key Cities, Scottish Alliance, and other local authorities across the UK aimed at supporting local authorities secure the necessary long-term finance for achieving net zero’ (3Ci, 2024). Its [guide](#) for local authorities on securing private investment offers background information, principles of good practice, barriers and implications, and a six-step guide to building 10 capabilities for securing funding and effectively implementing projects (3Ci, 2022)¹.

UK100 – Powers in Place: The handbook of local authority Net Zero powers

UK100, a network of local leaders committed to leading a rapid transition to net zero with clean air, released a [guide](#) in April 2023 on local authority net zero powers. The guide references potential private sources of funding, including municipal bonds.

It finds that local authorities are constrained by:

- ‘A lack of a defined role in Net Zero Delivery
- A policy and strategy ecosystem and framework that fails to enable and support local delivery.
- Conflicting remits of public agencies which prevent ambitious authorities from delivering their aims.
- Insufficient funding and resources to develop the capacity to enable this transformative shift; funding streams are inequitably and competitively distributed and rarely long-term.’ (Fenna and Marix Evans, 2023: 3)

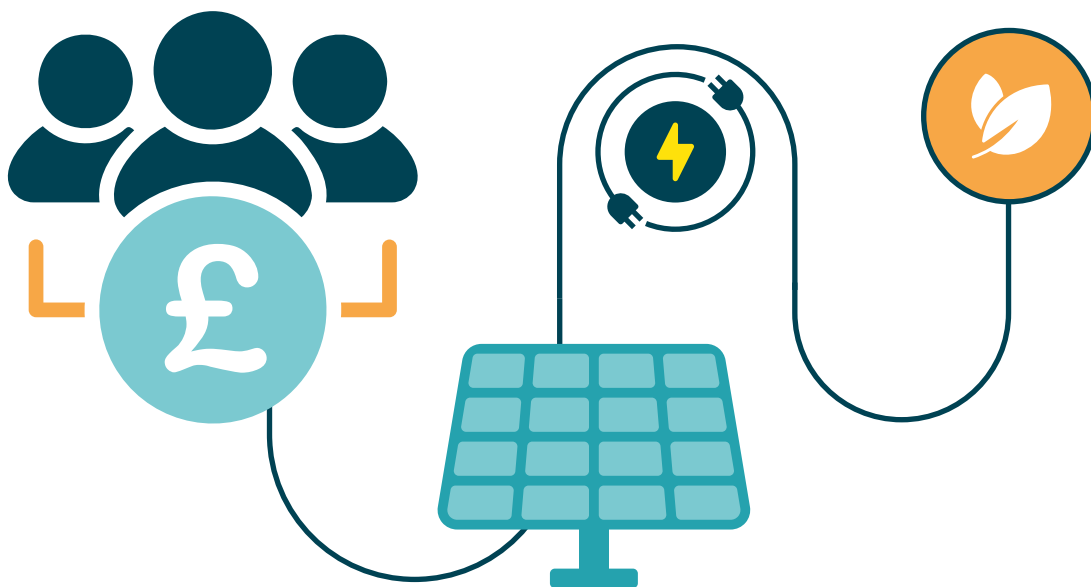
¹The guide is no longer available on the 3Ci website.

Nature Scot: Guidance on Nature Finance Opportunities for Land Managers in Scotland

Nature Scot (2022) released [guidance](#) for land managers in Scotland on creating opportunities for private investment in nature-based initiatives. This coincided with the Scottish Government's (2022) Interim Principles for Responsible Investment in Natural Capital. The guide breaks down nature finance into the 'supply, sale and purchase of ecosystem services', such as carbon offset schemes for companies or flood risk mitigation for organisations or communities, and upfront 'investment into activities designed to deliver environmental outcomes', such as paying for peatland restoration and woodland planting with capital from banks and/or investors (Nature Scot, 2022). The guide provides background, starting points for five types of land manager, case studies, explanations, advice, and further resources. While it does not directly address local authorities, there may be potential for local authorities in Wales either to support such land managers or to follow the guidance, where relevant, for land that they own.

Just Transition Finance Lab and Place-based Climate Action Network (PCAN) Finance Platform

The Place-based Climate Action Network (PCAN) launched a [Finance Platform](#) in 2019 led by Nick Robins, Professor in Practice for Sustainable Finance at the LSE's Grantham Research Institute. Although that platform appears not to have been updated recently, its work led to the creation of a [Just Transition Finance Lab](#) at the Grantham Research Institute. Of particular relevance to local authorities, the Lab has produced frameworks for delivering green bonds (Just Transition Finance Lab, 2024).



Types of financing

The report from Innovate UK and PWC (2023) discussed above highlights several key types of financing.

The Local Government Association and Local Partnerships in the Financing Green report also outline various sources of funding for green initiatives, shown in Table 8. They stated that:

‘The UKIB, UKMBA, PWLB, CMBs and Salix all have a strong role to play in the financing of councils’ green projects. Private sector green finance outside of these avenues is generally more expensive and more restrictive than these instruments in the current state. Unless there are significant market developments it is unlikely that private sector debt will be an attractive alternative for most public sector projects outside of the routes discussed without further aggregation of project pipelines.’

(Local Government Association and Local Partnerships, 2022)

The UK Infrastructure Bank has a Local Authority Advisory function initially trialled with Transport for Greater Manchester, Bristol City Council, and West Yorkshire Combined Authority. It has £4 billion in capital available to local authorities across all four UK nations (UK Infrastructure Bank, 2023). Alongside this, the UKIB aims to support funding and financing models for complex infrastructure projects, focusing on supporting the net zero transition, and regional and local economic growth.

‘The bank is working in tandem with local authority project teams to develop their commercial and financial options, along with other funding considerations, and to consider the value of public-private partnerships to accelerate progress’ (Mansfield, 2023)

The UKIB has also committed to building their own advisory expertise in three areas where local authorities have expressed significant interest: retrofit, heat networks, and transport (UK Infrastructure Bank, 2023). However, there has been limited uptake in Wales at present, with a July 2023 summary pointing to only one Transport for Wales project to secure zero-emission buses (Mansfield, 2023).

The UK government has recently indicated that the UKIB and the British Business Bank will be aligned under a National Wealth Fund, with funding intended to invest in ‘the new industries of the future’ including clean energy (HM Treasury, 2024). As part of the development of the National Wealth Fund, consideration is being given to further aligning public finance institutions, which could make accessing public finance easier for local authorities. This would be the case particularly with regards to investment in clean energy.

Table 8: LGA sources of funding for green initiatives (UK-wide)²

Form of debt	Cost of borrowing	Borrowing amount	Security	Proposed due diligence	Comments
Public Works Loan Board	Depends on lending term. 25 Year Annuity Rate at around 3% in April 2022	100%	Lending against revenues of the local authority	Extensive board and council member approval process for project. The PWLB application process is currently deliberately permissive but requires submission of a three year capital plan and s151 officer sign off that borrowing does not include projects primarily for yield.	Borrowing cannot be primarily for yield and must support local authority objectives in service delivery, housing, regeneration or preventative action. (Although this requirement is also applied to any lending not sourced from PWLB and can impact a council's ability to borrow PWLB in subsequent years for other purposes if it is not adhered to)
UK Municipal Bond Agency (UKMBA)	Highest costs are similar to PWLB, with lowest being around 50bps above gilts (currently 2.5% to 3%)	£ 250m+. The UKMBA will aggregate the requirements of several councils and the sum can relate to delivered projects and future requirements	Against the covenant strength of the local authority. Single authority bonds will require a credit rating score. Pooled bonds require a credit assessment (not published as a rating)	Due diligence focus around the financial standing of the local authority.	Bonds can be expensive and time consuming to put in place, but potentially provide access to long term cheap debt. Shorter term 'note' arrangements can be provided for interim finance whilst a sufficiently large pipeline is developed. Minimum size for pooled investments is around £5m for a local authority. Green reporting / verification is tailored and works to utilise existing criteria.

²Salix, a government-owned finance provider, formerly provided interest free loans but these are no longer available to new applicants.

Table 8: LGA sources of funding for green initiatives (UK-wide)² (continued)

Form of debt	Cost of borrowing	Borrowing amount	Security	Proposed due diligence	Comments
Green lenders	Most expensive form of lending at rates equivalent to private sector projects	Typically, up to around 80% of a steady state project	Lending against the project assets	Extensive technical, financial and legal due diligence undertaken by green lender.	As for PWLB, in addition green loans are likely to be specific to both the local authority and the project. Most likely applicable to joint venture or more commercial projects
Crowdfunding/ Community Municipal Bond (CMB)	Potential to provide capital on terms which are equal or better than PWLB – currently around 3% at April 2022	Potential for 100%, although local authority CMBs above £1m not yet tested	Securing funding against the local authority credit rating, unlike PWLB this may require a credit rating.	Extensive board and council member approval process for projects. Process that emulates the ease of use of PWLB	As for PWLB Examples include West Berkshire and Swindon Councils.
UKIB	Gilts + 60bps, at around 2.6% at April 2022	Project specific	Secured against the covenant of the local authority	Project specific	There will be a requirement for benefits recognition and reporting and potentially for compliance with PPN6/21

Source: Local Government Association, 2022

A WLGA-commissioned review of local government decarbonisation planning highlights several case studies of land use (Netherwood and Miller, 2021). Cardiff Council's One Planet Cardiff plan includes tree-planting as part of Coed Cardiff, funded by £1 million from the European Agricultural Fund for Rural Development, the Welsh Government, and the Woodland Trust in Wales Emergency Tree Fund (Cardiff News Room, 2021). Torfaen County Borough Council's Green Infrastructure Strategy focuses on public funding but also references private and third sector land use (Chris Blandford Associates, 2019). Many local authorities have utilised funding (approximately £6 million per year) from the Welsh Government's Local Places for Nature scheme via the Wales Council for Voluntary Action (WCVA), administered by Local Nature Partnerships (LNP) Cymru (Messenger, 2020). These smaller schemes often use public funding for projects that absorb CO₂, such as the installation of green walls.

Internationally, patient capital markets, where returns on investment are anticipated over the long term, vary in their application. The World Economic Forum describes their use in emerging economies as part of net zero strategies as being driven by a mix of public and private investment, or public investment implemented with a private sector mindset. This includes supporting innovative technical solutions that will only pay off in the future and creating frameworks supportive of the private sector over long timescales (Nooy and Vaes, 2021). In October 2023, UK Finance highlighted various methods for mobilising capital for the transition to net zero (UK Finance, 2023).

Regarding the risks associated with long-term private investment in infrastructure, they provide an international example from the UAE, which allows for:

'...tariff adjustment at refinancing (post completion) stage to absorb variations in rates that have occurred during the construction period. This allows the recycling of bank funding, which is optimal for construction funding, by refinancing in the bond market and shifting the long-dated (but relatively de-risked) funding to institutional investors.'

(UK Finance, 2023: 9)

The Economy 2030 Inquiry also published a report in October 2023 proposing solutions for the UK government to address these issues, including establishing a blended finance unit within HM Treasury. One responsibility would be to provide 'a centre of expertise and knowledge-building on blended finance, with a focus on skill-building across government and local authorities.' (Gordon and Valero, 2023: 21).

Some specific forms of private finance have become more established in the UK or are seen as having significant potential (see Innovate UK and PWC, 2023). Below, we highlight green bonds and Energy Performance Contracts (EPCs) as two such examples.

Local climate bonds

Local climate bonds, also known as community municipal investments or green bonds, are a crowdfunding scheme where local residents can invest their own funds in specific climate interventions that benefit their community (OECD, 2021). Several British local authorities, particularly in England, have piloted the scheme, including West Berkshire, Telford and Wrekin, and several London boroughs (Table 9). Members of the public can invest a minimum of £5 and expect a meaningful return on their investment, as well as tangible benefits for their local community. Councils can use these bonds to engage with local communities and fund specific climate interventions, such as solar power installation, tree-planting, zero-carbon recycling, EV charging, and council fleet replacement.

Table 9: Case studies of local climate bonds

Case studies of past issuances on the Abundance Investment platform

	Cotswold District Council	Telford & Wrekin Council	City of Westminster	Lewisham	Live issuance Hammersmith & Fulham
Date of issuance	27 April 2022	19 May 2022	13 March 2023	22 May 2023	15 Nov 2023
Sum raised	£0.5m	£0.3m	£1m	£0.7m	£1m (phase 1), £5m overall
Investor return	2.10%	2.10%	4.20%	4.30%	4.85%
Use of Funds (not exhaust.)	EV charging points Energy efficiency improvements in the Council's offices	Grants to local organisations & businesses EE upgrades to temporary and supported housing EV minibus fleet	Decarbonisation of council buildings Funding for community projects Solar, LED, and energy efficiency projects	EV charging points Green transport hubs incl. pedestrian and cycle upgrades Natural capital projects	Decarbonise homes and buildings Green transport inc. secure mobility hubs and cycle lanes Adaption projects inc. natural drainage schemes

For a full list of case studies and pipeline of signatories, you can visit <https://www.greenfinanceinstitute.co.uk/programmes/ceeb/lcbs/>

Source: Green Finance Institute, 2023c: 2–3

The rate of return for investors has risen rapidly, reflecting broader economic conditions, from 1.2% in West Berkshire for the bond issued in July 2020, to 4.85% for the issuance in November 2023 in Hammersmith and Fulham. However, these bonds are priced below the equivalent PWLB rate at the time of issuance, making them cheaper for local authorities. The sums of money raised have been relatively small so far, increasing from up to £1 million in previous issuances to £5 million overall for the latest one in Hammersmith and Fulham. As these are the first examples of their type, future issuances could be substantially larger.

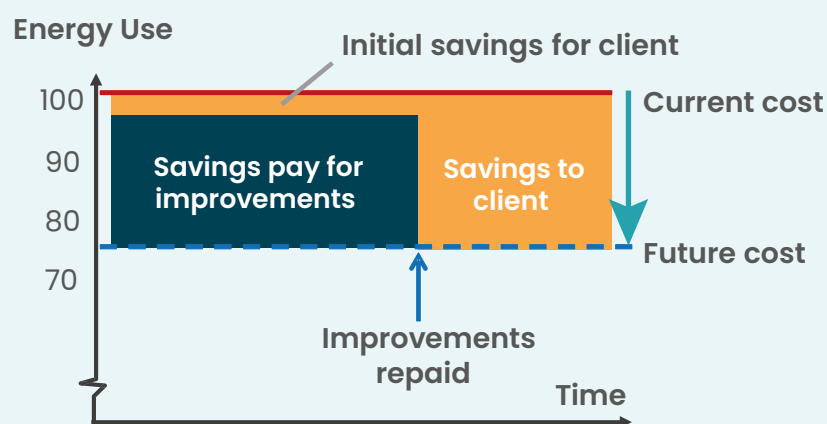
Such forms of local funding might support or be supported by local capacity building and resilience, for example through Climate Assemblies like that in Blaenau Gwent (Blaenau Gwent CBC, 2021), which is also a signatory to the Green Finance Institute's Local Climate Bond pledge (Green Finance Institute, 2023b). Abundance Investment (2022) is a key partner of the Green Finance Institute in the Local Climate Bond campaign and provided the platform for the issuance of the bonds in the case studies (Green Finance Institute, 2023b). Given the involvement of local residents and the ability to deliver economic as well as environmental benefits, this approach could help Welsh local authorities achieve multiple Well-Being Goals.

Energy Performance Contracts (EPCs)

Energy Performance Contracts (EPCs) are a potential source of upfront financing, involving agreements between local authorities (or others) and an energy services company (ESCO). The ESCo funds and implements energy efficiency upgrades and renewable energy installations in public buildings, repaid over time through the energy savings generated (Department of Energy and Climate Change, 2015b). The Department for Energy and Climate Change's (2015b) Model Contract provided visual explanations of both EPCs and the stages involved in a project.

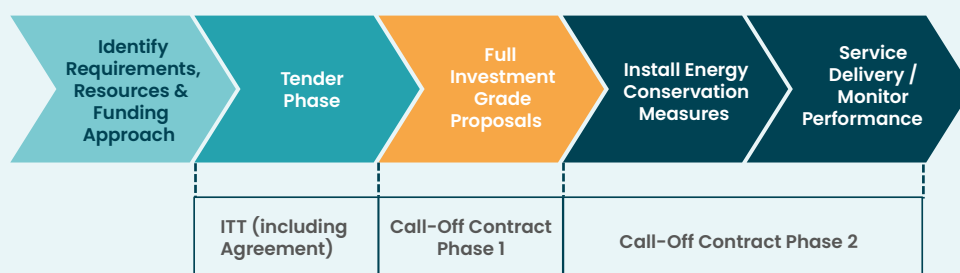
The Department of Energy and Climate Change also provided a best practice guide (2015a). The first and most prominent use of EPCs was part of the Greater London Authority's Retrofit Accelerator – Workplaces (Re:fit) (further details below). Re:fit, as a framework, is now administered by a partnership between the Greater London Authority and Local Partnerships (2023). Local Partnerships cites a case study for 2022/23 of Newport City Council, with projects continuing 'to deliver guaranteed annual energy savings in excess of £100,000 whilst saving 396 tonnes of CO₂ per year across the whole estate including corporate buildings and schools' (Local Partnerships, 2023).

Figure 3: Model of EPC return on investment



Source: Department of Energy and Climate Change 2015b: 5

Figure 4: Outline of typical EPC Process



Source: Department of Energy and Climate Change 2015b: 5

Carbon offsetting

The Welsh Government's Carbon Budget 2 highlights that 'The Senedd has legislated for a 0% offset limit for Carbon Budget 2. This means that all emissions reductions between 2021 – 2025 must take place in Wales' (Welsh Government, 2021a: 13). The report also states that:

'Carbon Budget 3 (2026 – 2030): 58% average reduction. There is no statutory deadline for setting each offset limit. We will set the CB3 offset limit no later than 2025. We are going to meet Carbon Budget 2 entirely through domestic action. However, if we use offset schemes towards our future targets and budgets, they will be used in a limited way and we will only use those that are considered robust and recognised by international reporting guidelines' (Welsh Government, 2021a: 13).

In addition, the Parliamentary Office of Science and Technology (POST) is creating a POSTnote briefing on the challenges related to international offsetting standards and monitoring in the context of the ineffectiveness of most nature-based schemes and a ban on international offsets under Phase 4 of the EU Emissions Trading Scheme (Wentworth, 2023).

While local authorities are interested in understanding carbon offsetting schemes that meet the legal requirements set out in the Carbon Budget, it is likely to be difficult to secure significant overall emissions reductions through this method. This is due to competing demands for the use of available land in Wales from the Welsh Government and stakeholders, such as in agriculture. Welsh farming operates on tight margins and largely relies on subsidies to generate profits (Coles-Riley et al., 2023). Furthermore, there are concerns among stakeholders in Welsh farming regarding the purchase of farmland solely for offsetting the carbon emissions of companies, given the cultural importance of farming in large parts of rural Wales (Welsh Affairs Committee, 2022).

The new Sustainable Farming Scheme, which will replace previous EU subsidies, proposes a minimum of 10% tree cover on each farm as a requirement by 2030 for farmers to receive subsidies, which, as highlighted above, forms a large proportion of their income (Welsh Government, 2023a). Woodland planted on farms where carbon credits have been sold will count towards this target, although exact details regarding the calculation of this are yet to be determined (Welsh Government, 2023b). Additional local authority support for farmers in achieving other carbon sequestration and environmental goals (for example, encouraging biodiversity) could involve a mix of public and private finance and generate environmental and economic benefits. It will be crucial that these efforts capture the long-term costs and benefits of these projects, rather than simply the initial costs.

Case studies

Existing case studies range from those still in the planning stages to fully delivered programmes with measurable outcomes.

However, most are in the inception, planning, or trial stages. Below, we provide some UK case studies that offer potential sources of private investment.

Some examples may be peripheral to local authority-led initiatives but are potentially worth exploring. For example, in 2022, Lloyds provided £1 billion in new funding for sustainability improvements in the social housing sector (Cleary, 2023). This builds on Government funding through the Social Housing Decarbonisation Fund (SHDF), but Lloyds cites research by Savills that an additional £36 billion beyond that already planned will be required by 2050 to support decarbonisation efforts. This lending may only be available to housing associations rather than councils, but there may be opportunities for local authorities to support such forms of lending in collaboration with housing associations in their areas.



CASE STUDY 1

Glasgow Greenprint for Investment

Glasgow City Council launched its Greenprint for Investment in September 2021, in the run-up to COP26, held in the city in October and November that year (Invest Glasgow, 2021). The £30 billion portfolio of 10 projects seeking private investment aims to contribute to the city's goal of net zero by 2030. The projects range from a £40 million initiative to create two district heating schemes in the city to a £10 billion programme to retrofit 428,000 homes in the city region (Invest Glasgow, 2024). The projects also range from seeking solely private investment to a mix of public and private funding, to public funding with private development and operation.

Although none of the projects have proceeded past the feasibility study or business case stage, the platform provides a clear outline of projects at a significant scale, something relatively rare at the local authority level.



CASE STUDY 2

Bristol City Leap

Bristol City Leap is a public-private partnership between Bristol City Council and Ameresco Ltd. Launched in 2022, it speaks of more than £6 million in 'crowdfunding opportunities for residents to invest in City Leap projects' in addition to other, larger forms of investment toward net zero (Bristol City Leap Energy Partnership, 2022). Commitments from its Business Plan include carbon savings of 140,000 tonnes, 180MW of zero-carbon generation assets, and the generation of 327GW of zero-carbon energy. Local economic benefits are said to include '£61.5m of social value including £50m of contracts delivered by local

supply chain', a 'guaranteed £1.5m Community Energy Development Fund', and '410 new jobs created in Bristol and 1,000 jobs in total' paid at least the Real Living Wage (Bristol City Leap, 2024).

Carmarthenshire County Council is also working with Ameresco (2022) to institute Energy Conservation Measures across council facilities including energy and water efficiency measures and renewable energy generation.



CASE STUDY 3

Greater Manchester

The Greater Manchester Combined Authority (GMCA) launched a partnership with the Green Finance Institute (GFI) in August 2022 to pilot a series of financial products for home decarbonisation, aiming to create a blueprint for other local authorities (Green Finance Institute, 2022). GFI was established by the Government in partnership with the City of London Corporation, following a recommendation by the Green Finance Taskforce. Its purpose is to 'foster greater cooperation between the public and private sectors, create new opportunities for investors, and strengthen the UK's reputation as a global hub for green finance' (Department for Energy Security and Net Zero and Department for Business, Energy and Industrial Strategy, 2022). The partnership between GMCA and GFI has since developed a portfolio of five financial solutions for landlords and homeowners that offer access to 'sources of private and blended capital to fund energy efficiency upgrades to their homes' (Green Finance Institute, 2023a: 4).

The portfolio includes:

- **Demand Aggregation Financing:** Developing an online platform that allows residents to register interest in specific home retrofit measures, such as solar panels or heat pumps, forming a group that can benefit from economies of scale and subsequent reductions in cost to the homeowner (Green Finance Institute, n.d.).
- **Green Mortgage Campaign:** Launching a campaign with local and national brokers to promote awareness, engagement, and adoption of residential green mortgages, incentivising homeowners to invest in improving their properties' energy efficiency (Green Finance Institute, 2024).
- **Local climate bonds (LCBs):** See above.
- **Green rental agreements (GRAs):** Offering a 'warm rent' that covers both rent and energy bills, thus incentivising landlords to improve energy efficiency and reduce costs.
- **Property linked finance (PLF):** This has not previously been used in the UK and is modelled on Property Assessed Clean Energy (PACE) in the US. It enables homeowners to borrow for energy efficiency improvements with repayments linked to the property, transferring to new owners upon sale (Green Finance Institute, 2023d).

The partnership includes types of financing that have not yet been implemented in the UK, so there is no consistent evidence of their feasibility or efficacy. However, given budget constraints, local authorities can benefit from using influencing powers that they both already possess and that have negligible costs attached, for example Green Rental Agreements (GRAs).

Additionally, EY created a Net Zero 2038 Strategic Outline Business case for Greater Manchester Combined Authority (EY and Greater Manchester Combined Authority, 2023) as part of efforts to leverage £6.2 billion in private investment through £6.3 billion of public investment.



CASE STUDY 4

Greater London Authority Retrofit Accelerator – Workplaces (Re:fit)

Re:fit pioneered local authority use of Energy Performance Contracts (EPCs) (see previous section on types of financing). The London Accelerator supported London boroughs, educational institutions, other local government bodies, central government, NHS trusts, the Bank of England, and others (including Kew Gardens) to adopt EPCs (Greater London Authority, 2024b) to fund energy efficiency measures and has a bank of case studies (Greater London Authority, 2024a). In 2017, C40 Cities (2017) reported that more than 200 public sector organisations were participating in the scheme, supporting over 660 public sector building retrofits and generating annual CO₂ savings of 32,000 tonnes from £102 million in investment. By that point, more than 200 London public sector organisations had participated in Re:fit, including 31 of the 33 London Boroughs, 31 NHS organisations, and over 140 other organisations, such as central government, museums, and educational institutions.



CASE STUDY 5

Mayor of London's Climate Finance Facility and Green Finance Fund

The Greater London Authority commissioned the Green Finance Institute to advise on the creation of a London Climate Finance Facility (LCFF).

The green finance aims set out by the Mayor were:

'To unlock billions of long-term, flexible private finance to support the decarbonisation of London's buildings, energy and transport systems, thereby tackling the triple dangers of toxic air pollution, climate change and congestion.

To accelerate significantly the development and delivery of climate and environmental projects, working with strategic partners.

To build on London's existing financing capabilities to secure investment for London and strengthen its competitiveness.' (Greater London Authority 2023)

The objectives to deliver these aims focus on developing skills, capacity,

and partnerships to shape project design, build business cases, create clear opportunities for private investment, and build knowledge among investors. They also seek to identify and develop new finance options and business models.

The LCFF aims to establish thematic funds to unlock private investment using public financing. It may also expand to set up funds with other public sector investment bodies to increase the finance it can mobilise for projects in London.

Other work by the Greater London Authority included an intention, announced in 2022, to raise £500 million for net zero projects as part of a Green Finance Fund, including £90 million in public funding to leverage the remainder through a green bond programme (Greater London Authority, 2023). Unfortunately, market conditions and economic instability meant that green bonds were unlikely to achieve a better rate than the Public Works Loan Board (PWLb). Nevertheless, the Fund was established using other resources with the intention of refinancing through green bonds once favourable conditions emerge. Importantly, the Green Finance Fund also includes a single project support resource aimed at supporting organisations to access private investment and develop investors' knowledge of climate-related projects to increase the availability of finance.



CASE STUDY 6

West Midlands Combined Authority Energy Capital

The West Midlands Combined Authority (WMCA) established Energy Capital, a public-private regional energy partnership, which 'is responsible for the delivery of the Regional Energy Strategy and securing the investment and powers necessary to enable this' (Energy Capital, 2024). This forms part of the strategy as the first Net Zero Pathfinder region (West Midlands Combined Authority, 2021).



CASE STUDY 7

Net Zero Living Demonstrators

Innovate UK announced a package of £25 million to support local authorities in tackling barriers to net zero projects, accelerating progress, sharing expertise, and unlocking additional investment estimated at up to £500 billion (Innovate UK, 2023). As part of this, it funded seven 'Net Zero Living Demonstrators' in England and Scotland.

One demonstrator in Rossendale, Lancashire, was awarded £2.5 million to 'develop a community-scale service model for delivering decarbonised ground source heat and power to terraced streets, which are constrained in terms of space. The model addresses citizen engagement and tests a financing format with no up-front costs' (Innovate UK, 2023).

Another demonstrator led by the City of York Council and a local partnership group was awarded £3.4 million to create a 'Retrofit One-Stop-Shop to facilitate retrofitting homes with low-carbon measures, improve the householder experience and contribute to better energy efficiency standards across the city.' (City of York, 2023).



CASE STUDY 8

Invest in South of Scotland

Invest in South of Scotland, operating across local authority areas, produced a 'guide to investing in the Just Transition to Net Zero' (Invest in South of Scotland, 2023). It serves as a clear, investor-facing statement of intent, outlining case studies and opportunities across the region. Case studies include hydro and wind power schemes, battery infrastructure, carbon capture, dairy innovation, and rewilding.



CASE STUDY 9

City of Ithaca Green New Deal

The City of Ithaca in New York State adopted a Green New Deal resolution aiming to achieve net zero by 2030, 20 years ahead of the White House's goal. The goals include shared benefits among all local communities 'to reduce historical social and economic inequalities', 100% renewable electricity for government operations by 2025, and reducing emissions from the city fleet by 50% by 2025 (City of Ithaca, 2024).

A significant component of the deal is the 'Electrify Ithaca' programme, which leverages private capital, aggregated building portfolios, and government incentives to reduce building electrification costs (City of Ithaca, 2024). The programme partners with 'electrification expert BlocPower to provide competitive financing for residential and commercial electrification' (City of Ithaca, 2024). BlocPower offers '15 year no-money-down capital and operating leases', with monthly payments potentially offset by energy savings (similar to Energy Performance Contracts but without the guarantee) (Electrify Ithaca, 2024).

Conclusion

We have focused on two main areas related to the local authority-led transition to net zero:

- i) The prioritisation of climate change interventions; and**
- ii) Private-sector sources of funding.**

These are interconnected, as a clear strategy can facilitate investment by demonstrating that local authorities have a well-defined, long-term set of commitments and a pathway to achieve them.

Part 1 examines how local authorities can prioritise climate change actions within the context of limited finance and resources. Local authorities possess various powers and levers to influence community emissions, alongside direct control over their municipal emissions. Therefore, when developing strategies and delivery plans for the climate emergency, local authorities need to determine the balance between prioritising the reduction of municipal emissions (which may involve significant capital costs) and reducing community emissions (which may be more challenging to implement).

There are examples from the UK and overseas of local authorities reporting both their community and municipal emissions. Currently, Welsh Government guidance focuses solely on municipal emissions. However, developing a clear picture of community emissions can help local authorities identify opportunities for greater emissions reductions at potentially lower costs, as community emissions constitute the vast majority of area-wide emissions. This includes understanding how they can leverage their influence to enable behaviour change within their communities. Several criteria must be considered when choosing priorities, such as projected emissions reductions, ease of implementation, local authority influence, and costs.

Collecting and reporting municipal emissions inventories in Wales has been a learning process (Aether, 2023). Embedding and sharing these learnings could help local authorities develop community emissions inventories, though this will require addressing barriers related to skills and data availability, especially when resources are already stretched. While local authorities may prefer to use familiar existing methods, alternative tools used by other UK local authorities, such as SCATTER, may offer benefits.

Some local authorities choose to tackle municipal and community emissions together, prioritising actions to reduce area-wide emissions. Given the Welsh Government's ambition for a net zero public sector in Wales by 2030, it may be more practical for Welsh local authorities to develop separate climate plans, as pursued by Wiltshire.

Part 2 summarises guidance for local authorities on sourcing finance, including from the private sector. While various forms of finance are included, local authorities predominantly rely on traditional public sources of finance for capital investment, particularly the Public Works Loan Board (PWLb).

While some forms of private sector involvement are now relatively widespread, they tend to be on a small scale, such as local climate bonds. Larger-scale projects usually involve substantial public finance, as seen in public-private energy partnerships like Bristol City Leap. The Greater London Authority found that large-scale local climate bonds might not be attractive to local authorities at current rates, though they remain an important option to explore.

Some local authorities have made progress in setting out clear, detailed proposals for private investment and/or delivery. Examples include Glasgow's Greenprint for Investment, Greater Manchester's partnership with the Green Finance Institute, and Invest in South of Scotland's portfolio of opportunities. As in Part 1, many case studies are based on cities and may not be suitable for rural parts of Wales.

We suggest that Welsh local government efforts might be most effectively directed at creating pooled opportunities for private investment across multiple authorities. This could be facilitated through a shared website, similar in scale to Sell2Wales. Additionally, we propose examining a partnership with the Green Finance Institute to trial local climate bonds as a feasible first step in securing private finance.

Pooling opportunities in this way could support a sectoral approach to decarbonisation, with coordinated actions across various geographies allowing access to economies of scale and finance opportunities that might not be available through a purely place-based approach. However, local authorities are inherently place-based, and there are barriers to a coordinated approach, including the interconnected nature of decarbonisation. Corporate joint committees may be able to help coordinate and share information regionally and package work for a sectoral approach.

Evidence on the real impact on emissions is often limited. Our previous work highlights significant inaccuracies between projected savings and actual results (Coles-Riley et al., 2024; Lloyd et al., 2024). Therefore, a full evaluation of interventions is crucial and should use consistent, comparable, and validated measures where possible. This could be agreed upon through collaboration with WLGA and the Welsh Government.

To address the complexity of progressing towards net zero, it is essential to continue supporting local authorities in developing their capacity, alongside providing pooled resources to access, manage, and confidently use finance options. Capacity constraints may explain the limited uptake of advisory expertise already offered, such as through the UK Infrastructure Bank's Local Authority Advisory function. Learning from dedicated and centralised knowledge transfer and support schemes such as Local Net Zero Hubs, could address barriers related to local authority capacity and help attract investors. The continued sharing of best practices between authorities, including through WLGA and the Local Government Climate Strategy Panel, will be a crucial component of successful decarbonisation.

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Annex

Additional reports and guides

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https://www.unepfi.org/wordpress/wp-content/uploads/2023/09/Unlocking-Investment-in-Net-Zero_FINAL.pdf

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