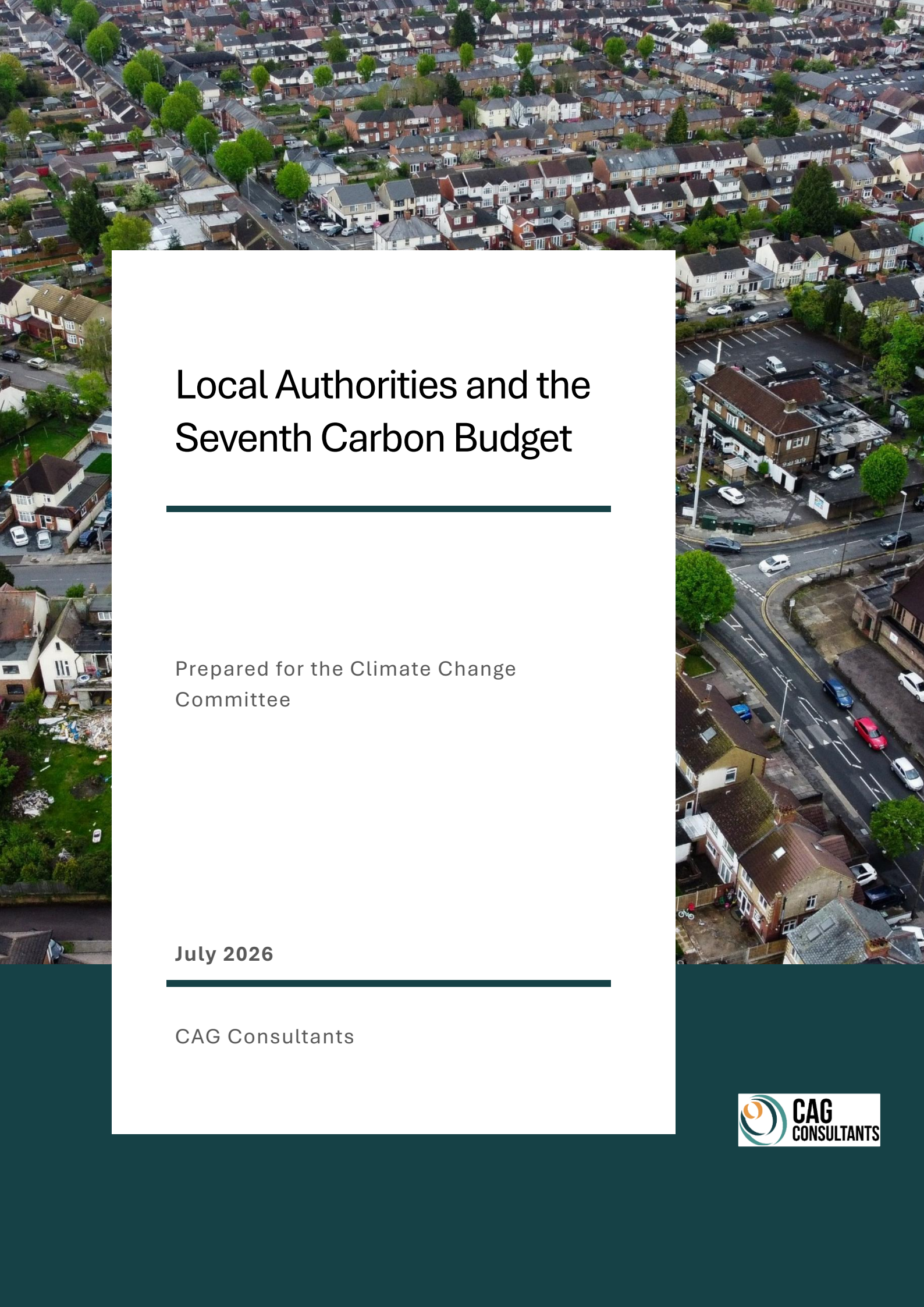




Local Authorities and the Seventh Carbon Budget

Prepared for the Climate Change
Committee

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CAG Consultants Team: Louise Marix Evans, Derek Morgan, Ailsa Gibson and Rhona Pringle.

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FOR DIRECT ENQUIRIES ABOUT THIS REPORT:

Louise Marix Evans, Associate, CAG CONSULTANTS

Email: louise@quantumst.co.uk

CONTACT CAG CONSULTANTS:

8 Blackstock Mews, London, N4 2B

Tel: 020 8555 6126, hq@cagconsult.co.uk,

www.cagconsultants.co.uk

1 Executive summary

1.1 Executive summary: Introduction

The Climate Change Committee (CCC) is the UK's independent advisory body on climate change, responsible for advising the UK Government and the devolved administrations on carbon budgets and progress towards net zero under the Climate Change Act 2008. The CCC's 'recommended level for the Seventh Carbon Budget, a limit on the UK's greenhouse gas emissions over the five-year period 2038 to 2042, is 535 MtCO₂e'¹ (which represents an 87% reduction in emissions compared to 1990 levels). UK Parliament passed this recommended level into law in June 2026². The CCC's advice on the level of the Seventh Carbon Budget is based on its Balanced Pathway. The Balanced Pathway sets out a credible, cost-effective emissions reduction pathway from 2025 to net zero emissions by 2050, so that the Government and Parliament can be assured that the recommended level is feasible and deliverable. A core message of the CCC's advice is that the next phase of decarbonisation depends on rapid electrification of heat, transport and industry. Government is responsible for proposing a level for the Seventh Carbon Budget to Parliament and bringing forward policies to enable the carbon budget to be met. The Government accepted the CCC's recommended level and proposed it to Parliament, which passed the Seventh Carbon Budget into law in June 2026.

The CCC commissioned CAG to produce this report to investigate what the CCC's advice on the Seventh Carbon Budget means at the local level. It aims to help inform local government, national government and delivery organisations by exploring the role of local authorities in delivering national carbon budgets. A separate report highlights the role of local authorities in climate adaptation³.

A range of governmental and official bodies have key roles in delivering emissions reductions. The UK and devolved governments hold the legislated duty to reduce emissions under their Climate Change Acts or equivalent. Several national bodies including National Highways and Ofgem, for example, now have explicit objectives to deliver emissions reductions in line with the 2050 net zero target.

The report highlights practical actions local authorities can take to support delivery of the 2050 net zero target, providing key actions and case studies. This Executive Summary focuses on key requirements to deliver The Seventh Carbon Budget, outlining for each sector the key actions needed to be in line with the pathway to net zero, the priority local authority actions that can support this, and some of the challenges they

¹ [The Seventh Carbon Budget](#)

² [Response to Parliament passing the Seventh Carbon Budget into law - Climate Change Committee](#)

³ [The role of local authorities in climate adaptation](#)

will need to overcome. The main report is more extensive and includes detailed case studies. The main report is intended as a comprehensive reference resource rather than a document to be read sequentially, enabling readers to engage with the sectors, themes, and case studies most relevant to their interests.

Note: The content of this report reflects the position at the time of writing in early 2026, but some policies, funding and programmes may change as bills progress, regulations are laid, or new funding mechanisms are introduced.

1.2 Executive summary: Cross-cutting actions

Delivering the CCC's Balanced Pathway relies on the electrification of heating, transport, and industry alongside making electricity generation low-carbon and improving the transmission grid. It also requires a more efficient use of energy, including shifting transport modes from cars to public transport and active travel, increasing energy efficiency in buildings and in reducing waste and increasing recycling rates.

Across the different sectors considered in the report, there are recurring themes where local authorities can take action to support delivery of emissions reductions; these are summarised below as **cross-cutting actions**.

1.2.1 Embedding Net Zero in procurement and commissioning

Across every sector, local authorities can use procurement to shape markets, stimulate supply chains and ensure Net Zero-aligned standards.

- Embedding Net Zero-aligned criteria - such as lifecycle carbon, targets to electrify contractor vehicle fleets or the use of low-carbon energy sources - into all contracts helps ensure that public expenditure supports climate goals.

The Procurement Act 2023 allows suppliers offering low-carbon services to local authorities to be more competitive.

- The Procurement Act 2023 (covering England, Wales and Northern Ireland through related procurement policy statements) aims to encourage public sector innovation in procuring and developing services and products, alongside greater flexibility.
- It replaces Most Economically Advantageous Tender (i.e. the cheapest in reality) with the Most Advantageous Tender, which includes quality, environmental sustainability and social value, allowing suppliers offering sustainable, lower carbon services and products to be more competitive.

Local authorities are being encouraged by the UK government to require suppliers bidding for major contracts to provide a carbon reduction plan.

- The UK government's Procurement Policy Note, PPN 006 (previously known as PPN 06/21), requires suppliers bidding for major contracts (over £5 million per annum) to provide a published Carbon Reduction Plan.
- Although not mandatory for local authorities, as it is for central government departments, local authorities are encouraged by the UK Government

Commercial Agency to apply it as a condition at the selection stage for all major contracts⁴.

- It has also been adopted by the Welsh Government, which recommends it as good practice for the Welsh public sector, including local authorities.
- Scotland requires Carbon Management Plans for large public tenders.

1.2.2 Using place shaping and planning to align development with Net Zero

Local authorities' spatial planning powers are essential levers. Through Local Plans, planning policies, Local Development Orders or design guides, local planning authorities and strategic authorities can ensure that all building and greenspace development, infrastructure and energy systems support decarbonisation. Examples include:

- Integrating heat decarbonisation into planning policies and making it easier to install heat pumps and energy efficiency measures (Buildings chapter);
- Planning transport networks that support modal shift, active travel and public transport (Surface Transport chapter);
- Aligning planning policy with renewable energy deployment, grid reinforcement and Local Area Energy Plans (Electricity Supply chapter);
- Embedding land-use change, woodland creation or peatland protection and restoration in local plans (Agriculture and Land Use chapter).

1.2.3 Public engagement and communication with local people

Trusted local engagement is important across most, if not all sectors. Many of the required changes, such as heat pumps, electric vehicles (EVs), modal shift, and dietary shifts, depend on people wanting to invest in technology or adjust their choices, which requires their understanding, confidence and support. Local authorities can actively engage with residents and businesses on how best to make these changes in the places they live and work so everyone can benefit. Examples include:

- Providing practical trusted, locally tailored advice on heat pumps, energy efficiency and EV charging (Buildings and EV chapters);
- Engaging communities in street redesign, bus improvements and active travel schemes (Modal Shift chapter);
- Raising awareness about waste prevention, recycling and reuse and designing services that are designed to make it easy to reduce waste (Waste chapter)

⁴ [How to build sustainability into procurement: staying on track for carbon Net Zero. Procurement Essentials - CCS](#)

- Involving landowners, land managers, farmers and communities in land use change and new approaches to agricultural management (Agriculture and Land Use chapter);
- Working with communities to promote understanding, address concerns and build support for new energy infrastructure and industrial technologies (Electricity Supply and Industry chapters).

1.2.4 Partnership working as a foundation for delivery

Effective local delivery depends on long-term collaboration between the public sector, private sector, utilities, community and voluntary organisations and anchor institutions. Examples include:

- Partnerships with housing associations, installers and community groups to deliver retrofit and heat decarbonisation;
- Collaboration with transport operators, bus companies, rail operators, schools and businesses to enable modal shift;
- Joint work with Distribution Network Operators and NESO, including through Regional Energy System Planning, Strategic Spatial Energy Plan and Centralised Strategic Network Plan on electricity system changes;
- Partnerships with farm clusters, national parks, environmental NGOs and land managers to deliver land-use change;
- Industrial clusters, local businesses and skills providers working with authorities to enable industrial decarbonisation;
- Wider partnerships with investors, insurers and national financial institutions to collectively leverage the investments to fund new infrastructure, place-based regeneration and improvements, and to ensure local jobs and skills follow.

1.3 Executive summary: Residential buildings

The residential buildings sector is currently the second highest-emitting sector in the UK economy.

- In 2023, residential buildings accounted for 12% of UK emissions, 52.2 MtCO₂e.
- By 2040, residential building emissions fall by 66% in the CCC's Balanced Pathway, relative to 2023.
- By 2050, residential buildings will be almost fully decarbonised.

The main activities relating to new and existing homes are:

1. Switching away from gas and oil boilers to electrified low-carbon heating such as heat pumps and district heating.

2. Ensuring that buildings are energy efficient, requiring less energy to heat and power and enabling flexible use of energy.

1.4 Executive summary: Existing homes

1.4.1 What needs to happen for existing homes?

What needs to happen for existing homes to meet the Seventh Carbon Budget?

Widespread switch to low-carbon heating systems, mainly heat pumps.

In the CCC's Balanced Pathway, most existing homes switch to a heat pump by 2050:

- All new and replacement heating systems are low-carbon from 2035, which ensures a fully decarbonised stock by 2050 based on a 15-year lifespan.
- Around half of the homes in the UK need to be heated using a heat pump (either an individual or communal heat pump) by 2040 and 80% of homes by 2050, compared to just 1% in 2023.
- Individual heat pumps will provide around 75% of the low-carbon heating systems by 2040. Annual heat pump installations in existing homes rise from 60,000 in 2023 to nearly 450,000 by 2030 and 1.5m by 2035.

In the CCC's Balanced Pathway, existing homes that do not install a heat pump switch to another form of low-carbon heating:

- Communal heat pumps provide 3% of the low-carbon heating systems by 2040, e.g. in blocks of flats and terraced houses.
- Heat networks provide 9% of the low-carbon heating systems by 2040.
- Direct electric heating (which is less efficient) is expected to provide 13% of the low-carbon heating systems by 2040.
- There is no role for hydrogen in home heating.

More energy efficiency measures, with a focus on cost-effective measures

In the CCC's Balanced Pathway, energy efficiency measures are important in the near term – including continuing to install *cost-effective* insulation such as loft and cavity wall insulation, and draught-proofing. This also reduces running costs and provides health benefits.

- In 83% of homes, 'basic' or small energy efficiency measures such as lagging hot water tanks and draught-proofing are carried out.
- Additional loft insulation or top-up insulation is installed in 9% of homes so that all homes with lofts have insulation by 2035.

- Cavity wall insulation is installed in an additional 16% of homes so by 2035 87% of homes with cavity walls are insulated.
- Solid wall insulation is only installed in around 15,000 homes (due to its high cost).

Solar PV and batteries

Rooftop solar PV and home batteries do not feature prominently in the CCC's Balanced Pathway. The pathway models the lowest cost, systemwide route to meeting the Seventh Carbon Budget and therefore includes utility-scale, rather than rooftop and home, solar and batteries.

- The government's Warm Homes Plan outlines plans to support households to access solar panels and batteries, alongside heat pumps, to reduce their bills.
- Rooftop solar PV and home batteries are supported in the government's Warm Homes Plan and can make an important contribution to heat decarbonisation, as they help reduce heat pump running costs, alongside time-of-use tariffs. Rooftop solar PV and battery storage can reduce electricity bills for heat pump users, improve affordability, increase public buy-in, and provide valuable flexibility to help manage peak demand as electrification accelerates.

1.4.2 Priority actions for local authorities for existing homes

Policy responsibility for home energy efficiency and low-carbon heating sits largely with national and devolved governments, with major changes underway through the Warm Homes Plan, and forthcoming updates to energy performance frameworks (including Energy Performance Certificate (EPC) reform and the Home Energy Model).

Priority actions for local authorities:

- **Develop a plan to fully decarbonise council homes.** Local authorities have direct control over their own housing stock, enabling them to lead by example through planned replacement of fossil fuel heating systems with low-carbon alternatives, mainly heat pumps, as well as solar panels. This requires forward planning to ensure existing fossil fuel heating systems are replaced with low-carbon heating systems when they come to the end of their lifecycle, including associated housing stock assessments and scoping of financing options. This is supported by the proposed new Minimum Energy Efficiency Standards (MEES) for social housing, and funding available through the Warm Homes: Social Housing fund.⁵

⁵ New MEES regulations will require landlords in England and Wales to raise the EPC of private rented homes to an EPC C (with a cost cap of £10,000 for required upgrades) and either change the heating

- **Where applicable: support the development of heat networks.** Councils with denser urban areas and public and commercial sector buildings, should, where deemed appropriate, identify and support the process of developing low-carbon heat networks, working with national heat network zoning processes.⁶
- **Develop supportive planning policies and practices for energy efficiency measures and low-carbon heating systems.** Supportive information for residents, installers and developers, clarifying that most heat pump installations do not need planning permission, clear supplementary planning policies, decarbonisation advice and straightforward planning processes for applications that support decarbonisation can go a long way in encouraging these measures and removing barriers.
- **Support engagement with low-carbon heating systems and supportive technologies such as solar PV and home batteries (for home-owners, renters and landlords).** Councils can increase engagement with heat decarbonisation (especially heat pumps) and the cost-saving benefits of combining low-carbon heating systems with technologies such as solar, home batteries and time of use electricity tariffs. They can also signpost to financing options, for example to the Boiler Upgrade Scheme grants and forthcoming low-interest loans or the Home Energy Scotland Grant and Loan, or set up collective purchasing schemes for heat pumps. Councils can encourage private and social housing landlords to consider low-carbon heating options to achieve the new MEES.
- **Support the development of a local supply chain for heat pumps and associated retrofit skills.** Councils can use plans to decarbonise their own housing stock, collective purchasing schemes and partnerships with colleges, training providers and manufacturers to grow local installer capacity and create stable demand.
- **Identify, engage with and deliver upgrades for households who are eligible for government support for low-income households,** including the grants and loans available under the Warm Homes Plan, successor schemes to ECO and HUG, Warmer Homes Scotland, Warm Homes Nest (Wales) and the Affordable Warmth Scheme (Northern Ireland). In England the Warm Homes: Local Grant scheme is local authority delivered: local authorities are allocated funding

system to a low-carbon heating system or provide technologies for ‘smart readiness’ (likely solar PV) by 2030. Social housing landlords need to achieve an EPC C on any one of these metrics by 2030 and a second by 2039.

⁶ The new Heat Network Zoning Authority will coordinate heat network zoning across England, housed in DESNZ initially and moving to the Warm Homes Agency once established. Scotland has its own Heat Zone process. Wales currently does not do heat network zoning and heat networks are developed under planning frameworks. There is not a heat zoning process for Northern Ireland.

(under an expression of interest, rather than competitive funding model) and procure and manage installers.⁷

- **Strengthen enforcement of Minimum Energy Efficiency Standards (MEES) for private rented residential properties.** As required energy efficiency standards for private rented properties are set to increase to an EPC C by 2030⁸, there will be an increased impact of this local authority enforcement duty and power.
- **Build internal understanding and awareness that switching to low-carbon heating systems is the most impactful measure to decarbonise existing homes.** Local authorities need to promote internal awareness of the importance of low-carbon heating systems for heat decarbonisation and sufficient internal expertise to understand the nature of heat pumps and other low-carbon heating systems, as well as what a high-quality installation process entails.

Additional priority actions around area-based delivery may emerge as roles and responsibilities under the Warm Homes Plan are developed further by the Government, with active input from local authorities and the wider sector.

1.5 Executive summary: New homes

1.5.1 What needs to happen for new homes?

What needs to happen for new homes to meet the Seventh Carbon Budget?

All new homes will need to be highly efficient and have low-carbon heating systems. No new homes are built with fossil fuel heating systems or gas grid connections, which would add to emissions and increase overall costs by requiring retrofitting later.

1.5.2 Priority actions for local authorities for new homes

For new homes, the main levers for delivering the Seventh Carbon Budget lie in building regulations, along with national planning policies and local planning policies. In England, the Future Homes Standard (published March 2026) will require all new homes to be built with high levels of energy efficiency, low-carbon heating and will also generally include solar panels. Wales has adopted a similar requirement covering low-carbon heating, on-site renewable generation and an energy usage intensity metric for

⁷ The Warm Homes Plan expresses the intention to integrate the Warm Homes: Social Housing Fund and the Warm Homes: Local Grant into one low-income capital scheme and to take a more strategic approach in aligning home upgrades with the wider energy network needs and capacity.

⁸ New MEES regulations will require landlords in England and Wales to raise the EPC of private rented homes to an EPC C (with a cost cap of £10,000 for required upgrades) and either change the heating system to a low-carbon heating system or provide technologies for 'smart readiness' (likely solar PV) by 2030.

new home performance, while Scotland introduced a New Build Heat Standard in 2023, requiring new buildings to be constructed without direct emissions heating (i.e. banning use of fossil fuels for main heat and hot water systems).

Priority actions for local authorities:

- **Prepare for and implement the Future Homes Standard.** English councils need to internally prepare for the updated building regulations, train building control teams to enforce new regulations, and highlight developments already meeting Future Homes Standard requirements, including heat pumps. The same applies to Scottish and Welsh councils in enforcing existing standards.
- **Support local builders and construction firms.** Local authorities can provide guidance through local authority networks or directly via planning teams to help builders and developers meet low-carbon standards.
- **Strengthen Local Plans.** Use plan reviews to embed policies that support low-carbon heating and supportive technologies in new housing developments (e.g. through heat network siting and ancillary plant structures or buildings orientation to maximise solar PV output), low in-operation energy use and reduced embodied carbon emissions from building materials, smart electricity systems and storage.
- **Invest in planning officer skills and capacity.** Local authorities need to train officers in energy, carbon, and Net Zero skills and support them to prioritise these issues in developer negotiations.
- **Deliver low-carbon council and social housing.** Local authorities should commission and build high-quality, low-carbon homes with high levels of energy efficiency and low-carbon heating within local authority housing programmes.

1.6 Executive summary: Non-residential buildings

In 2023, non-residential buildings accounted for 5% of UK emissions, 20.8 MtCO₂e and was the ninth highest emitting sector.

- Non-residential (commercial and public) buildings make up 30% of emissions from the UK's buildings overall.

Public sector buildings make up around 9% of the UK's non-residential buildings and 19% of floor area and 28% of non-residential energy consumption⁹. These include hospitals, schools, government and local government buildings.

⁹ [National Buildings Database: Understanding Great Britain's non-domestic buildings - DESNZ](#)

1.6.1 What needs to happen for non-residential buildings?

What needs to happen for non-residential buildings to meet the Seventh Carbon Budget?

To decarbonise non-residential buildings requires the electrification of heating, greater energy efficiency and swapping gas and oil catering equipment to electric.

In the CCC's Balanced Pathway, all non-residential buildings switch to a low-carbon heating source, usually a heat pump.

- By 2040, 90% of non-residential heating is delivered by low-carbon sources compared to 25% in 2025.
- Heat pumps can be used for most non-residential buildings, deployed individually or at larger scale through a district heat network.

In the CCC's Balanced Pathway, the public sector decarbonises heating faster than the commercial sector.

- Government – including local government – should lead by example, providing confidence to develop heat pump supply chains and providing anchor loads for heat networks.
- The share of public sector heat delivered by low-carbon technology increases from 3% in 2025 to 95% in 2040.
- For the commercial sector low-carbon heat technologies increase from the current level of 35% to 87% in 2040.

Both public and commercial buildings need significantly greater savings from energy efficiency rising to 52.6TWh in 2040 in the Balanced Pathway.

- This is delivered by energy management and building instrumentation and control measures (building management systems, zone and timing controls and management practices) and insulation, heating and hot water measures.

Some other more specific changes are needed in catering and hospitals in the Balanced Pathway, for example.

- Catering needs to move from gas and oil to electric with rapid progress by the 2030s.
- Other fossil fuels used in hospitals and leisure facilities are fully electrified by 2045.

1.6.1.1.1 Priority actions for local authorities for non-residential buildings

The role of local authorities for non-residential buildings mainly mirrors the role for existing and new residential buildings. In England and Wales, the introduction of the Future Buildings Standard will mean new non-residential buildings will be constructed to the standard required to meet the Seventh Carbon Budget, namely with low-carbon heating systems and high levels of energy efficiency. A similar requirement already exists for Scotland. Local authorities will need to work closely with their other public sector peers across the wider built environment to identify opportunities for heat networks, area wide regeneration and retrofit and in sharing skills and experience in the public estate.

- **Develop a plan to decarbonise council-owned non-residential buildings.** Local authorities have direct control over their own estate, making this one of the clearest areas for immediate action. Developing a structured plan enables councils to sequence fabric improvements, electrify heating, and replace end-of-life fossil fuel systems with heat pumps or heat network connections.
- **Support the development of local supply chains for decarbonising non-residential buildings.** Councils can use plans to decarbonise their own housing stock and non-residential building stock, collective purchasing schemes and partnerships with colleges, training providers and manufacturers to grow local installer capacity and create stable demand. They can also work with the wider public sector to identify demand for heat networks, synergies in building retrofit and develop an area wide culture of building decarbonisation.
- **Where applicable: support development of heat networks**, including by providing anchor load and working with commercial clients to help them connect to heat networks. Councils with dense urban areas should, where deemed appropriate, identify and support the process of developing low-carbon heat networks following national zoning processes.
- **Develop supportive planning policies and practices for energy efficiency measures and low-carbon heating systems.** Councils can provide decarbonisation advice and straightforward planning processes for building owners and developers that are submitting planning applications that support decarbonisation. Councils can clarify that most heat pump installations do not need planning permission, and develop supplementary planning policies that support energy efficiency measures.
- **Engagement of non-residential building owners/ tenants about energy efficiency, low-carbon heating and supportive technologies such as solar PV and battery storage.** Councils can work with business networks, landlords, SMEs and chambers of commerce to raise awareness of the benefits of electrified heating, energy efficiency measures and improved energy performance, share case studies, and provide impartial advice. They can

promote the installation of solar PV across the commercial and industrial buildings in their local area, including by supporting Community Energy organisations, business advice services and through their own investment and installation services.

- **Support developers, builders and construction firms in preparing for the Future Buildings Standard and encourage energy efficiency and low-carbon heating now.** Local authorities can provide guidance through local authority networks or directly via planning teams to help builders meet low-carbon standards.

Strengthen enforcement of Minimum Energy Efficiency Standards (MEES) for private rented non-residential properties. Move towards a more proactive (rather than majority complaint-led) enforcement of the required EPC E through local authority Trading Standards (Local Weights and Measure Authority function).

1.7 Executive summary: Surface transport

Surface transport (including road, rail, and other land-based modes of transport) has been the highest emitting sector in the UK economy for a decade. In 2023, surface transport accounted for 24% of UK emissions, 102.8 MtCO₂e.

In the CCC's Balanced Pathway by 2040, surface transport emissions fall by 86% relative to 2023. By 2050 the sector emissions will be almost fully decarbonised through rapid electrification.

In 2023, 95% of surface transport emissions came from cars (59%), HGVs (19%) and vans (18%), with the remaining 5% being emissions mostly from buses, motorcycles and rail.

1.8 Executive summary: Vehicles

1.8.1 What needs to happen with vehicles?

What needs to happen with vehicles to meet the Seventh Carbon budget?

In the CCC's Balanced Pathway, by 2040, a significant shift to Electric Vehicles (EVs) for cars and vans is needed.

- By 2040, 80% of cars and 74% of vans on the road will be electric (fully battery electric not hybrid/plug-in hybrid).
- **EV uptake will be supported by the falling cost of batteries**, so new electric cars reach price parity with comparable petrol and diesel cars between 2026 and 2028.

- **The number of public charge points needs to grow** from 54,000 charge points in 2023 to around 300,000 by 2030 and over 550,000 by 2040. In April 2025 it had risen to 76,500¹⁰. The reliability and accessibility of public charge points need to improve.
- There will be no hydrogen cars or vans.

In the CCC's Balanced Pathway, HGVs and buses become zero emissions, largely battery-electric.

- **HGVs are expected to switch to zero emission options, mainly battery-electric**, with 63% of the HGV fleet being electric by 2040. Phase out dates for ending the sale of new non-zero-emission HGVs will be 2035 for smaller HGVs and 2040 for larger HGVs.
- **Buses will be zero emissions.** Buses make up a small proportion of transport emissions, but the share of zero emissions buses will rise from 1% in 2023 to 18% by 2030 and 60% by 2040.

1.8.2 Priority actions for local authorities on electric vehicles

Priority actions for local authorities:

- **Support the provision of on-street charging.** Through the Local Electric Vehicle Infrastructure (LEVI) fund in England, councils can plan and deliver charging points in streets, neighbourhoods and town centres, targeting locations where commercial providers are unlikely to invest. Effective rollout requires councils to identify suitable sites, work with Distribution Network Operators on grid capacity, and coordinate procurement with reliable operators. Scottish local authorities have led the way on EV charging, supported by national funding, and are now forming bigger partnerships with private charge point operators. Similarly Welsh local authorities are moving to partnership models that don't require public funding.
- **Transition local authority fleets to EVs.** Local authorities need to shift their own operational fleet vehicles, cars, vans and, where applicable, vehicles like refuse collection trucks to electric vehicles.
- **Build charging infrastructure on council land.** Councils can use their own land, such as depots, car parks, leisure centres and public buildings, to install EV charging that serves both their own operational needs and those of the wider community. Many authorities begin by electrifying their own fleets and installing

¹⁰ [Electric vehicle charging infrastructure statistics – DfT and Office for Zero Emission Vehicles](#)

dedicated chargers at depots, but these assets can be made available to residents, visitors and businesses.

- **Support cross-pavement charging solutions.** For many households, especially in terraced streets, accessing EV charging depends on cross-pavement solutions such as cable gullies, cable covers or pavement ducts. Local authorities can enable this by providing an installation service themselves or by setting clear application processes, updating local guidance, using permitted development rights where appropriate, and ensuring installations meet accessibility and safety standards. Councils can also encourage charger sharing schemes, where residents make private chargers available to neighbours and commercial fleets.
- **Support wider uptake through increased familiarity of EVs,** by creating practical opportunities for residents, staff and local businesses to experience electric vehicles first-hand. They can offer EV pool cars for council staff and community use and expand access through salary-sacrifice schemes. For businesses local authorities can work with partners to run EV trials, loan schemes or demonstrator programmes, helping fleet managers understand charging needs, vehicle suitability and operational costs. They can also lower parking charges to incentivise EV car clubs and EVs, and smaller cars with lower fees.

1.9 Executive summary: Modal shift

1.9.1 What needs to happen for modal shift?

What needs to happen for modal shift to meet the Seventh Carbon Budget?

In the Balanced Pathway, some car journeys need to be switched to public transport and active travel, particularly in urban areas.

- In the Balanced Pathway, there is a **7% shift of car demand to public transport and active travel by 2035**, particularly in our towns and cities. Although ambitious, this is achievable based on evidence from Germany and the Netherlands and towns and cities across the UK.
- It is assumed that modal shift will be higher in urban areas compared to more rural areas.
- The Balanced Pathway assumes that the steep rise in **van** mileage slows down and states that this should be monitored.

‘Active Travel’ refers to walking and cycling but also includes ‘wheeling’ to include the travel by wheelchair, mobility scooters, tricycles and other adaptive modes.

1.9.2 Priority actions for local authorities for modal shift

Although national government sets the broad framework for bus reform and active travel investment, the detailed delivery of modal shift is shaped at the local level, which has in turn, provided evidence and lobbying for national policy change.

Priority actions for local authorities:

- **Local place shaping to support modal shift.** Local authorities can use their place-shaping powers to redesign streets and public spaces so that walking, cycling and public transport become safe, attractive and convenient options. This includes delivering high-quality cycle lanes, pedestrianisation schemes, bus lanes, reallocated road space, or park-and-ride facilities.
- **Local Plans and planning policies and practices that support modal shift.** Through Local Plans and development management, planning authorities can shape long-term travel patterns by ensuring new development is located and designed to reduce car dependency. This includes requiring good access to public transport, safe active travel connections, mixed-use layouts, and reduced parking standards in well-served areas.
- **Encourage modal shift for local authority staff business and commuting journeys** through agile/remote working, car and bike pooling, travel plans and incentives such as bike salary sacrifice schemes.
- **Build internal capabilities to deliver active travel schemes.** Councils can strengthen internal capabilities in active travel planning, delivery skills, community engagement and monitoring so that they can deliver well-designed networks that increase walking and cycling. Active Travel England's Capability Ratings assess each authority's capabilities to determine access to multi-year funding and unlock additional government investment.
- **Support bus uptake through improved routes, timings and fares.** In England local authorities can do this through strong Bus Service Improvement Plans (BSIPs) – plans that set out a local authority's vision for bus service improvements. High-performing authorities use BSIPs to coordinate service frequencies, integrate ticketing, and align bus routes with active travel infrastructure. Local authorities can also use new opportunities for greater control through bus franchising, where the local authority designs the whole bus network, frequency, fares and branding, and holds the contract with operators.

1.10 Executive summary: Electricity supply

Electricity supply is the fifth highest-emitting sector in the UK in 2023, accounting for 9% of UK emissions, 37.8 MtCO₂e. These emissions are mainly from unabated gas use, which accounted for 30% of UK generation in 2023.

In the Balanced Pathway:

By 2040, electricity supply emissions fall by 88% relative to 2023.

By 2050, the sector decarbonises almost completely, with residual emissions coming from only a small proportion of CO₂ not captured at gas carbon capture and storage plants.

Demand for electricity will increase due to the switch to electric vehicles, heat pumps and the electrification of industry. Annual demand by 2050 could be more than double 2023 levels, from 274 TWh in 2023 to 692 TWh in 2050. This scale of growth is feasible with the right investment and system planning.

1.10.1 What needs to happen for electricity supply?

What needs to happen for electricity supply to meet the Seventh Carbon Budget?

In the Balanced Pathway, electricity will be generated largely by renewables, with around 80% of generation in 2040 from wind and solar. Deployment of renewables needs to happen at pace.

- Deployment rates of offshore wind will need to increase from 1-2 GW deployed to 5.7 GW per year to 2030 and then maintain an average of 4.0 GW per year out to 2050, along with repowering older sites.
- **Onshore wind capacity will need to double by 2040** - building out 0.8 GW per year, peaking deployment in 2030 at 1.9 GW
- **Solar capacity will need to quadruple by 2040** with an average of 3.4 GW per year (similar to the peak of 4.1 GW in 2015).
- A very small proportion of land will be required for solar (c. 1%) and onshore wind (c.2%). Installing small scale solar on rooftops could reduce the land demand for solar.
- Unabated¹¹ gas generation is reduced to around 7% of generation by 2030 and the growth in electricity demand is met by low-carbon generation after that.

In the CCC's Balanced Pathway, variable renewables will need to be complemented by storable energy in the form of low-carbon dispatchable generation (i.e. energy sources that can provide electricity on demand, e.g. hydropower, natural gas peaking plants and battery storage), and nuclear, BECCS and battery storage, alongside demand flexibility.

¹¹ Unabated means gas burnt without capturing emissions through Carbon Capture and Storage (CCS)

In the CCC's Balanced Pathway, the electricity generated by renewables will need to be transported from where it is produced to where it is needed, in homes, transport and industry, which requires the construction of new transmission and distribution infrastructure (e.g. new lines, cables and pylons and associated sub-stations).

These new developments need to happen rapidly to support the growing demand from electricity from low-carbon technologies (e.g. electric cars and low-carbon heating systems and industrial electrification).

See Section 7 Waste for Energy from Waste.

1.10.2 Priority actions for local authorities for electricity supply

Priority actions for local authorities:

- **Develop a Local Area Energy Plan (LAEP) and support its delivery.** A LAEP is a council led, long-term, data-driven plan that sets out a cost-effective and practical plan for local energy demand and supply. It maps how heat, power, transport and energy infrastructure need to change over time, and identifies where upgrades, new technologies or network reinforcements will be needed to meet the local area's future energy needs. Turning the plan into action may involve establishing a cross-council and wider partnership delivery group which includes community representatives, identifying early project opportunities, and drawing on external expertise or training where internal capacity is limited.
- **Prepare for NESO strategic plans and Regional Energy System Planning.** Local authorities should familiarise themselves with the forthcoming NESO strategic plans and the Regional Energy System Planning (RESP) process. These national and regional plans will map where future transmission lines, substations, storage and generation are likely to be needed, and how the wider energy system is expected to evolve. Input from local authorities into the strategic plans will be vital to coordinate local and central planning.
- **Become NSIP ready.** Most large-scale renewable generation and the associated transmission and distribution infrastructure are classified as Nationally Significant Infrastructure Projects (NSIPs). In England, NSIPs are examined by the Planning Inspectorate and the final decision is taken by the Secretary of State, so local authorities have influence but not decision-making power. Councils should become familiar with the NSIP process, improve the council's ability to provide clear and timely input during examinations, and learn from authorities with previous NSIP experience. With many large electricity projects decided nationally rather than locally, being "NSIP ready" helps councils engage more confidently with communities, coordinate across departments, and ensure local priorities and evidence are represented effectively.

- **Build planning capacity** to assess smaller low-carbon energy generation, energy storage and infrastructure applications (that are not subject to the NSIP regime) and feed into processes for Nationally Significant Infrastructure Projects. Ensure planning policies actively support, in line with other land-use and nature considerations, renewable energy, storage, energy network, EV infrastructure and the wider energy transition.
- **Consider renewable energy generation on council owned assets** (for example, land, landfill sites or council-owned roofs).
- **Explore opportunities to support or catalyse local and community energy projects:** The newly published Local Power Plan sets out how the Government and Great British Energy will expand community and locally-owned clean energy across the UK by providing up to £1 billion in funding, practical support and policy reform so that communities directly benefit from the energy they produce. Councils are highlighted as an important delivery partner in the plan and can engage with the opportunities offered through this funding and support.
- **Where appropriate, participate in the innovation space around smart local grids, flexibility and load shifting.** Energy demand flexibility and management means shifting energy use to avoid times when electricity is in high demand and expensive and therefore reduce pressure on the grid. Local authorities can get ready to deliver flexibility on their own estates (e.g. through battery storage), support community and commercial participation through partnerships with network operators, and use planning, procurement, and local programmes to help unlock local flexible demand and storage services.

1.11 Executive summary: Agriculture and land use

Agriculture is the fourth highest-emitting sector in the UK, accounting in 2022 for 11% of UK GHG emissions, 47.7 MtCO₂e.

Nearly two-thirds (63%) of agricultural emissions were directly emitted from livestock, 24% emissions are from soils and 12% is from machinery.

Land use (land use, land use change and forestry) **emissions are close to zero**, at 0.8 MtCO₂e in 2022. However, land has recently stopped being a sink and become a source of emissions due to aging forestry and low levels of tree planting during the 2000s to now.

Croplands are the main source of land use emissions, driven by degraded organic soils (peatlands) under agriculture.

Sinks, absorbing and storing CO₂, include forestry (including woodlands, hedges and trees) and grasslands. Forestry is the bulk of this sink at -19.3 MtCO₂e while grasslands is a small net sink of -0.5 MtCO₂e.

1.11.1 What needs to happen in the agriculture and land use sector?

What needs to happen for agriculture and land use to meet the Seventh Carbon Budget?

In the CCC's Balanced Pathway, there is a 39% reduction in agricultural emissions by 2040, relative to 2022 levels. By 2050, the combined agriculture and land use sectors can achieve Net Zero emissions. This is achieved through a combination of low-carbon farming, changes in land use to absorb CO₂, and a reduction in livestock numbers (supported by shifts in diets).

In the CCC's Balanced Pathway, a significant reduction in livestock numbers helps reduce emissions.

- A 27% decrease in cattle and sheep numbers between 2023 and 2040 helps reduce emissions.
- This is linked to a reduction in average meat consumption (25% reduction by 2040) and dairy consumption (a 20% reduction by 2035).
- To enable this, some farmers will need to be incentivised to diversify their income streams away from livestock agriculture, and associated industries also need support to adapt.

In the CCC's Balanced Pathway widespread adoption of low-carbon farming practices will help reduce emissions further.

- These measures include using new feed additives to inhibit methane from cattle, improving livestock health and breeding to reduce emissions intensity, better management of manures, and improvements to soil health via cover crops, grass leys and more efficient use of nitrogen fertilisers.

In the CCC's Balanced Pathway a transformation in land use will help turn the sector into a carbon sink.

- UK woodland cover will need to increase from 13% to 16% by 2040.
- By 2050, alongside woodland creation, agroforestry is applied to 10% of agricultural land and the extent of hedgerows increases by 40%. Both actions support the continued productive use of agricultural land.
- Ambitious peatland restoration is also required, with the goal of having 60% of upland peat and 31% of lowland peat in a natural or rewetted condition by 2040. Alongside this, water-level management and paludiculture actions (growing crops under a high water table on wet peatland) are applied to 4% of lowland agricultural peatlands by 2040, rising to 10% by 2050.

- A significant area of land (equating to 3% of UK land area by 2050) will be used to grow perennial energy crops such as miscanthus, short rotation coppice and short rotation forestry.

In the CCC's Balanced Pathways emissions from agricultural mobile and stationary machinery will need to transition away from fossil fuels.

- This can be achieved through electrification for smaller machinery and a possible switch to hydrogen-based options for larger vehicles where battery power may be impractical. Stationary machinery is fully electrified by 2050.

1.11.2 Priority actions for local authorities on agriculture and land use

Local authorities are generally assumed to have very little to do with agriculture and farming. However, they have several roles that can support the uptake of low-carbon farming practices and diversification from livestock production and the protection, restoration and creation of woodland and peatland.

Priority actions for local authorities:

- **Adopt low-carbon and diversified farming practices on county farms.** (e.g. on county farms, parks, woodlands, and local nature reserves). Councils already play an important role in managing landholdings and tree or plant nurseries, and can use these assets to demonstrate sustainable farming methods, support tenant farmers, protect carbon-rich soils, and contribute to wider habitat and climate goals. This may include adopting improved manure and nutrient management, exploring agroforestry and farm diversification.
- **Support woodland creation and peatland restoration on council-owned land.** Councils can support the management of existing woodland and creation of new woodland, and restoration of degraded peat on land they own or manage, and land that is part of landscape recovery or nature recovery scale schemes.
- **Embed land use emissions reductions in Local Plans and supplementary planning documents.** Local planning authorities can integrate policies that protect carbon-rich soils, guide development away from high-emission land uses, and support woodland creation, peatland restoration and nature-based solution
- **Support low-carbon farming and an average reduction in meat consumption through public procurement** (e.g. catering contracts, including for schools, care settings, and civic buildings). This can include supporting suppliers that use low-carbon practices, and incorporating healthier, lower-impact meal options (e.g. meal options with less meat).

- **Support farm diversification, woodland creation, peatland restoration and low-carbon farming through partnerships for business advice/ support, innovation and peer-to-peer learning opportunities.** Councils provide business support services, rural programmes and partnerships to connect farmers with funding, training and technical guidance, and to foster peer-to-peer learning through local farmer clusters or as anchors for funding and managing landscape-scale collaborations.

1.12 Executive summary: Waste

The waste sector is the eighth highest-emitting sector in the UK, accounting in 2022 for 6% of UK emissions, 24.9 MtCO₂e.

1.12.1 What needs to happen to reduce Waste emissions?

What needs to happen for waste to meet the Seventh Carbon Budget?

In the CCC's Balanced Pathway there is a 67% reduction in waste sector emissions by 2040, relative to 2022 levels, falling to a 79% reduction by 2050. The largest share of this reduction will come from preventing waste, increasing recycling, and diverting biodegradable waste from landfill.

The CCC's Balanced Pathway includes significantly increasing recycling rates.

- The UK combined recycling rate for households and businesses will need to increase from 47% in 2021 to 68% by 2035.
- This will see the household recycling rate rise from 45% to 57% and the non-household rate to rise from 49% to 74%.

The CCC's Balanced Pathway includes a near elimination of all waste sent to landfill.

- The near elimination of biodegradable waste sent to landfill is assumed to be achieved by 2028 in line with a stated policy aspiration for England and committed policy in Scotland.
- This will be followed by a near elimination of all waste to landfill by 2045. Food waste per person must also be cut by 45% by 2040 (from 2021 levels).

The CCC's Balanced Pathway includes managing emissions from energy-from-waste.

- The roll-out of Carbon Capture and Storage (CCS) technology on EfW plants starts in 2028 reaching 80% of capacity by 2040 and 100% of EfW plants with CCS by 2050. New EfW plants should be licensed only if they can connect to

CCS. Constructing EfW without the ability to connect CCS risks creating stranded assets.

The CCC's Balanced Pathway includes capturing emissions from landfill and improving composting.

- Even with decreasing use of landfill, historical waste will continue to decay. Methane capture rates at landfill sites increase to 80% by 2050.
- The CCC's Balanced Pathway includes addressing emissions from wastewater treatment.

1.12.2 Priority actions for local authorities for waste

Local authorities are central to the UK's waste transition: under their statutory duties they manage around 40% of the UK's total waste and have legal duties and powers related to waste management, including collection, disposal, recycling, food waste collection, and reporting. In English areas with two levels of local government, these responsibilities are split. District councils manage waste collection, while county councils are responsible for waste disposal. Local authorities have minimal powers and levers to influence waste reduction further up the waste hierarchy.

Priority actions for local authorities:

- **Implement Simpler Recycling reforms and extend collections to a wider range of materials.** English councils need to implement separate collection for a standard set of materials from all households (residual waste, food waste, paper and card, and other dry recyclable material (plastic metal, glass)) to improve recycling rates. When redesigning services, they should consider further expanding the range of materials collected, such as garden waste, textiles, small electronics, nappies or soft plastics. Planning policy should require new developments to provide adequate bin storage and good access for collection vehicles.
- **Strengthen resident engagement and schemes to increase re-use, repair and recycling.** Councils can use tailored engagement, clear communication and people-centred, co-designed and tested approaches to boost participation in reuse, repair and recycling. Councils can also work with reuse and repair networks such as repair cafes, sharing schemes and run re-new shops to make it easier for residents to choose low-waste options.
- **Decarbonise the Refuse Collection Vehicle (RCV) fleet by shifting to electric vehicles** across both council-owned fleets and contracted services. Electric RCVs can significantly reduce emissions, but require upfront investment, depot upgrades, and careful route planning to account for charging needs. This will

require working closely with contractors, DNOs for grid connections, and using procurement to specify low-carbon vehicles in future contracts.

- **Carefully consider future Energy from Waste needs, ensuring any new facilities can integrate CCS and make use of waste heat.** As residual waste is expected to decline under national targets and policy reforms, councils need to carefully assess whether future Energy from Waste (EfW) capacity is required. Where new EfW infrastructure is explored, it will be important to ensure there is a credible route to Carbon Capture and Storage (CCS). Councils can also consider how any EfW proposals might support local heat utilisation, for example by supplying heat networks, to maximise efficiency.

1.13 Executive summary: Industry

Industry is currently the third highest-emitting sector in the UK, accounting for 12% of emissions, 51.8 MtCO₂e in 2023.

In 2023, UK industry energy use consisted of 48% gas, 43% electricity, and 9% oil and coal¹².

Emissions come from the energy used such as burning gas for heat and power and from process emissions produced by the chemical reactions of manufacturing such as CO₂ released in chemical reactions during the production of cement, ammonia, hydrogen and synthetic fuels and during glass and ceramic production.

The subsectors with the largest contributions to industrial emissions are chemicals, iron and steel which are often in or near industrial clusters. However, around half of industrial emissions come from thousands of typically smaller industrial sites dispersed across the country¹³.

For local authorities, it is important to note that the industry sector includes emissions associated with construction, covering buildings and roads.

1.13.1 What needs to happen to reduce emissions from industry?

What needs to happen for industry to meet the Seventh Carbon Budget?

In the CCC's Balanced Pathway there needs to be a 78% reduction in industrial emissions by 2040, relative to 2023 levels. The sector is expected to be almost completely decarbonised by 2050.

In the CCC's Balanced Pathway electrification is the main route to decarbonising industry.

¹² [Energy consumption in the UK 2023 - DESNZ](#)

¹³ [Decarbonisation of Dispersed Industrial Sites - UKERC](#)

- Electrification delivers 57% of the required emissions reductions by 2040.
- This will involve a large-scale shift from fossil-fuel heating equipment to electrical alternatives, such as using electric heat pumps for low-temperature heat, alongside electric boilers and furnaces.
- The iron and steel subsector is expected to decarbonise significantly during the 2020s by moving to electric arc furnaces.

In the CCC's Balanced Pathway, Carbon Capture and Storage (CCS) is required to decarbonise chemical and cement and lime industries.

- Carbon Capture and Storage (CCS) accounts for 17% of the emissions reductions by 2040.
- It will be targeted at the chemicals, and cement and lime industries to tackle 'process emissions' that cannot be avoided by switching fuels.
- This will require the rapid construction of CO₂ transport and storage infrastructure to connect sites.

In the CCC's Balanced Pathway, low-carbon hydrogen will play a targeted but important role.

- This will deliver 7% of the required emissions reductions by 2040.
- Hydrogen will be used for high-temperature processes where electrification is impractical or not cost-effective.
- This is expected to feature in chemicals, glass and other minerals (including high volume ceramics like bricks), iron and steel and some non-road mobile machinery.

In the CCC's Balanced Pathway the remaining emissions reductions will come from a combination of other measures.

- Resource efficiency will contribute 7% of the emissions reductions. This involves using high-carbon materials more efficiently, particularly in the cement and construction sectors.
- Improving energy efficiency will provide a further 6%.
- Finally, a limited and reallocated use of bioenergy, particularly when combined with CCS, will deliver 5% of the emissions reductions by 2040.

1.13.2 Priority actions for local authorities for industry

The contribution of industrial emissions varies significantly from place to place, depending on the kind of industries located there. The industry sector was the largest

emitting sector in just 24 of 361 local authority areas in 2023¹⁴. These are mainly the local authorities where the main industrial clusters are located, those with large cement works and one, Swale in Kent, with the UK's largest paper mill. However, with 50% of industry emissions produced outside of industrial clusters, many local authority areas are home to more distributed local industries.

While national incentives, regulations and policies are set for industrial decarbonisation, there is a role for local authorities in ensuring that emissions from industry are tackled at the local level.

Priority actions for local authorities:

- **Use industrial permitting and air quality management as touchpoints to encourage low-carbon technologies and engage businesses.** Although industrial permitting and air quality management are not primarily designed to reduce carbon emissions, they give local authorities regular contact with a wide range of industrial sites, particularly the many A2 and Part B environmental permits that are regulated locally. These interactions provide a practical opportunity to highlight low-carbon technologies, encourage resource and energy-efficiency measures, and signpost businesses to relevant support, such as local Growth Hubs, innovation programmes or funding for upgrades.
- **Support and, where appropriate, require the decarbonisation of operations on council owned (or co-owned) business parks and industrial sites,** by setting clearer expectations for low-carbon operations, improving the energy performance of buildings, and ensuring that new developments or refurbishments align with climate goals. Councils can also use leases, procurement, and estate-wide programmes to encourage or require tenants to adopt low-carbon technologies and participate in local decarbonisation initiatives.
- **Specify low embodied emissions in procurement for buildings, highways, infrastructure and products to increase the demand signal for low-carbon products.** Through their procurement of buildings, highways, infrastructure and other products, local authorities can play a role in shaping market demand for low-carbon, lower-embodied-emission materials (materials that are manufactured in using low-carbon processes and recycled or recovered materials).
- **Embed industrial decarbonisation within wider place strategies and translate this into supportive planning policies.** Economic strategies, growth plans, Local Plans and planning policies should support electrification, hydrogen or CCS-ready infrastructure, allocating land for low-carbon industries,

¹⁴ [UK local and regional greenhouse gas emissions statistics, 2005-2023 - DESNZ](#)

and aligning planning decisions with long-term industrial transition pathways. Local planning authorities can introduce whole life carbon assessments into the planning process for new buildings, reducing emissions from this important industrial sector.

- **Support engagement with communities affected by the transition to decarbonise industry.** Local authorities can play an important role in helping communities understand and navigate the impacts of industrial decarbonisation, particularly in places where shifts in technology, infrastructure or industrial activity may affect jobs, skills or local identity. By convening forums, supporting dialogue between industry and communities, and helping residents access skills or employment programmes, councils can ensure that local voices shape the transition and that the benefits and opportunities of industrial change are widely shared. Engagement with local employers supports the skills agenda, as local authorities develop their next Local Skills Improvement Plans.



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Acronyms

Acronym	Full term
ADEPT	Association of Directors of Environment, Economy, Planning and Transport
BECCS	Bioenergy with Carbon Capture and Storage
BSIP	Bus Service Improvement Plan
CA	Combined Authority
CB7	Seventh Carbon Budget
CCC	Climate Change Committee
CCS	Carbon Capture and Storage
CDEW	Construction, Demolition and Excavation Waste
CJCs	Corporate Joint Committees
CLF	Consumer-led flexibility
DA	Devolved Administration
DNO	Distribution Network Operator
DRT	Demand Responsive Transport
DSO	Distribution System Operator
DSR	Demand Side Response
DWP	Department for Work and Pensions
ECO	Energy Company Obligation
EfW	Energy from Waste
EIA	Environmental Impact Assessment
ELMS	Environmental Land Management Scheme
ENCTS	English National Concessionary Travel Scheme
EPC	Energy Performance Certificate
EPR	Extended Producer Responsibility
ESCo	Energy Services Company
EV	Electric Vehicle
FBS	Future Buildings Standard
FHS	Future Homes Standard
FiPL	Farming in Protected Landscapes
GBIS	Great British Insulation Scheme
GHG	Greenhouse Gas
GLA	Greater London Authority
GMCA	Greater Manchester Combined Authority
HGV	Heavy Goods Vehicle
HNDU	Heat Network Delivery Unit
HNES	Heat Network Efficiency Scheme

Acronym	Full term
HWRC	Household Waste and Recycling Centre
HVO	Hydrotreated Vegetable Oil
LA	Local Authority
LAEP	Local Area Energy Plan
LAD	Local Authority Delivery
LATCo	Local Authority Trading Company
LCC	Life Cycle Carbon
LGA	Local Government Association
LNRS	Local Nature Recovery Strategies
LTP	Local Transport Plan
MEES	Minimum Energy Efficiency Standards
NAO	National Audit Office
NESO	National Energy System Operator
NIE Networks	Northern Ireland Electricity Networks
NP	National Park
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
PAS 2035	PAS 2035 Retrofit Standard
PPA	Power Purchase Agreement / Planning Performance Agreement
PPN	Procurement Policy Note
PRS	Private Rented Sector
PSDS	Public Sector Decarbonisation Scheme
PV	Photovoltaics
RCV	Refuse Collection Vehicle
RESP	Regional Energy System Planning
SEP	Strategic Energy Partner
SHDF	Social Housing Decarbonisation Fund
SMEs	Small and Medium-sized Enterprises
SONI	System Operator for Northern Ireland
SPD	Supplementary Planning Document
TfL	Transport for London
TPO	Tree Preservation Order
ZEV	Zero Emission Vehicle

2 About the research

The Climate Change Committee (CCC) provides independent advice to the UK Government and Scotland, Wales and Northern Ireland's national governments under the Climate Change Act 2008. This includes advice on carbon budgets and reports on progress towards Net Zero by 2050.

The CCC's 'recommended level for the Seventh Carbon Budget, a limit on the UK's greenhouse gas emissions over the five-year period 2038 to 2042, is 535 MtCO₂e'¹. Government is responsible for proposing a level for the Seventh Carbon Budget to Parliament, and bringing forward policies to enable the carbon budget to be met.

Since legislated in June 2026, the Seventh Carbon Budget is a legally binding limit on the total amount of greenhouse gases the UK can emit over the period 2038–2042, set under the Climate Change Act 2008. It forms a critical part of the UK's statutory pathway to achieving Net Zero emissions by 2050.

The CCC's advice on the level of the Seventh Carbon Budget is based on its Balanced Pathway. The Balanced Pathway sets out a credible, cost-effective emissions reduction pathway from 2025 to Net Zero by 2050 to give confidence that the recommended level is feasible and deliverable. A core message of the CCC's advice is that the next phase of decarbonisation depends on rapid electrification of heat, transport and industry.

This report explains what the CCC's advice on the Seventh Carbon Budget means at the local level. It aims to support local government, national government and delivery organisations by exploring the role of local authorities in delivering national carbon budgets.

The report goes beyond national and technical measures. Delivery now depends on strong relationships and partnership working between national, regional and local government. Stable, coherent national policy combined with and enabling local flexibility is essential so that initiatives can be designed, sequenced and resourced appropriately for different local contexts.

2.1 An introduction to local authorities

The numbers, structures and names of types of local government are changing, for the purposes of this report, 'local authorities' includes all types of local government (not including town, parish or community councils) and includes Combined Authorities which are now termed Strategic Authorities, including Mayoral Combined Authorities and Combined County Authorities.

Combined Mayoral authorities and local authorities have three sets of duties and powers:

- **Statutory duties** – things they must do: such as providing social care and transport to school. In Scotland these statutory duties include a duty to exercise their functions in line with delivering the climate change targets and report on this and in Wales to consider the wellbeing of future generations.
- **Regulatory powers** such as environmental health, trading standards, building regulations and taxi licensing.
- **Permissive powers** – Local authorities can carry out any activity under the General Power of Competence, as long as it is legal. This gives them the ability to operate regeneration projects, set up their own housing development companies, or create arm's length organisations where needed.

There are several types of local authorities in England, including a two-tier system of several smaller district councils which are local planning authorities and look after housing and waste collection. These sit under larger county councils which deal with transport, education, social care and waste disposal; whereas unitary and metropolitan councils deliver these functions as a single entity.

There is a growing number of Combined Authorities in England which cover the area of several local authorities. These have usually had a Mayor, but their governance includes leaders of all the constituent councils. Since 2024 there has been greater emphasis on local government reorganisation towards unitarisation of districts and counties to create Combined County Authorities; and greater devolution through Combined Mayoral Authorities under the government's devolution priority programme¹⁵ and forthcoming English Devolution Bill.

Local authorities in Scotland and Wales are all unitary authorities. Councils in Northern Ireland were reduced from 26 to 11 in 2015 and given new powers over local planning and waste collection, yet they still have fewer powers and duties than their counterparts in other UK nations.

Table 1: Powers and Functions of Local Authorities across the UK

Councils in England	Number	Powers and functions ¹⁶
District	164	Building Regulations, Council tax and business rates, Planning, Housing, Parking, Waste & recycling collection, Environmental Health, Licensing, Economic Development, Sports

¹⁵ [Devolution revolution: six areas to elect Mayors for first time](#)

¹⁶ [Local government - Institute for Government](#)

Councils in England	Number	Powers and functions ¹⁶
		centres, parks and playing fields, arts and tourism, Burials and cremation.
County	21	Highways, street lighting, traffic management, Passenger transport and transport planning, Strategic Planning, Waste disposal, Parking, Emergency Planning, Trading Standards (including Energy Performance Certificates), Education, Economic development, Public Health, Social Services, arts and tourism.
Unitary & Metropolitan	62 & 36	All the above
London Boroughs & City	32	All the above
Scottish Councils	32	All the above ¹⁷
Welsh Councils	22	All the above ¹⁸
Northern Ireland Councils	11	Planning, Improving & maintaining regional & local roads, Cemeteries, Libraries, Environmental Protection, Waste collection, Regulating Houses of Multiple Occupation (HMOs), Arts, Heritage and Cultural Facilities ¹⁹
Mayoral Combined Authorities and Combined County Authorities	15	Varies due to devolution deals but can include: Transport, Spatial Planning, Environment Strategy, Employment and business development, Mayoral Development Corporations, Further Education & Skills, Policing, Fire & Rescue
Greater London Authority	1	Transport, policing, fire and rescue services, and regeneration; housing, the environment, planning, skills, resilience, culture, health and economic development ²⁰ .

¹⁷ [Local authorities: factsheet – Scottish Government](#)

¹⁸ [Local government in Wales - WLGA](#)

¹⁹ [Local councils - nidirect](#)

²⁰ [The Greater London Authority: Powers and functions](#)

2.2 Framework for understanding local authority mitigation roles

This report uses the ‘onion diagram²¹’ of spheres of control and influence (Figure 1 below) to describe the extent of local authority powers and influence over area-wide emissions. This positive framing recognises the importance of coordination, support and enabling roles, and the value of engagement with communities and businesses.

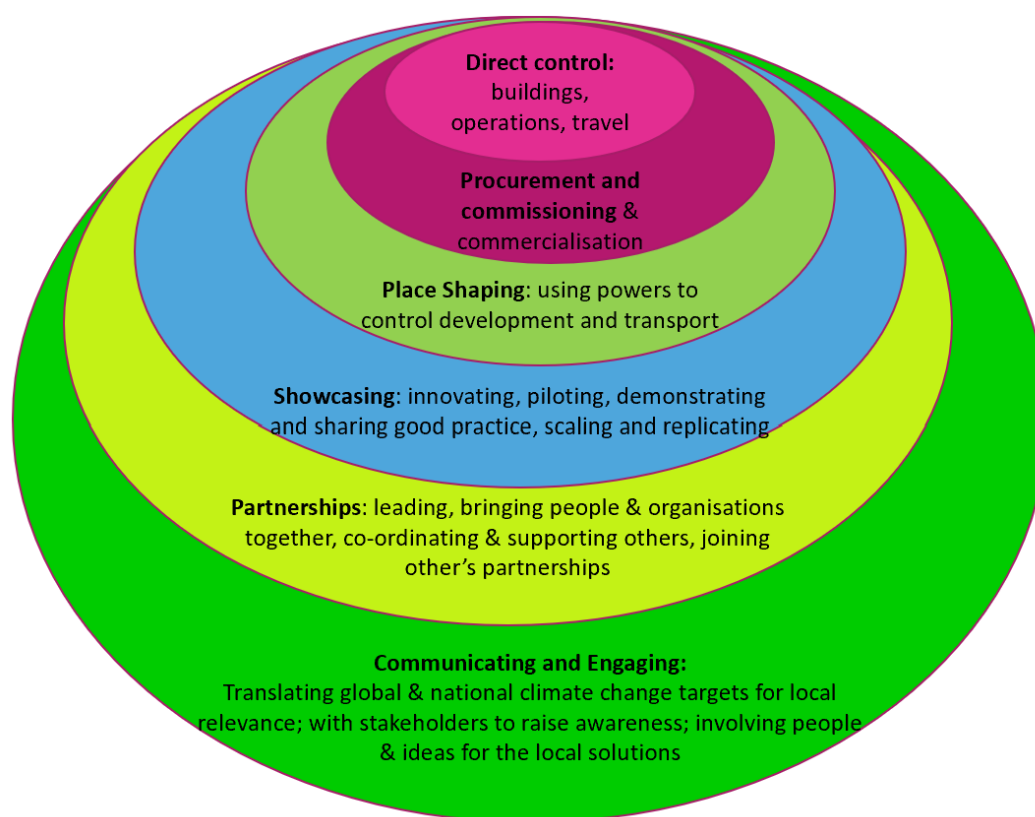


Figure 1: Local authority control and influence over emissions.

Using the onion diagram spheres of control and influence as the basis for action, this report outlines the implications of the Seventh Carbon Budget across key sectors: buildings, surface transport, electricity supply, waste, agriculture and land use and industry. Industry is a new addition to the sectors covered in the 2020 report.

It describes what needs to be done in each sector, provides some policy context and outlines the role of local authorities in delivering it. Key actions and barriers are provided in each chapter.

Disclaimer on policy and programmes described in this report

²¹ Climate Action Planning Tool for Local Authorities, Coxcoon, R. & Roberts, S. (2020) - Centre for Sustainable Energy

Policy, regulation and guidance and funding schemes are changing at pace across the UK and national governments. Policies and programmes outlined in this report were correct at the time of writing in early 2026 but may go out of date as Bills become Acts, as regulations are laid and as funding programmes change.

2.3 A brief introduction to the role of Local Planning Authorities

Local authorities' important role in place shaping is a consistent theme throughout the report. Local Planning Authorities (district and unitary councils in England and all councils in Wales, Scotland and Northern Ireland) are responsible for setting local planning policies that define development needs and establish local standards within the context of national planning policy frameworks. They prepare Local Plans which set out policies and proposals for the use and development of land in the local area and sit at the top of the local planning policy hierarchy. They also develop detailed criteria used to assess planning applications (called Development Management Policies – they can be part of the Local Plan or be developed separately) and supplementary planning documents that provide additional detail on interpreting and complying with these policies.

Local Planning Authorities are responsible for determining planning applications for the development and use of land in line with national and local planning policies, including building works, changes of use, and other material changes affecting land and buildings.

2.4 The focus of the Seventh Carbon Budget

The UK has roughly halved its greenhouse gas emissions since 1990, largely through decarbonising electricity generation, phasing out coal and increasing renewables.

The next phase of decarbonisation requires maximising the benefits of low-carbon electricity by switching from fossil fuels to electrified heat, transport and industry.

Household choices in the CCC's Balanced Pathway account for 37% of the required emissions reductions, particularly through electric vehicles and low-carbon heating.

These low-carbon choices need to be accessible, affordable and attractive for all households, with careful consideration of distributional impacts and the support needed for workers and communities as the economy transforms.

2.5 Investment and savings associated with the transition

The CCC estimates that delivering the transition to Net Zero requires average investment of £26 billion per year between 2025 and 2050, offset by £22 billion in

annual savings from efficiency and low-cost renewables. Costs are front-loaded and savings grow over time.

By 2050, households could see lower energy and transport bills, and the economy would be far less exposed to energy price shocks.

Quantified co-impacts are estimated to provide an additional £2.4–£8.2 billion per year in net benefit by 2050, largely due to positive health impacts.

The largest quantifiable co-impact of our pathways is the health benefit related to improvements in outdoor air quality due to the switch to low-carbon heating, electric cars, and modal shift.

Other quantified co-benefits include better insulated and less damp homes and health improvements from a reduction in average meat and dairy consumption. The main quantified cost is the increased travel time on public transport.

2.5.1 Local authority finance and investment

Local authorities have powers to borrow, invest and develop local schemes, but borrowing costs, risk appetite and short payback expectations can be barriers.

Councils are developing project pipelines, blended finance models, place-based investment models, and partnerships to finance decarbonisation measures. Reforms to the Local Government Pension Scheme may increase opportunities for local investment in clean energy, infrastructure and regeneration.

Seventeen local authorities have issued **Council Green Investments** (bonds issues by local authorities to raise money) through Abundance Investment raising £18.7m to invest in emission reductions schemes from renewable energy installations to home energy efficiency and bike hangars and tree planting.

2.6 How does national, regional & local climate action fit together?

Climate action in the UK is delivered through a complex system of shared and interdependent responsibilities across national government, the devolved administrations, regional bodies and local authorities. National policy sets the overall direction, legal framework and major funding mechanisms, while local authorities shape, coordinate and deliver action on the ground in ways that reflect local needs, opportunities and constraints. The Seventh Carbon Budget will only be achieved if these spheres work together coherently, with clear roles, aligned incentives and stable long-term policy signals.

2.6.1 National and devolved frameworks

The **UK Climate Change Act 2008** (amended 2019) provides the overarching legal framework for carbon budgets and Net Zero. It places duties on the UK Government to set five-yearly carbon budgets, prepare policies and proposals to meet them, and report progress to Parliament. **There is no duty on local authorities in England to act nor to report on climate change mitigation under the Act.**

The national governments operate within this framework but have their own legislation, targets and duties.

Scotland's Climate Change Act (2009, amended 2019) sets a Net Zero target for 2045 and places statutory duties on public bodies, including local authorities, to act in line with national climate targets and report on their progress.

Wales' Environment Act (2016, amended 2021) sets interim targets for 2030 and 2040 and a Net Zero target for 2050, with carbon budgets every five years. Local authorities are mandated to report their emissions. **The Well-being of Future Generations Act** also supports climate-related decision-making by requiring public bodies, including local authorities, to work towards long-term, preventative and collaborative outcomes.

The **Northern Ireland Climate Change Act 2022** and subsequent regulations set a target of a 77% emissions reduction by 2040 and a target for reaching Net Zero by 2050. Importantly, it provides **Climate Change Reporting Duties on public bodies, including district councils**. Under related regulations²² councils must provide greenhouse gas reporting for the previous three financial years, timetabled proposals and policies for reducing emissions in exercising their functions and progress updates regarding previous climate change mitigation reports.

The 2024 Local Government Association climate change survey found that 92% of local authorities are reporting on Scope 1 and 2 emissions for their own operations with a further 35% of reporting on some Scope 3 for their own operations²³. Scope 1 emissions for local authorities refer to direct emissions from sources they control (such as council-owned buildings and vehicles), Scope 2 to indirect emissions from purchased energy like electricity and heat (including heat networks), and Scope 3 to wider upstream and downstream emissions from activities they influence, including procurement and outsourced services.

2.6.2 Roles and interdependencies across government levels

Climate action relies on a high degree of interdependency between national, devolved, regional and local government. National government controls most of the major policy levers - regulation, fiscal policy, energy market design, building standards, vehicle

²² [The Climate Change \(Reporting Bodies\) Regulations \(Northern Ireland\) 2024](#)

²³ [Climate change reporting guidance for local authorities - LGA](#)

standards, and large-scale infrastructure planning. These decisions shape the pace and feasibility of regional and local delivery.

Local authorities, in turn, influence emissions through planning, housing, transport, waste, economic development, public health, procurement and their role as major employers and asset owners. They also have a unique convening role, bringing together local partners, anchor institutions, businesses, communities and delivery bodies.

Regional bodies, including Combined Authorities, play an increasingly important role in strategic planning, transport, skills and investment. Integrated funding settlements in Greater Manchester and the West Midlands show how devolved, multi-year funding can begin to support more coherent planning and sequencing of interventions across wider geographies.

Ambitious local delivery, including innovation projects, in turn inform national policy-making, providing real-life evidence and lessons. This should be a mutually reinforcing model which can be enabled through effective national-local groups like the Local Net Zero Delivery Group and equivalents in Wales and Scotland, and Northern Ireland.

Local authorities have played a sustained and leading role in the UK's journey to Net Zero. They have delivered housing energy efficiency, renewable energy, waste reduction, transport improvements, new sustainable developments and climate planning across decades, often innovating in spite of constrained resources. 87% of local authorities have a climate action plan with targets and 70% are reporting on their climate action²⁴.

Several national bodies, for example National Highways and Ofgem, now also have explicit emissions reductions objectives in line with the 2050 Net Zero target.²⁵

The diagram below shows the layers of governance and actors in place across the UK that can deliver climate action and The Seventh Carbon Budget.

²⁴ [The Local Climate Report – Climate Emergency UK](#)

²⁵ [Net zero highways: our-2030-2040-2050-plan – National Highways](#)

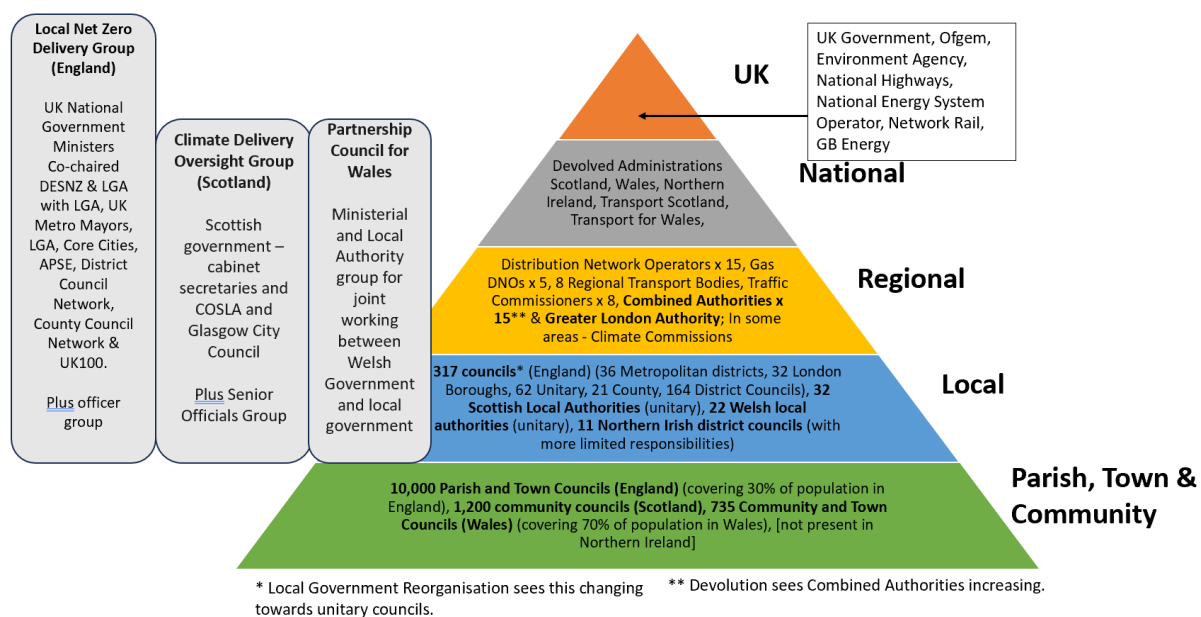


Figure 2: Climate-related Governance and Actors across the UK nationally to locally.

What the CCC's Seventh Carbon Budget advice says about national and local governments' interactions

The Seventh Carbon Budget advice explores the interactions between national and local governments. It notes that delivery against local government's climate ambitions *"is inconsistent and hampered by a lack of clarity on who should be doing what, limited resources, competing priorities and a fragmented, short-term funding landscape"*. It suggests that an agreed division of responsibilities between central and local government is needed that should identify areas where local government can act with the greatest impact, while allowing those to go further faster to innovate.

The CCC states that there is high scope for local government to influence emissions from buildings, surface transport and waste – accounting for half the emissions needed to meet the Seventh Carbon Budget.

It says that critical infrastructure upgrades needed should be led at a national or regional level, including most electricity generation and grid upgrades needed. But local authorities have an important role to support their delivery and ensure they are designed in a way that considers the local community and allows sharing of benefits. *"Such projects are vital to the delivery of Net Zero and adapting to climate change nationwide, so it is essential they can be delivered without impediment."*

Renewed action on coordination has come through the establishment of the **Local Net Zero Delivery Group** in February 2025. Co-chaired by a Minister and the Local Government Association (LGA). The Group brings together the LGA, UK Metro Mayors, the Greater London Authority, Core Cities, the District and County Council Networks, UK100 and APSE. It has met four times and has working groups developing a roles-and-responsibilities framework and reviewing whether a statutory duty on councils to deliver Net Zero should be introduced, a step supported by the LGA, NAO, UK100 and others.

In **Scotland** a new **Climate Delivery framework: oversight group**²⁶ was established in December 2024 to jointly shape key climate change policies and implementation at the national, regional and local level.

In **Wales** the **Partnership Council for Wales**²⁷ provides coordination of policy, including climate change, between government and local authorities.

In **Northern Ireland**, such coordination is emerging.

²⁶ [Climate Delivery Framework: oversight group – Scottish Government](#)

²⁷ [Partnership Council for Wales – Welsh Government](#)



3 Buildings

This section looks at existing homes, new buildings and non-residential buildings.

The residential buildings sector is currently the second highest-emitting sector in the UK economy.

- In 2023, residential buildings accounted for 12% of UK emissions, 52.2 MtCO₂e.
- By 2040, residential building emissions fall by 66% in the CCC's Balanced Pathway, relative to 2023.
- By 2050, residential buildings will be almost fully decarbonised.

The main activities relating to new and existing homes are:

- Switching away from gas and oil boilers to electrified low-carbon heating such as heat pumps and district heating.
- Ensuring that buildings are energy efficient, requiring less energy to heat and power and enabling flexible use of energy.

3.1 Residential buildings - existing homes

3.1.1 What needs to happen for existing homes?

What needs to happen for existing homes to meet the Seventh Carbon Budget?

Widespread switch to low-carbon heating systems, mainly heat pumps.

In the CCC's Balanced Pathway, most existing homes switch to a heat pump by 2050:

- All new and replacement heating systems are low-carbon from 2035, which ensures a fully decarbonised stock by 2050 based on a 15-year lifespan.
- Around half of the homes in the UK need to be heated using a heat pump (either an individual or communal heat pump) by 2040 and 80% of homes by 2050, compared to just 1% in 2023.
- Individual heat pumps will provide around 75% of the low-carbon heating systems by 2040. Annual heat pump installations in existing homes rise from 60,000 in 2023 to nearly 450,000 by 2030 and 1.5m by 2035.

In the CCC's Balanced Pathway, existing homes that do not install a heat pump switch to another form of low-carbon heating:

- Communal heat pumps provide 3% of the low-carbon heating systems by 2040, e.g. in blocks of flats and terraced houses.
- Heat networks provide 9% of the low-carbon heating systems by 2040.

- Direct electric heating (which is less efficient) is expected to provide 13% of the low-carbon heating systems by 2040.
- There is no role for hydrogen in home heating.

More energy efficiency measures, with a focus on cost-effective measures.

In the CCC's Balanced Pathway, energy efficiency measures are important in the near term – including continuing to install *cost-effective* insulation such as loft and cavity wall insulation, and draught-proofing. This also reduces running costs and provides health benefits.

- In 83% of homes, 'basic' or small energy efficiency measures such as lagging hot water tanks and draught-proofing are carried out.
- Additional loft insulation or top-up insulation is installed in 9% of homes so that all homes with lofts have insulation by 2035.
- Cavity wall insulation is installed in an additional 16% of homes so by 2035 87% of homes with cavity walls are insulated.
- Solid wall insulation is only installed in around 15,000 homes (due to its high cost).

Rooftop solar PV and batteries

Rooftop solar PV and home batteries do not feature prominently in the CCC's Balanced Pathway. The pathway models the lowest cost, systemwide route to meeting the Seventh Carbon Budget and therefore includes utility scale, rather than rooftop and home, solar and batteries.

- The government's Warm Homes Plan outlines plans to support households to access solar panels and batteries, alongside heat pumps, to reduce their bills.
- Rooftop solar PV and home batteries are supported in the government's Warm Homes Plan and can make an important contribution to heat decarbonisation, as they help reduce heat pump running costs, alongside time-of-use tariffs. Rooftop solar PV and home battery storage can reduce electricity bills for heat pump users, improve affordability, increase public buy-in, and provide valuable flexibility to help manage peak demand as electrification accelerates.

3.1.2 Policies and plans

It is worth noting that the biggest delivery of home energy efficiency measures nationally this decade has been through the Energy Company Obligation (ECO), which

delivered between 70 and 90% of measures between 2021 and 2024²⁸. Local authorities have had a role in delivering energy efficiency measures but at a smaller scale.

During 2026 - 2027 ECO and other schemes will be replaced by schemes for energy efficiency measures and low-carbon heating systems outlined in the recently published Warm Homes Plan²⁹. The Warm Homes plan commits to funding for low income households and fuel poverty targeted schemes - including area-wide schemes through Warm Homes: Local Grant, a Warm Homes: Social Housing Fund - and a continuation of the universally available Boiler Upgrade Scheme (which offers substantial grants for the installation of low-carbon heating systems) for England and Wales, along with plans for interest free or low interest loans and private finance. Devolved funding will be provided directly to Scotland, Wales and Northern Ireland and to some Strategic Authorities to devise and operate their own schemes.

Annual Energy Efficiency measures installations to 2024

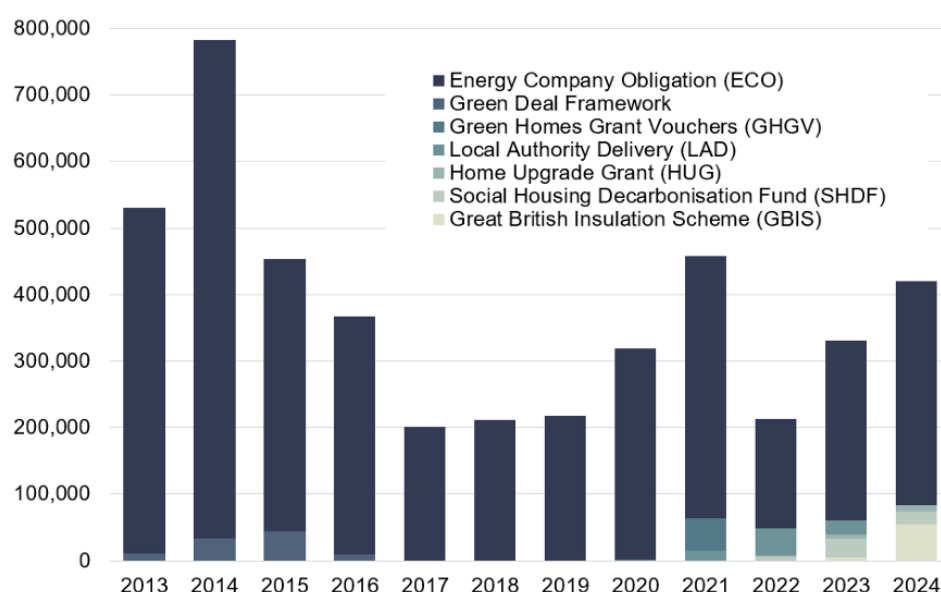


Figure 3: Annual energy efficiency measures installations to 2024.³⁰

²⁸ [Household Energy Efficiency Statistics – DESNZ and DPEIS](#)

²⁹ [Warm homes plan standard - DESNZ](#)

³⁰ Image Source: [Household Energy Efficiency Statistics, headline release December 2024](#)

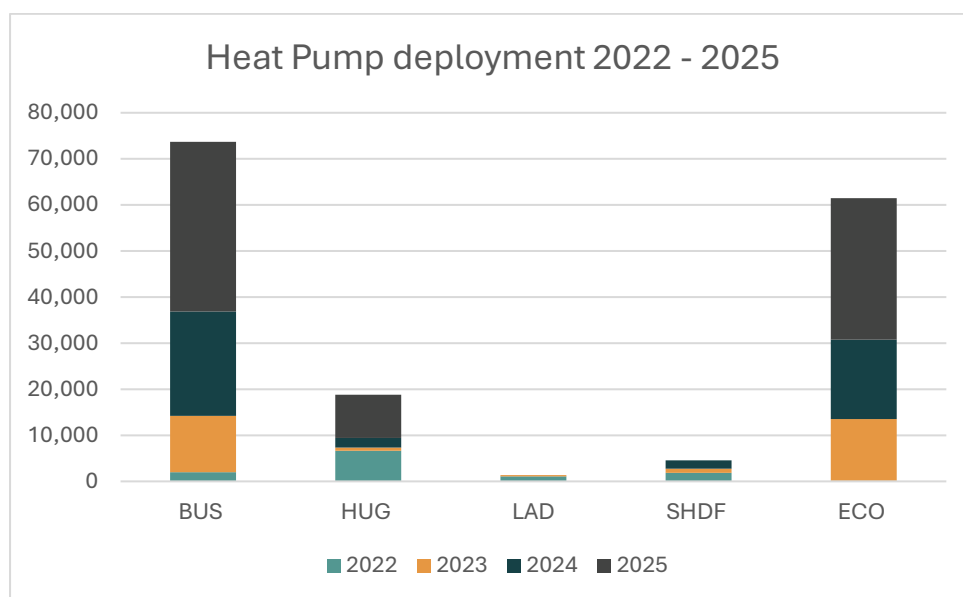


Figure 4: Heat Pump deployment statistics September 2025 by funding type - Boiler Upgrade Scheme (BUS), Home Upgrade Scheme (HUG), Local Authority Delivery (of Green Homes Grant) (LAD), Social Housing Decarbonisation Fund (SHDF) and ECO.³¹

Figure 4 shows the number of heat pumps installed under Boiler Upgrade Scheme (BUS), Home Upgrade Scheme (HUG), Social Housing Decarbonisation Fund (SHDF) and ECO between 2022 – September 2025. Note BUS statistics are vouchers redeemed and paid by Ofgem.

New Minimum Energy Efficiency Standards (MEES) for private rented homes will require landlords in England and Wales to raise the EPC of private rented homes to an EPC C on Fabric Performance (with a cost cap of £10,000 for required upgrades) and either change the heating system to a low-carbon heating system or provide technologies for ‘smart readiness’ (likely solar PV) by 2030³². Social rented homes will need to meet EPC C against any one of the new EPC metrics (fabric performance, smart readiness or low-carbon heating system) by 2030 and against a second by 2039³³. MEES for the private rented sector will be enforced by councils, MEES for social housing by the Regulator of Social Housing.

The government’s Green Flexibility Roadmap includes consumer-led flexibility (CLF) as an important part of the roadmap. CLF ‘involves the voluntary shifting of electricity use away from peak periods to times when supply is more abundant, cheaper and cleaner’ and normally involves households switching to a time-of-use tariff. CLF will increasingly become an important part of the transition to low-carbon technologies, as households

³¹ Image Source: [Heat pump deployment statistics: September 2025 - DESNZ](#)

³² [Improving the energy performance of privately rented homes: government response - DESNZ](#)

³³ [Improving the energy efficiency of socially rented homes in England: Summary of consultation responses – MHCLG and DESNZ](#)

that have a low-carbon heating system can reduce their running costs by switching to a time-of-use tariff and using their heating flexibly.³⁴

3.1.3 Local authority powers and levers to reduce emissions from existing homes.

Policy responsibility for home energy efficiency and low-carbon heating sits largely with national and devolved governments, with major changes underway through the Warm Homes Plan, and forthcoming updates to energy performance frameworks (including Energy Performance Certificate (EPC) reform and the Home Energy Model).

Although local authorities have limited legislated powers to require or mandate decarbonisation in most existing homes, they have significant influence across their spheres of control and influence.

The powers and influence of local authorities to reduce emissions from the existing homes sector is shown in the diagram below. These are outlined in order in the section below with case studies to show what is possible.

³⁴ [Clean Flexibility Roadmap - DESNZ](#)

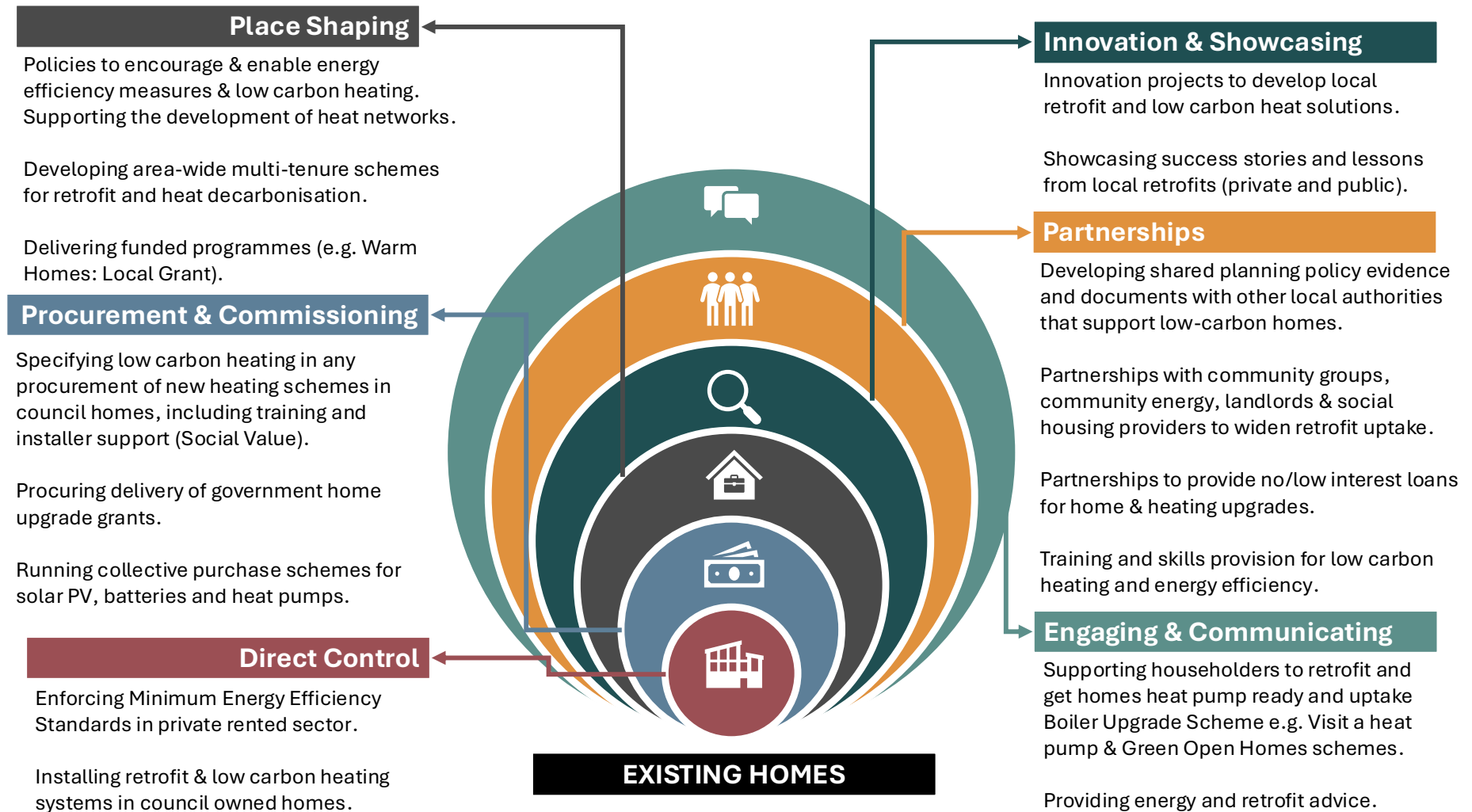


Figure 5: Onion diagram of local authority influence for existing homes

3.1.3.1 Direct control

3.1.3.1.1 Council owned homes

Councils have direct control over decarbonising their own council houses.

There are good examples of local authority owned housing being retrofitted with insulation, ventilation and low-carbon heating systems, which in turn prove a case in the local area and provide useful lessons for future schemes including in multi-tenure settings. Councils fund such works through a combination of their ring-fenced Housing Revenue Account, borrowing against future rental income and central government grants, such as the Social Housing Decarbonisation Fund, which will be replaced by Warm Homes Social Housing Fund. Local authorities that have robust data on their housing stock and upgrade and decarbonisation plans are more likely to be successful in responding to funding opportunities.

In England, new MEES for social housing mean that by 2039 councils will need to ensure that council-owned homes meet EPC C against two of the new metrics: fabric performance, smart readiness (most likely the inclusion of solar PV), and low-carbon heating system. In order to fully decarbonise their council housing stock, councils should plan for one of these metrics to be the low-carbon heating system. In Wales, under The Welsh Housing Quality Standard 2023, social housing must have an EPC of A or C in the interim if achieving A is prohibitively costly, and landlords must produce target energy pathways for their homes and consider climate resilience when installing measures.

Front-loading decarbonisation of social and council housing may have the effect of stimulating local supply chains for energy efficiency and low-carbon heating. However, this effect may be confined to stimulating the supply chains largely just for social and council housing, as generally social and council housing have different supply chains to those likely to provide services to owner occupied homes and private rented homes (with owner occupiers and private rented sectors using independent tradespeople and small enterprises rather than the commercial framework contractors of the public and social sector). Under the Warm Homes Plan there is emphasis on mixed tenure area-based schemes, which are more likely to use suppliers from social housing projects.

Case study: Ashford Borough Council and Enfield Council – installing heat pumps on council homes

Ashford Borough Council combined its own funds with Social Housing Decarbonisation Funds to install ground source heat pump heating in 74 council

homes in Appledore and Charing³⁵, reducing heating costs and improving housing fabric through energy efficiency measures. The low-carbon heating system replaced existing oil, gas and electric heating systems in the homes.

Enfield Council – 400 flats heating replaced with shared ground source heat pumps.

In 2019, Enfield Council installed shared ground source heat pumps across 400 flats³⁶ where the current heating systems were failing, and the electricity grid capacity called for a more efficient system than replacing them with electric heating. At the time, the scheme qualified for the Renewable Heat Incentive, now closed. Enfield Council has included heat decarbonisation as a core focus of improvements to its housing stock – alongside energy efficiency measures.

3.1.3.1.2 Enforcement of Minimum Energy Efficiency Standards

In England and Wales local authorities (unitaries and districts) have a Duty and powers to enforce compliance with Minimum Energy Efficiency Standards (MEES) in the private rented sector³⁷ which currently must have an EPC of E or above. Under new regulations private rented homes will have to achieve an EPC C on Fabric Performance and either change the heating system to a low-carbon heating system or provide technologies for ‘smart readiness’ (likely solar PV) by 2030. The impact of this enforcement power will therefore increase in future. Meanwhile, this is an under-used power because in practice MEES is not widely enforced by local authorities³⁸. This has many reasons, including scarce resources, limited data on which are rented properties, historically low penalty fees and tenants fearful of reporting problems. Where councils have Selective Licencing schemes for private rented homes or have made active efforts to engage and support landlords and enforce MEES, they have been successful in improving EPC ratings, as has been seen in Cornwall Council, the London Borough of Newham and Liverpool³⁹. The problem in identifying rented homes will be removed under the Renters’ Rights Act by the introduction of a Database of private rented sector properties so councils will be able to identify rented homes, and enforce MEES if needed.

In Wales, local authorities have similar powers as those in England but in addition private landlords must register (or licence) with Rent Smart Wales.

³⁵ [Residents of 74 council homes will have their bills reduced thanks to ground source heat pumps in Appledore and Charing – Ashford Borough Council.](#)

³⁶ [Enfield Council: Council housing heat pumps - Local Government Association](#)

³⁷ [The Energy Efficiency \(Private Rented Property\) \(England and Wales\) Regulations 2015](#)

³⁸ [How To Improve Living Standards For Millions Of Private Renters In England And Wales – E3G](#)

³⁹ [Landlord engagement and licensing create warmer homes for Liverpool’s renters - Ashden](#)

In Scotland there is not a Minimum Energy Efficiency Standard as there is in England and Wales, but there is a Tolerable Standard (1969) which was set to be replaced by a new Housing Standard to cover all tenures with no exceptions, in line with the Heat in Buildings Strategy⁴⁰. However, the associated Bill has been halted until the government is sure that installing low-carbon heating will reduce fuel poverty.

In Northern Ireland councils only have a role in licencing Houses of Multiple Occupation, managed by a unit in Belfast City Council on behalf of the councils. This requires a minimum of an EPC E rating. There is no minimum energy efficiency standard for rental housing, and housing generally is a national role managed by the Northern Ireland Housing Executive. The Northern Ireland Climate Change Act and Warm Homes Plan are likely to see aligned standards introduced in Northern Ireland, including a minimum EPC rating and MEES with a role for the councils.

3.1.3.1.3 Enforcement of Housing Health and Safety Rating System (HHSRS)

The Housing Health and Safety Rating System applies to all homes in England and Wales but is mainly relevant to the private and social rented sectors. It is a risk-based tool that assesses 29 hazards in homes including damp and mould growth, excess cold and excess heat. It is enforced by Environmental Health officers. As is the case with MEES, the HHSRS is under-enforced by local authorities due to resource constraints with only one in three complaints being responded to⁴¹. This is a lost opportunity to act to improve the energy efficiency in homes, and improve or modernise (decarbonise) heating.

3.1.3.2 Procurement and commissioning

3.1.3.2.1 Group purchasing

Group purchasing schemes are another proven method of helping reach the able/willing to pay market within owner-occupiers (and landlords) with Solar Together or Switch Together schemes providing a lower-cost centrally procured opportunity to install solar PV, solar and battery and in Essex, heat pumps.

Case study: Collective Switch / Group Purchasing – Essex County Council collective heat pump switch

Solar Together is a scheme that over 40 Combined Authorities, County Councils and Unitaries in England and Wales have run to offer collective purchasing for solar, battery and more recently, heat pumps. In 2024 iChoosr's⁴² council schemes enabled more than £50m in private investment by homeowners installing 7,500 PV and 7,000 storage systems.

⁴⁰ [A New Housing Standard for Scotland](#)

⁴¹ [Councils only respond to third of housing complaints - LocalGov](#)

⁴² [Empowering people, energising society - iChoosr](#)

In November 2024 **Essex County Council** ran a collective heat pump purchase offer, Switch Together Essex⁴³, for its residents resulting in 100 air source heat pumps being installed mainly in owner occupied homes. Two further heat pump pilot schemes are in train with other councils. Essex County Council aims to run the scheme again due to the high initial interest shown by householders. The scheme received 2000 expressions of interest for the heat pump, 200 acceptances and 100 installs.

3.1.3.2.2 Procuring area-wide retrofit services

Local authorities can use their procurement and commissioning powers to procure delivery for government grants such as the now closed Green Homes Grant Local Authority Delivery (LAD) scheme and Home Upgrade Grant (HUG). For example, the Liverpool City Region Combined Authority managed the GHG LAD scheme for its constituent local authorities and led the coordination and reporting for authorities across the North West region. Other authorities and regional Net Zero Hubs have carried out procurement exercises for housing retrofit and low-carbon heating systems that can be used for various tenures of housing, aiming to build up a local supply chain that can be used in different ways. This procurement experience is likely to be useful going into the Warm Homes Plan deployment in 2027-28.

Case study: Buildings Retrofit Pilot⁴⁴ – West Midlands Combined Authority (WMCA)

Under the two trailblazer devolution deals with WMCA and Greater Manchester Combined Authority, retrofit funding has been devolved to deliver on fuel poverty and decarbonisation metrics. This replaces Warm Homes: Local Grant, Warm Homes: Social Housing Fund and Public Sector Decarbonisation Scheme (currently closed) and provides integrated settlements to the two Combined Authorities.

WMCA has established a three year £167m Retrofit Pilot to fund local authorities, housing associations and public sector organisations in retrofitting and decarbonising buildings. This sits alongside its other schemes, including the Local Net Zero Accelerator, Net Zero Neighbourhoods and Smart Energy Systems Cluster (with a focus on industrial and commercial schemes). The Authority is taking a place-based approach including blended funding and private financing to include multi-tenure schemes. A regional energy advice service will also be scoped and delivered, bringing together existing services and networks to deliver a more effective service. A regional housing enforcement scheme will also be funded to bring MEES and Housing

⁴³ [Cut your energy costs: Save money on your energy bills - Essex County Council](#)

⁴⁴ [The Building Retrofit Pilot - WMCA](#)

Health and Safety Rating System together, increasing housing standards and tackling indecent homes. Funding for innovation schemes will also be available, to test new approaches, products and business models for improving optionality and outcomes.

The scheme aims to remove policy restrictions, build supply chains and new markets, and innovate to deliver retrofit at a faster pace. The Authority has additional outcomes including health and wellbeing, skills and training and building the local workforce capacity, place-making and neighbourhood regeneration and housing standards and enforcement, through taking a more flexible approach.

3.1.3.2.3 Procurement for skills and supply chain development

Through longer-term funding and repeat contracts for local suppliers, with a focus on clear social value outcomes, local authorities can secure skills development, apprenticeships and jobs in the local area. Alongside procurement, local authorities can actively work with companies to encourage them to train up and become certified in order to supply local programmes, which can be achieved working with their Growth Hubs.

Case study: North East Derbyshire District Council, Rykneld Homes and Sustainable Building Services – developing skills through long-term partnership

North East Derbyshire District Council with Rykneld Homes has procured Sustainable Building Services⁴⁵ (SBS) using Efficiency East Midlands (EEM) framework which enables them to rapidly procure retrofit services as and when funding is available. This has led to a long-term partnership with the company over several years and 100s of home retrofits. This greater confidence in future work means that SBS can invest in skills and jobs development across multiple contracts, providing onsite training in the local housing types, providing feedback and expertise to Derby College on training requirements, supporting local SMEs with gaining accreditation and by working with En:Able Futures apprenticeships, to provide apprenticeship opportunities and experience.

Case Study: Greater Manchester Combined Authority (GMCA) and West Yorkshire Combined Authority (WMCA) – supporting renewable energy sector growth through accelerator support

⁴⁵ [Decarbonisation, energy efficiency and whole house retrofit - Sustainable Building Services](#)

GMCA and WMCA both fund Green Economy (part of the Growth Company) to provide support to grow the green tech sector and decarbonise small to medium sized businesses across the city-regions.

Green Economy helps new sectors such as heat pump, insulation and solar installers to develop through sector accelerator schemes, as well as providing bespoke business support to help companies access contracts, recruit and train new employees and improve leadership for Net Zero. Both combined authorities found that installers are at capacity, so it is necessary to encourage new businesses to form, or existing ones to diversify and expand. The Accelerator programmes provided awareness and training and help in becoming certified the MCS and in CyberEssentials, both required to secure contracts to install heat pumps or solar panels for the authorities.

3.1.3.3 Place shaping

3.1.3.3.1 Delivering funded programmes

Local and combined authorities can apply for funding schemes available from Government to improve energy efficiency and decarbonise heat. These have previously been competitive and changed from year to year in terms of eligibility criteria and measures included, which lead to pressure to identify eligible households and deliver schemes in short periods. However, Warm Homes: Local Grant (part of the Warm Homes Plan) is a non-competitive scheme available to certain areas with a focus on areas of multiple deprivation, which is available over a three-year period. The recently published Warm Homes Plan⁴⁶ recognises the role and experience of local authorities in delivering retrofit programmes, but it is yet unclear what their role will be going forward.

3.1.3.3.2 Local Planning Authority planning powers - advice

For changes to existing homes the applicant (normally the homeowner) submits a planning application to the Local Planning Authority, which determines whether the intended changes are in line with national and local planning policies.

This planning application and determination process can be used to encourage energy efficiency and decarbonisation improvements when changes to homes needing planning consent are made. However, this is advisory only, and no changes - other than those proposed in the planning application - can be required to the rest of the home to improve its energy efficiency or decarbonise heating.

Case study: Stockport Council – SD2 Energy Efficiency Statement

⁴⁶ [Warm Homes Plan - DESNZ](#)

In 2011 Stockport Council introduced innovative requirements⁴⁷ that anyone planning an extension must also take steps to improve the energy efficiency of the whole house.

This included a requirement to provide an Energy Efficiency Statement summarising the cost of the extension and the additional measures considered and payback time. This was intended to encourage people with the funds to extend their house to invest in improving the energy performance of the entire house. In its early years the policy was monitored, and applicants were required to provide the Energy Efficiency Statement as a planning condition. However, the policy is now out of date, and it is no longer enforced. New policies are under development and the council is updating it to make it more deliverable. While it is not possible to require homeowners to improve the rest of the house it does open the conversation about heating and energy efficiency.

3.1.3.3.3 Local Planning Authority planning powers – helpful retrofit policy

Local authorities in their planning role (see 2.4) can help make it easier or harder for homeowners to install energy efficiency measures and low-carbon heating technologies like heat pumps. Local authorities can use their planning role to actively promote, explain and clarify the options to residents (see example Bath and North East Somerset Council), or devise specific policies such as Local Development Orders for **specified** areas like streets, conservation areas or areas for heat networks (such as that being developed by Westminster City Council for Queens Park Estate Conservation Area⁴⁸).

Local Planning Authorities do not take a uniform approach, which can make it harder for homeowners to be decisive and slows down retrofit coordinators and contractors in delivery. One authority may view External Wall Insulation as permitted development, while another may require planning consent. Conservation Officers may take different views regarding retrofit and installation of renewable energy generation or low-carbon heating systems in Conservation Areas or on Listed Buildings. As a minimum, local authorities can avoid being an obstacle to household decision-making, without developing their own policies, by making information clear and accessible on their websites. They should aim to find solutions that enable decarbonisation of heating within planning legislation.

⁴⁷ [Energy efficiency statements - Stockport Council](#)

⁴⁸ [Community Forum - Queens Park Local Development Order - Commonplace](#)

Case study: Bath and North East Somerset Council - Energy efficiency, retrofitting, and sustainable construction supplementary planning document⁴⁹

The document provides very clear information on retrofit measures, including cost and guidance position from the planning perspective, balancing the need to reduce emissions with the requirement to protect and conserve heritage and comply with national legislation.

“We encourage and enable the sensitive retrofitting of energy efficiency measures and the appropriate use of microrenewables in historic buildings (including listed buildings), and in Conservation Areas whilst also safeguarding the special characteristics of these heritage assets.”⁴⁹

The document enables homeowners and installers to understand and plan insulation and low-carbon heating options and get clarity on the planning policy position. It also provides important information about tackling old and heritage buildings, with an emphasis on the use of appropriate materials and methods and ensuring ventilation is sufficient.

3.1.3.3.4 Local Area Energy Planning / Local Heat and Energy Efficiency Strategies

The Welsh Government has supported the development of Local Area Energy Plans

(LAEPs) covering all local authority areas of Wales, and its Heat Strategy outlines a supportive policy environment for delivering these. LAEPs are locally developed strategies that map out how an area will transition its energy system, including identifying the most suitable low-carbon heating solutions for broad areas of homes to support domestic heat decarbonisation. Developing the plans needed extensive collaboration with local communities, industries, and energy network operators. However, local area energy plans do not currently have a statutory status in relation to local planning policy or network planning⁵⁰.

In Scotland, as of 2022 local authorities have had a Duty⁵¹ to develop, report on and update Local Heat and Energy Efficiency Strategies (LHEES) and Action Plans to support local planning, coordination and delivery of the heat transition across communities. These are intended to provide the link between the national strategy and local delivery of heat decarbonisation. Local authorities consider the existing heat sources, energy efficiency and fuel poverty and tenure and identify strategic zones (including existing place-based activities or developments). These are intended to

⁴⁹ [Energy efficiency, retrofitting, and sustainable construction supplementary planning document - Bath and North East Somerset Council](#)

⁵⁰ [Heat strategy for Wales – Welsh Government](#)

⁵¹ [The Local Heat and Energy Efficiency Strategies \(Scotland\) Order 2022](#)

inform delivery areas and clusters, which helps identify projects for national, local government and partners' activities. However, to what extent they will inform decisions beyond the zoning for heat networks remains unclear.

Developing these local strategies for heat decarbonisation can be an important step towards increased heat pump and energy efficiency uptake if they are used for subsequent decision making and have a clear delivery plan.

3.1.3.3.5 Heat networks

Heat networks are the supply of heat and cooling to domestic, non-domestic and industrial buildings. They can be communal systems or district heating systems. Currently, some heat networks are powered by gas, and will need decarbonising, while others use waste heat from Energy from Waste plant, or industrial processes, such as a glass factory (Leeds Pipes) or the London Underground (Bunhill, Islington).

Local authorities in England will have powers relating to Heat Networks under Heat Network Zoning⁵², as Zone Coordinators. The heat networks zoning primarily focuses on large non-residential buildings as anchor loads and locations with surplus generated heat as a heat source, new buildings within established zones and existing communally heated buildings. In some cases, heat networks do provide to existing residential buildings, particularly social housing, and in cities such as London, Sheffield and Edinburgh⁵³. Heat networks will play an important role in delivering low-carbon heat, so where applicable, local authorities should support the development of new heat networks and decarbonisation of existing ones.

Heat networks in England and Wales are supported by the Heat Network Transformation Programme which provides support to new and to improve existing, heat networks. This is through the Heat Network Delivery Unit with funding for early-stage development and the Green Heat Networks Fund, a capital grant fund that supports the development of low-carbon heat networks for organisations in the public, private, and third sectors in England. Existing schemes get support for improvements through the Heat Network Efficiency Scheme (HNES).

The Welsh government provides funding and investment for heat network development, plus policy incentives such as the Heat Networks Rates Relief⁵⁴ (from business rates).

Scotland supports heat networks through its Heat Networks Fund, delivered by the Heat Networks Support Unit. Under the Heat Networks (Scotland) Act 2021, local authorities are required to carry out a review to consider whether heat networks are

⁵² [Heat network zoning: consultation summary - DESNZ](#)

⁵³ [Midlothian Energy Ltd | Transforming how we work - Midlothian Council](#)

⁵⁴ [Non-Domestic Rates – Heat Networks Rates Relief - Business Wales](#)

suitable for any of its area; and then to decide whether an area should become a Heat Network zone⁵⁵ (this sits within the local authority's LHEES).

In line with its Energy Strategy the Department for the Economy in Northern Ireland is proposing to establish a regulatory framework for heat networks⁵⁶.

3.1.3.3.6 Place-based schemes – blending sources of funding

Using their **Place-Shaping** roles combined and local authorities can also blend their own funds with national funding pots to deliver place-based retrofit schemes, usually focused on improving energy efficiency but increasingly looking at heat decarbonisation, as is the case in Scotland and Wales. Area based schemes are effective ways to reach homes across different tenures in a geographic area: the Scottish area-based schemes⁵⁷ reach owner-occupiers as well as the private rented and social sectors.

The new Warm Homes Plan recognises the efficiencies of area-based approaches and the link-up with energy and electricity system planning which indicates a positive role for local authorities, especially strategic authorities, to work more closely with Distribution Network Operators (DNOs).

“A strategic, area-based approach to planning and coordination of home upgrades could identify and deliver optimal solutions tailored to local energy and housing needs. It could unlock efficiencies and bring together Regional Energy Spatial Plans (RESPs), Local Area Energy Plans (LAEPs), targeted support for low-income households, and mapping future energy demand to identify grid upgrade requirements.”⁴⁶

Case study: West Yorkshire Combined Authority - Area Based Retrofit Schemes

West Yorkshire Combined Authority is working with Calderdale Council and Leeds City Council on two area-based schemes⁵⁸ delivering fabric first retrofit measures to 30 terraced homes and over 100 back-to-back terraced homes respectively. Blending ECO, HUG2 and council funds, including Levelling Up funding, the scheme enables the councils to experiment, learn about the impact of different measures on householders' energy use and bills, and develop area-based schemes that deliver pace and scale.

Following its success in the Holbeck Group Repair scheme in terraced housing in Holbeck, Leeds City Council with West Yorkshire Combined Authority has expanded its area-based scheme to Armley, retrofitting 100 back-to-back terraced houses with

⁵⁵ [Heat Network Zone \(HNZ\) guidance – Scottish Government](#)

⁵⁶ [Heat networks - Department for the Economy](#)

⁵⁷ [Scottish Area Based schemes, all Councils Scottish Government](#)

⁵⁸ [Better Homes Hub Area Based Schemes Report - WYCA](#)

external wall insulation, attic room insulation and where required, replacement doors and windows.

They have also commissioned a feasibility study into installing ground source heat pumps with a shared loop. This raised issues of governance and ongoing cost to householders. A detailed design study is underway to further explore these issues.

Previous schemes also included a 25% contribution to costs from landlords and homeowners (subject to a test of resources).

3.1.3.4 Innovation and showcasing

Local authorities can play a role in innovation in many ways from low-cost, light actions like providing a letter of support to organisation's funding bids, through to leading bids and being the accountable body for grant administration or providing buildings for new technologies or schemes. However, while innovation schemes may provide valuable funding and learning, they often fail to get replicated or scaled up, because they are not part of 'business as usual' and sometimes stop when the funding ends and staff leave. Their impact is therefore slow in terms of delivering the required pace and scale.

Case study: Net Zero Living Programme Innovate UK funded projects for scaling place-based retrofit

Several councils have led or partnered in the IUK funded Net Zero Living Programme⁵⁹ to develop innovation and learning on funded schemes tackling the non-technical barriers to delivering place-based decarbonisation. These have covered a range of interventions and themes including:

- **Cardiff Council** modelling found that every £1 spent on retrofit could generate £5 of health, social and long-term benefit locally – making a stronger case for upfront retrofit funding.
- **City of Westminster** developed planning insights to streamline the process of retrofitting heritage buildings using a Local Development Order (LDO) to enable double glazing installations in the conservation area of Queens Park Estate. **Rossendale Borough Council** also investigated the use of LDOs to support its Net Zero Terrace Streets project, aiming to develop retrofit across terraced streets. With its partners it has also pioneered demonstrator retrofits in three homes and contributed to the modelling and governance development to roll out replicable schemes.

⁵⁹ [Better Warmer Homes, Learnings from the Net Zero Living Programme for scaling place-based retrofit \(Regen\)](#)

- **Fife Council** carried out skills gap analysis to develop a delivery plan to increase retrofits skills fourfold to provide capacity to meet the retrofit needs of the area.
- **York City Council** developed a one-stop-shop to provide accessible routes to retrofit completing 24 retrofits by the end of 2025 with a target of 170 by the end of 2026, expecting to break even.

3.1.3.5 Partnerships

3.1.3.5.1 Strategic partnerships

Combined and local authorities are building strategic partnerships to support the wider eco-system of retrofit and heat decarbonisation delivery. These may bring together groups of councils, housing providers, industry and supply chains and the community and voluntary sector to address scheme design and uptake, local social value, skills and training and quality.

Case study: Warmer Homes London, London Councils and Mayor of London

Warmer Homes London is a new organisation set up by London Councils and the Mayor of London to enable delivery of large scale retrofit. One of its strategic priorities is addressing the retrofit skills shortage in London. Warmer Homes London is working in partnership with its retrofit delivery consortia comprising councils and housing associations. They are exploring opportunities to pool social value contributions from retrofit procurement to support a pan-London programme that tackles market failures and drives training, apprenticeships and work placements within the skills system. This will enable the skills system to provide more cohort training programmes, along with on-the-job experience and mentoring through the career journey, to retrain people in the retrofit and heat pump workforce. This work is also supported by the London Councils Climate Programme.

Case study: Greater Manchester Combined Authority (GMCA) and Daikin Partnership

In 2023, GMCA entered a 2-year Memorandum of Understanding with Japanese heat pump manufacturer, Daikin, to boost the local heat pump market. This has been delivered through innovation trials, training of local college tutors, supporting homelessness projects, as well as seeing 1,500 heat pumps installed in the area through other schemes. The two organisations have now signed a new collaboration agreement for up to five years to form a partnership in which Daikin will chair an industry group on heat decarbonisation. Along with other key industry players, this aims to boost the focus on heat decarbonisation and support investment in the city

region, building on the success of the two-year partnership and furthering schemes such as apprenticeships.

3.1.3.5.2 Delivery partnerships – One Stop Shops

Examples of working in partnership through shared procurement by local authorities have been provided above. Increasingly combined and local authorities are playing to local strengths and bringing together collaborations to deliver a range of retrofit advice and services through One Stop Shops. One Stop Shops are well-established in Europe and are often citizen led⁶⁰, or local authorities joining up with local organisations. However, One Stop Shops take time to establish and scale up⁶¹ and tend to initially only reach hundreds of residents. They need support as they do not generate sufficient funds to be self-supporting certainly within the early years⁶². Lessons from programmes in the UK also show that the impact of these services on households making changes to their homes takes time. Lead organisations need to earn trust and build relationships with residents and there can be a long delay between households receiving advice and acting on this advice (see e.g. Local Area Energy Demonstrators⁶³, Nesta Visit a Heat Pump Scheme, and the Warm Homes Prescription programme⁶⁴).

Case study: One Stop Shops – Greater Manchester Combined Authority (GMCA) and West of England Combined Authority

The Feel the Benefit Home Assessment Hub⁶⁵ is the updated One Stop Shop for GMCA. It can be accessed via the GMCA retrofit portal⁶⁶ to provide a range of services for residents. The Hub part of Feel the Benefit is a collaboration of experienced local building professionals from the social enterprise and cooperative and SME sector who supply a range of retrofit assessments from digital, to basic through to major works. The service provides outreach/marketing, retrofit assessments and plans, links to contractors and support with specifications and contracting, and a quality checking service. A total of 84 whole house retrofit assessments and 67 basic retrofit assessments have been delivered for customers, with 25 measures assessments (including heat pump surveys), and 49 households have had various measures installed.

⁶⁰ [Citizen-led renovation - REScoop](#)

⁶¹ [One-stop-shops or integrated renovation services. A wealth of promising experiences in Europe](#)

⁶² [The Accelerator for Renovation one-stop-shops - Innovate](#)

⁶³ [Local Energy Advice Demonstrator Projects: details of organisations awarded funding - DESNZ](#)

⁶⁴ [Warm Home Prescription® - Energy Systems Catapult](#)

⁶⁵ [Feel the Benefit. Home assessment services hub - GMCA](#)

⁶⁶ [Find the impartial energy advice you need - GMCA](#)

This early phase provided useful lessons which were considered in the re-procurement of the service, namely that there is a demand for this ‘in-person’ service, that contractor impartiality and hand-holding is valued, and that the basic assessment is popular – for many people these home improvements are a slow, step-by-step process.

The new Hub replicates elements of this service but recognises the development and differentiation of the able-to-pay retrofit sector, with a much broader array of providers, services, price points and ancillary services.

Retrofit West⁶⁷ is the One Stop Shop for the **West of England** providing a choice of retrofit, home energy efficiency or heat pump plans and support for householders, along with training and support for contractors. This is a £7m project to deliver home improvements and energy efficiency, and included establishing a new Community Interest Company to deliver it. In its first two years, Retrofit West has provided support to just under 400 homeowners. To date the scheme has learned that it is a struggle to engage the numbers of homeowners and suppliers they are aiming for. Homeowners don’t want a complicated report they don’t understand, so the service has launched a cheaper, simpler report. Their experience also suggests that existing certifications and standards for residential retrofit work, such as Trustmark and PAS2035, should be considered minimum, rather than gold, standards and projects would benefit from defining higher standards or adding additional quality checks.

Scotland demonstrates that over time, if these partnerships are supported with resources, funding and policy, they can deliver home measures at greater scale and pace. Here One Stop Shops have built familiarity amongst householders, and increased levels of skill and capacity and the local supply chain⁶⁸.

3.1.3.5.3 Delivery Partnerships – place-based or individual retrofit schemes

Local authorities can play important enabling roles in place-based retrofit led by other organisations. This could include offering low-interest loans, building on councils’ existing experience of running home-improvement loan schemes and expanding them to cover energy efficiency or heat decarbonisation.

Case study: Green Finance and Council Loans for home upgrades: Lendology

Many councils and combined authorities are working on how to finance the home upgrades for owner-occupiers and landlords required to achieve climate targets and improve housing conditions in their areas. While blended investments are still a

⁶⁷ [Make Your Home More Energy Efficient - Retrofit West](#)

⁶⁸ [Warmer Homes Scotland, Area-based Schemes and the Social Housing Net Zero – The existing homes alliance, Scotland](#)

while off, progress is being made through the Net Zero Accelerators⁶⁹ in West Midlands and Greater Manchester CAs, the National Wealth Fund’s Local Authority Advisory service and DESNZ funded Green Home Retrofit Accelerator Pilot⁷⁰ projects.

In the meantime, the relatively simple approach of providing low-cost loans to homeowners and landlords is one taken by some local authorities. Lendology is a social enterprise that makes loans for energy efficiency and renewables on behalf of councils. It has lent £27m since 2003 and provides loans on behalf of 19 combined and local authorities.⁷¹.

Excluding time taken for procurement, Lendology can set up a scheme within 3 months, and support the Council as they work through the process, from designing the lending policy, what the scheme can lend for and what the interest rate is set at.

They may also join partnerships led by another organisation with a view to removing policy barriers, providing reassurance through local authority co-branding, or increasing their own capacity and learning.

Case study: Levenshulme Area Based Scheme⁷² led by Carbon Coop with contractors B4Box, and zero interest loans from Manchester City Council

“As an innovative approach, it requires a feat of collaboration to successfully engage both householders and professionals, facilitate the design of the works together, all while upholding quality and trust.” Carbon Coop

The scheme trialled the savings and benefits of a street-by-street approach to home retrofits across four homes. Carbon Coop played the lynchpin role of intermediary, with Manchester City Council (MCC) Finance providing the loans to householders not in receipt of grant support. Carbon Coop’s diagram below shows how the partners fitted together. The financial options supporting the scheme were quite complex at first glance and the strategic team at Manchester City Council worked closely with householders to communicate the loan mechanisms⁷³.

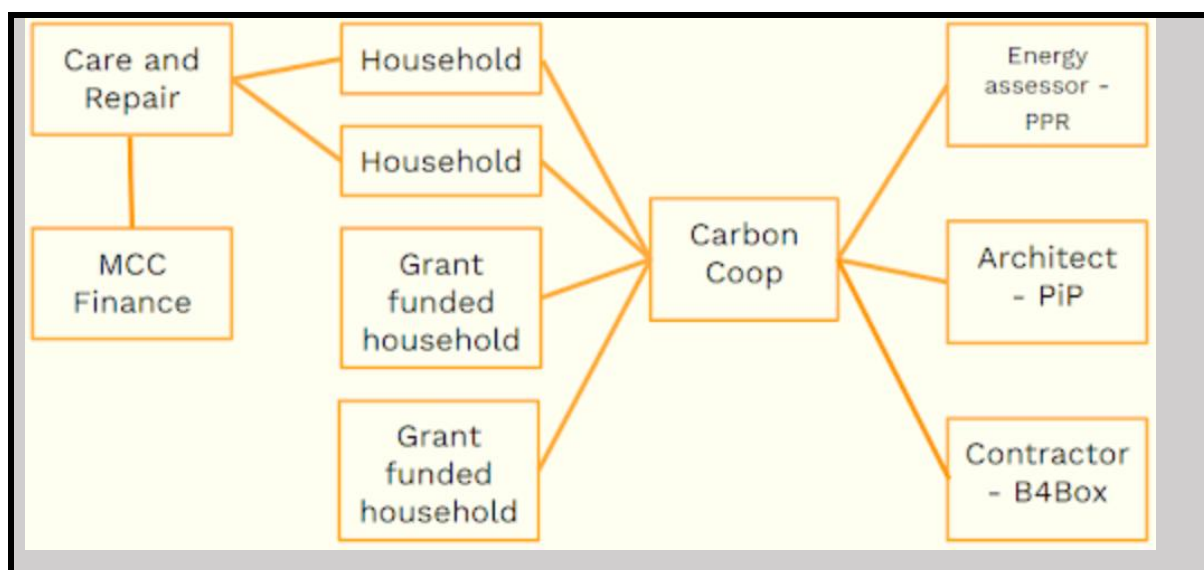
⁶⁹ [Local Net Zero: central support for local authorities and communities - DESNZ](#)

⁷⁰ [Green Home Finance Accelerator: Pilot Phase projects - DESNZ](#)

⁷¹ [Celebrating Our Impact: Social Impact Report 2023/2024 - Lendology](#)

[Power of Collaboration in Area Based Schemes - Carbon Co-op](#)

⁷³ Image Source: [Carbon Co-op Case Study, Power of Collaboration in Area Based Schemes](#)



3.1.3.6 Engaging and communicating

There is an important role for local authorities and their voluntary and community sector and business sector partners in engaging with residents, landlords and suppliers about what heat decarbonisation and energy efficiency means in the local area and for them. They can support household and landlord awareness of low-carbon heating systems, as well as how supportive technologies, such as solar PV and batteries and flexible tariffs can support lower running costs. There is currently relatively low awareness of heat pumps and only around a quarter of people think they will install one in the future. People cite high upfront costs, perceived suitability and technology uncertainty as key barriers⁷⁴. Local authorities and their partners can also help address misinformation about heat pumps, e.g. that heat pumps are not effective in UK homes despite evidence that they can be installed in most homes⁷⁵.

Local authorities⁷⁶ can increase awareness and knowledge through stand-alone outreach and information campaigns, one-stop-shops (discussed above), advice during the planning process (discussed above) or by partnering with organisations that aim to increase householder confidence and uptake of low-carbon technologies (e.g. Nesta or Climate Commissions). There is also a role to ensure that people know how to use low-carbon heating systems, and understand the benefits of flexible tariffs.

Case study: Visit a heat pump

Visit a heat pump is a service set up by Nesta that enables people to visit installed heat pumps and learn more about them. It is open to hosts with a heat pump, and to installers, and visits can be booked online. In its first year, 1,600 people visited a heat

⁷⁴ [DESNZ Public Attitudes Tracker: Headline findings, Winter 2024, UK - DESNZ](#)

⁷⁵ [Factcheck: 18 misleading myths about heat pumps - Carbon Brief](#)

⁷⁶ [Heat Pumps in Historic Buildings – Historic England](#)

pump and gained a greater understanding of how they work, the installation process and living with a heat pump. Surveys⁷⁷ showed it did not significantly increase the number of people who said their next home heating system would be a heat pump, but it is building familiarity with heat pumps and, in some cases, provides the impetus for people to decide to get one.

Nesta are speaking to councils about promoting the service via customers and installers to raise awareness of heat pumps locally, and materials are available to publicise this.

Case study: Blackpool Eco Hub

Blackpool Council have teamed up with Groundwork, to host an Eco Hub⁷⁸ at Palatine Library, which has been transformed into an operationally Net Zero building, showcasing real solutions for sustainable living. The Eco Hub features air source heat pumps and solar panels, LED lighting, living walls and rain gardens, along with a suite showing technologies in action. Home owners, landlords and renters can access a range of energy and climate advice from eco-coaches, covering low cost easy to install measures or behaviours, through to advice on low-carbon heating systems.

Case study: Calderdale Council – Innovate UK Calderdale Retrofit Challenge

In partnership with Carbon Coop and Todmorden College, Calderdale Council held a Citizens Jury focusing on retrofit⁷⁹. Nearly 50% of the area's homes were built before 1919, including stone terraces. To examine this, 26 Calderdale homeowners met over six sessions hearing from expert witnesses and developed 14 recommendations including - creating a One Stop Shop for retrofit advice, developing a local retrofit guide for different home construction types in Calderdale, simplify planning permissions, promoting green mortgages and helping residents find affordable financing for retrofits⁸⁰.

Alongside this Calderdale's Retrofit Challenge⁸¹ investigated retrofit options, conducted supply chain development and contractor training and actively engaged

⁷⁷ [One year on, Visit a Heat Pump sees over 1,600 visitors - Nesta](#)

⁷⁸ [Blackpool Eco Hub – Blackpool Council](#)

⁷⁹ [Citizens' Jury - Retrofit | Calderdale Council](#)

⁸⁰ [Calderdale Citizen's Jury Retrofit report 2025 - tlchub](#)

⁸¹ [Retrofit Calderdale - Carbon Co-op](#)

local people in learning about home retrofit through workshops including tackling damp and mould, DIY draught proofing and flooding and retrofit.

3.1.4 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to decarbonise existing homes. These are priorities set for decarbonisation (local authorities will also consider other objectives, including fuel poverty, health and regeneration).

- **Develop a plan to fully decarbonise council homes.** Local authorities have direct control over their own housing stock, enabling them to lead by example through planned replacement of fossil fuel heating systems with low-carbon alternatives, mainly heat pumps, as well as solar panels. This requires forward planning to ensure existing fossil fuel heating systems are replaced with low-carbon heating systems when they come to the end of their lifecycle, including associated housing stock assessments and scoping of financing options. This is supported by the proposed new Minimum Energy Efficiency Standards (MEES) for social housing, and funding available through the Warm Homes: Social Housing fund⁸².
- **Where applicable: support the development of heat networks.** Councils with denser urban areas and public and commercial sector buildings, should, where deemed appropriate, identify and support the process of developing low-carbon heat networks, working with national heat network zoning processes⁸³.
- **Develop supportive planning policies and practices for energy efficiency measures and low-carbon heating systems.** Supportive information for residents, installers and developers, clarifying that most heat pump installations do not need planning permission, clear supplementary planning policies, decarbonisation advice and straightforward planning processes for applications that support decarbonisation can go a long way in encouraging these measures and removing barriers.

⁸² New MEES regulations will require landlords in England and Wales to raise the EPC of private rented homes to an EPC C (with a cost cap of £10,000 for required upgrades) and either change the heating system to a low-carbon heating system or provide technologies for ‘smart readiness’ (likely solar PV) by 2030. Social housing landlords need to achieve an EPC C on any one of these metrics by 2030 and a second by 2039.

⁸³ The new Heat Network Zoning Authority will coordinate heat network zoning across England, housed in DESNZ initially and moving to the Warm Homes Agency once established⁸³. Scotland has its own Heat Zone process. Wales currently does not do heat network zoning and heat networks are developed under planning frameworks. There is not a heat zoning process for Northern Ireland.

- **Support engagement with low-carbon heating systems and supportive technologies such as solar PV and home batteries (for home-owners, renters and landlords).** Councils can increase engagement with heat decarbonisation (especially heat pumps) and the cost-saving benefits of combining low-carbon heating systems with technologies such as solar, home batteries and time of use electricity tariffs. They can also signpost to financing options, for example to the Boiler Upgrade Scheme grants and forthcoming low-interest loans or the Home Energy Scotland Grant and Loan, or set up collective purchasing schemes for heat pumps. Councils can encourage private and social housing landlords to consider low-carbon heating options to achieve the new MEES.
- **Support the development of a local supply chain for heat pumps and associated retrofit skills.** Councils can use plans to decarbonise their own housing stock, collective purchasing schemes and partnerships with colleges, training providers and manufacturers to grow local installer capacity and create stable demand.
- **Identify, engage with and deliver upgrades for households who are eligible for government support for low-income households,** including the grants and loans available under the Warm Homes Plan, successor schemes to ECO and HUG, Warmer Homes Scotland, Warm Homes Nest (Wales) and the Affordable Warmth Scheme (Northern Ireland). In England the Warm Homes: Local Grant scheme is local authority delivered: local authorities are allocated funding (under an expression of interest, rather than competitive funding model) and procure and manage installers⁸⁴.
- **Strengthen enforcement of Minimum Energy Efficiency Standards (MEES) for private rented residential properties.** As required energy efficiency standards for private rented properties are set to increase to an EPC C by 2030⁸⁵, there will be an increased impact of this local authority enforcement duty and power.
- **Build internal understanding and awareness that switching to low-carbon heating systems is the most impactful measure to decarbonise existing homes.** Local authorities need to promote internal awareness of the importance of low-carbon heating systems for heat decarbonisation and sufficient internal

⁸⁴ The Warm Homes Plan expresses the intention to integrate the Warm Homes: Social Housing Fund and the Warm Homes: Local Grant into one low-income capital scheme and to take a more strategic approach in aligning home upgrades with the wider energy network needs and capacity.

⁸⁵ New MEES regulations will require landlords in England and Wales to raise the EPC of private rented homes to an EPC C (with a cost cap of £10,000 for required upgrades) and either change the heating system to a low-carbon heating system or provide technologies for 'smart readiness' (likely solar PV) by 2030.

expertise to understand the nature of heat pumps and other low-carbon heating systems, as well as what a high-quality installation process entails.

Additional priority actions around area-based delivery may emerge as roles and responsibilities under the Warm Homes Plan are developed further by the Government, with active input from local authorities and the wider sector.

3.1.5 Challenges and barriers

Challenges and barriers councils face in delivering the emissions reductions from existing homes fall into several categories.

3.1.5.1 Funding, investment and cost barriers

- **The ratio of electricity to gas unit prices** (known as the ‘spark gap’), which is often four to one, needs to be reduced to ensure that low-carbon heating systems (e.g. heat pumps) have lower running costs than fossil fuel heating. Heat pumps have greater efficiency (heat pumps are around three to four times more efficient than gas boilers), but higher electricity to gas prices mean that currently not every household would save when switching to a heat pump. In the interim, people who are able, can make use of flexible electricity tariffs designed for heat pump users to reduce running costs. Price rebalancing to tackle the spark gap is outside of local authority control, but they can advise householders on tariffs and ways to reduce costs through solar PV and battery storage if installed
- **Funding and finance are required to support the up-front costs** of installing low-carbon heating including heat pumps and energy efficiency measures. This will include ongoing grants and low interest loans from government (such as the Boiler Upgrade Scheme and Warm Homes: Local Grant and Warm Homes: Social Housing funds, Warm Homes loans and Home Energy Scotland grants and loans), alongside loans or incentives from lenders and no or low interest loans from local authorities. The cost of low-carbon heating technologies is expected to reduce as it becomes the norm, and it is possible that house prices will reflect the investment, providing an incentive to upgrade the home. This is already the case (apart from in London) for measures to improve the energy efficiency of homes. The examples above highlight that some councils are trying to find ways to address upfront costs through collective purchasing schemes and loan schemes.
- Many councils **lack funds** to upgrade council owned homes and are heavily reliant on national funding schemes such as the Social Housing Fund (or Optimised Retrofit Fund Wales, Scotland’s Social Housing Net Zero Heat Fund). The additional costs of repairs (also termed ‘enabling works’) that may have to

be carried out before energy efficiency measures or low-carbon heating can be installed adds an additional cost to schemes. Repair costs are not always included in grants. Many combined and local authorities are investigating how to leverage in private finance, whether from individual homeowner contributions or through institutional investment, and how to drive down costs through area-based and place-based schemes.

3.1.5.2 National policy and regulatory frameworks

- Councils rely on data on homes to inform installations in council-owned homes of energy efficiency measures and low-carbon heating systems, as well as planning for these installations in the wider housing stock. However, EPCs, the key source of this data, have limitations. The Energy Performance of Buildings regime, including EPCs, has been under review for over eight years⁸⁶, and a consultation on EPC review closed in December 2024⁸⁷. A quarter of homes in the UK do not have an EPC, and EPCs are acknowledged to be flawed in terms of accuracy and coverage. Stock condition surveys, which were once common in council areas, were reduced during council funding cutbacks, and data is not always held on housing stock. However, an increasing number of services are available to provide housing data to councils to support them in developing programmes and projects. Some services attempt to fill in the gaps using other sources and analysis to address limitations of EPC data. This does though rely on skills and capacity within the local authority to make use of this data and deploy projects from it.
- **Policy on different aspects of the heat decarbonisation is developing at different speeds** which makes it difficult for combined and local authorities to develop logically sequenced programmes. For example, heat network zoning needs to be integrated with wider plans for heat decarbonisations and although home decarbonisation is closely linked to wider energy systems, Local Area Energy Plans are currently too high-level to identify building-specific actions.

3.1.5.3 Skills, workforce and local authority capacity

- Many councils are stretched and **lack capacity to design home upgrade schemes, apply for, and manage grants**. An evaluation of Wales' Arbed (area based scheme) found that *"some local authorities proposed schemes which were not sufficiently mature or were not appropriate under the terms of the*

⁸⁶ Action plan 2021 – UK Government - [Improving Energy Performance Certificates: action plan - progress report - GOV.UK](#)

⁸⁷ Consultations and partial response to EPC reform – UK Government - [Reforms to the Energy Performance of Buildings regime - GOV.UK](#)

contract, and lacked resources to provide support. Local Authority engagement much higher where an energy team was in place.”⁸⁸

- There are not yet enough experienced, qualified **installers** for the quantities of heat pumps needed in the Seventh Carbon Budget. This is expected to grow in line with demand. Linking social value elements of procurement with long term training and jobs is difficult for individual local authorities if they do not work on a regional basis. The examples above highlight how some local authorities aim to build and support local supply chains. While training programmes are available in colleges, these are under subscribed, and the cost of taking on apprentices is high compared to the support provided to the employers, which contributes to installer shortages.

3.1.5.4 Governance, roles and market structures

- **Multiple and changing support schemes, and quality issues** have undermined consumer and supply chain confidence in relation to energy efficiency measures. Over the past decade, England’s funding landscape has been fragmented and confusing, with shifting schemes and eligibility criteria. The selection of contractors, measures and control over quality of installations for the largest scheme, ECO/GBIS is outside of the control of combined and local authorities. The lack of clarity, combined with widely reported poor-quality installations (notably external wall and loft insulation), has left many householders distrustful of funding and support schemes.⁸⁹ The Warm Homes Plan may begin to address this issue by bringing schemes into a more coherent programme, but its success will rely on high quality installation, good value and compelling communications.

3.1.5.5 Public engagement, behaviour and awareness

- **Lack of awareness amongst the public** about the need for, and ways to decarbonise our heating systems, and a lack of familiarity with heat pumps can be a barrier. In some cases, tenants do not accept upgrades being offered due to a **lack of proper engagement and involvement** in the proposals, or fear of disruption and new technologies. It is therefore important to engage householders in upgrade and retrofit schemes, with ongoing support after measures and technologies have been installed. The examples above also highlight how some local authorities engage the public in energy efficiency and heat decarbonisation.

⁸⁸ A report on the next iteration of the Warm Homes Programme in Wales – Welsh Government - [Next iteration of the Warm Homes Programme: review and recommendations report \[HTML\] | GOV.WALES](#)

⁸⁹ Faulty Energy Efficiency Installations report – Public Accounts Committee 2026 - [Abject failure of govt insulation scheme leaves households financially exposed, PAC warns - Committees - UK Parliament](#)

- **Poor installations of cavity wall and external wall** insulation have long-lasting impacts on householder confidence, particularly in areas where such schemes have been installed at scale and have had to be remedied^{90,91}. This then makes it harder for local authorities or housing providers to deliver area-based schemes, and to deliver funded schemes directed through local authorities. For heat pumps, the quality body (MCS) has developed a new system⁹⁶ which focuses on quality, consumer protection including better complaint handling, and reduce paperwork and administration for installers.

3.2 Residential buildings - new homes



Figure 6: Passivhaus council development for York City Council⁹²

3.2.1 What needs to happen for new homes?

What needs to happen for new homes to meet the Seventh Carbon Budget?

All new homes will need to be highly efficient and have low-carbon heating systems. No new homes are built with fossil fuel heating systems or gas grid connections, which would add to emissions and increase overall costs by requiring retrofitting later.

⁹⁰ Information on protecting householders from poor-quality insulation – UK Government - [Action taken to protect households with poor-quality insulation - GOV.UK](#)

⁹¹ Scheme Consultation Outcome – MCS - [Scheme Consultation Outcome - MCS](#)

⁹² Photo: Tim Crocker. Architect Mikhail Riches Passivhaus council development for York City Council at Duncombe Square. Includes air source heat pumps and solar PV written to a Net Zero brief and in line with LETI 2025 Net Zero Carbon Standard.

Currently over 71%⁹³ of new homes are built with fossil fuel boilers. Around 180-190,000 new homes are built each year in the UK and the Government is committed to building 1.5 million new homes over the course of this Parliament.

3.2.2 Policies and plans

How new homes are built is governed mainly by two systems in the UK: **the planning system** decides whether a home can be built and what it should broadly look like, while **Building Regulations** dictate how a home should be built. Energy efficiency, ventilation and heating are mostly controlled through Buildings Regulation. Building regulations are firmly set at the national level, meaning they have to be achieved and (unlike in the planning system) arguments about cost or compromise are not possible. Building Regulations are similar in England and Wales, governed by the Building Act 1984 and Building Regulations 2010.

For England, the newly published (March 2026) Future Homes and Buildings Standard (FHS) will increase building energy efficiency levels and effectively prevent the installation of fossil fuel heating systems for new homes⁹⁴. Once homes are built to the FHS, their energy efficiency and heating systems are in line with the Seventh Carbon Budget requirements.

The Welsh Government has been consulting on changing Building Regulations to introduce a Zero Carbon Ready Standard – which relies on a decarbonised electricity grid, similar to the Future Homes Standard for England, but also on using updated metrics replacing the Dwelling Energy Efficiency Rate with an Energy Use Intensity (EUI) measure that captures the regulated (energy the house uses for heat) and unregulated (energy the occupant uses, e.g. for TV, oven, chargers) energy use and a Renewables Requirement for a minimum level of onsite renewable generation⁹⁵. Scotland's Building Standards are already more stringent on energy efficiency and heating: the New Build Heat Standard⁹⁶ means that any new homes consented from 2024 onwards can no longer have a fossil fuel heating system as their main heating system.

The National Planning Policy Framework (England) which underpins planning policy, was amended in December 2024, somewhat strengthening policy on climate change. However, the current (December 2025) consultation^{97, 98} on new changes to the framework may constrain local planning policy from going further than national building regulations in setting local energy efficiency standards for new buildings, with the

⁹³ [Progress in reducing emissions - 2025 report to Parliament - Climate Change Committee](#)

⁹⁴ [The Future Homes and Buildings Standards: Building Circular 01/2026 - letter](#)

⁹⁵ [Welsh Government Consultation: Building Regulations Part L \(2025 Review\) - Element Sustainability](#)

⁹⁶ [The Building \(Scotland\) Amendment \(No. 2\) Regulations 2024](#)

⁹⁷ [National Planning Policy Framework: proposed reforms and other changes to the planning system](#)

⁹⁸ [National Planning Policy Framework: draft text for consultation](#)

stated aim to only have one nationally applicable standard for new homes. This potential change of the National Planning Policy Framework (England) may constrain the opportunity for innovation and improvements beyond minimum national requirements, such as the FHS, that have been achieved by some leading local planning authorities and developers in the past.

Housing developer led action

A significant number of the biggest house builders, including the top three (which build 25% of all new homes^{99, 100}) are members of the **Future Homes Leadership Council** and **Future Homes Hub**. Their Task Force has developed the New Homes Sector Net Zero Transition Plan¹⁰¹ along with developed metrics and lessons from house builders' demonstrator projects¹⁰² and from developers building to the Future Homes Standard with heat pumps¹⁰³ as they prepare for changes in legislation. The group has various boards including representatives from MHCLG and Government Departments, Homes England, and works with the Government's Net Zero Council. This is a useful group and provides evidence for local authorities and governments on what the industry can deliver and how, helping all sectors to pull in the right direction in delivering on the Seventh Carbon Budget.

3.2.3 Local authority powers and levers to reduce emissions from new homes

The powers and influence of local authorities to reduce emissions from the existing homes sector is shown in the diagram below. These are outlined in order in the section below with case studies to show what is possible.

⁹⁹ [How big UK housebuilders have remained profitable without meeting housing supply targets - Connecting Research](#)

¹⁰⁰ [House Builders & Developers Top 10 - New Build Homes](#)

¹⁰¹ [New Homes Net Zero Transition Plan – Future Homes Hub](#)

¹⁰² [Future Homes Standard Trials and Demonstrators Digest: Summary of findings - Future Homes Hub UK](#)

¹⁰³ [Lessons from Delivering FHS](#)

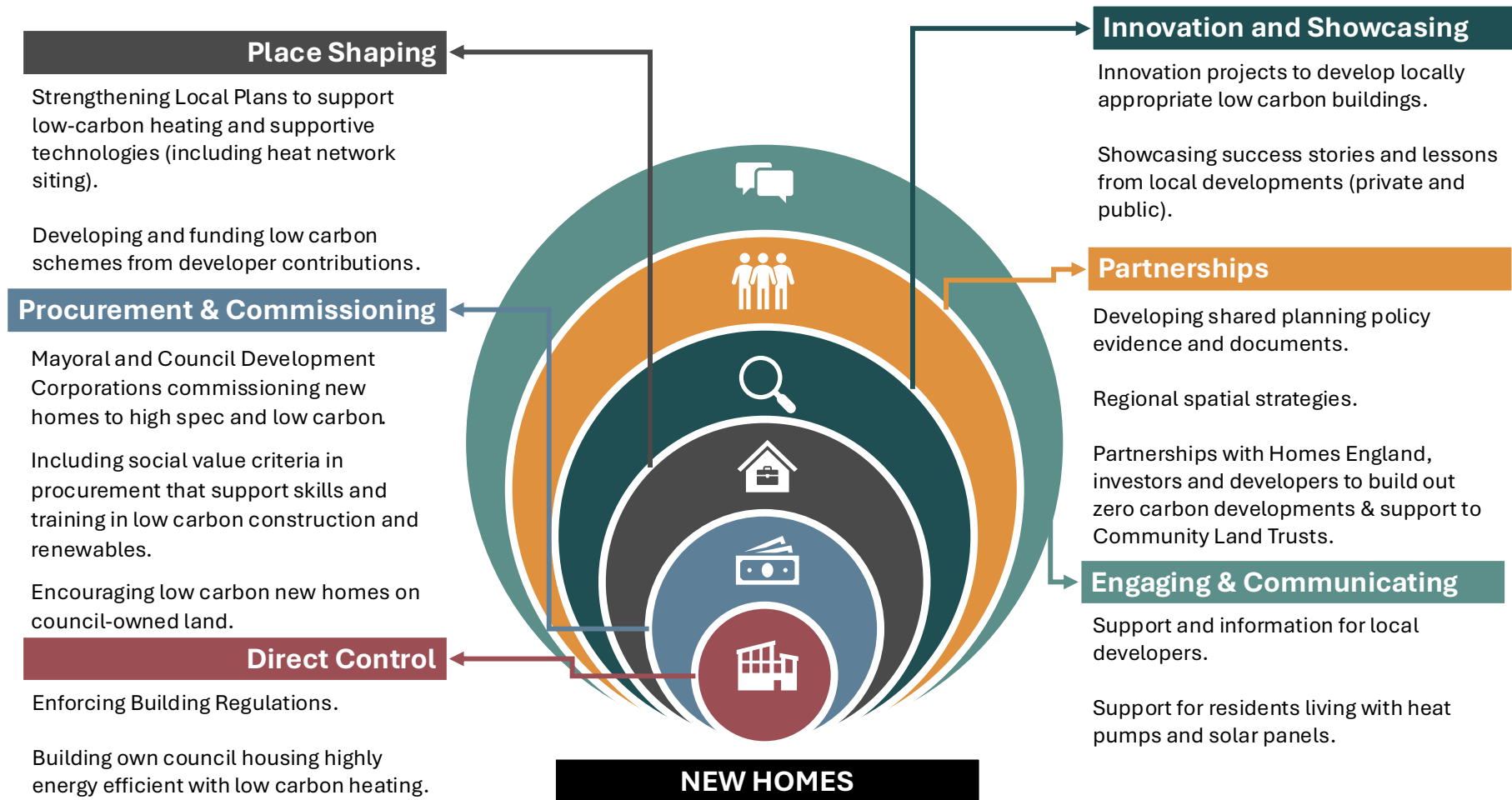


Figure 7: Onion diagram of local authority influence for new homes

3.2.3.1 Direct control and procurement and commissioning

3.2.3.1.1 Council owned and developed homes built to be highly energy efficient with low-carbon heating

Councils have complete control over the design of their own new homes (for social housing purposes), including the type of heating and levels of energy efficiency. However, in terms of scale and impact, new build council homes amount to less than 0.1% of completed new homes each year, with 2% built by social housing providers and 75% built by the private sector¹⁰⁴.

Councils can also establish their own housing development companies or joint ventures which build homes for rent, sale or shared ownership. For Mayoral Development Corporations see Place-making below.

Most councils (at least 80%) have their own housing revenue account (i.e. they own more than 200 homes and have a ring-fenced account), or housing company, joint venture or housing association^{105, 106}. Within this role, and its procurement and commissioning, they can set the energy efficiency and heating system standards that new build homes are required to have and ensure that all new homes have a low-carbon heating system.

3.2.3.1.2 Influencing private housing developments

Local authorities can also provide council-owned land for housebuilding by development corporations or private developers and as such, can influence the standards to which those homes are built.

Council's regeneration roles also provide opportunities to open up sites for new housing, and to procure or commission low-carbon developments such as **Edinburgh City Council's** collaborative procurement with CCG (Scotland) to develop the Western Villages as part of the Grafton Waterfront regeneration¹⁰⁷. The 444 houses will be Net Zero carbon with heat and hot water generated from renewable sources.

Case study: Passivhaus or equivalent council housing developments

Several councils have been building to Passivhaus standards for many years and continue to do so with several large developments in progress and a growing number of social housing providers adopting the standard for new build¹⁰⁸. However, only

¹⁰⁴ [Live tables on housing supply: indicators of new supply – MHCLG and DLUHC](#)

¹⁰⁵ [Councils are finding their building confidence – Inside Housing](#)

¹⁰⁶ [Council Housing 100 | #CouncilsCan - Local Government Association](#)

¹⁰⁷ [Edinburgh Council and CCG win award for Net Zero homes development - Scottish Housing News](#)

¹⁰⁸ [Passivhaus for Local Authorities & Housing Associations – Passivhaus Trust](#)

14% of councils have undertaken Passivhaus projects, this number rises to 34% of London Boroughs¹⁰⁹.

Building on the success of the Riba award-winning scheme at Goldsmith Street for **Norwich City Council, York City Council** is working with the same architect on seven schemes to deliver 600 new homes, 40% for social rent or share ownership and the rest for market sale which will subsidise the former alongside Homes England and the Affordable Homes Programme support. The scheme is underpinned by a commitment to upskilling contractors and supporting new people into the construction industry, as well as sourcing locally with 70% of sub-contractors and suppliers within 30 miles of the site.

Salford City Council Housing Development Programme – five new Passivhaus developments aiming to deliver 235 homes. Includes Greenhaus’ 96 apartments, delivered by ECF, a strategic partnership between Muse, Homes England and Legal & General.

“These homes go way beyond national standards which is something we want to strive for in other parts of Salford” Paul Dennet, Mayor, Salford City Council.

Midlothian Council has five development sites for a total of 182 homes which will be available for social rent, the focus being on addressing fuel poverty by minimising operational energy and reducing emissions.

Swansea Council developed its own equivalent standard ‘Swansea Standard’ some years ago, in order to reduce cost and create a more local workforce and supply chain. Its More Homes programme continues to build to this standard including solar roofs, battery storage, ground source heat pumps and MVHR (mechanical ventilation heat recovery). To date over 90 homes have been built, and more are planned, alongside refurbishment of existing homes. The council employs its own direct workforce including apprentices, giving it control and the ability to train to high standards¹¹⁰.

3.2.3.1.3 Duty to enforce building regulations in all new homes

UK local authorities have a Duty to enforce Building Regulations (which are set nationally), that is the design, specification, construction and completing of safe and high-performing buildings. This is carried out by all Welsh, Scottish and Northern

¹⁰⁹ [Only 14% of councils have delivered ‘gold-standard’ energy efficient homes - labm](#)

¹¹⁰ [Climate Conversation: Delivering a Net Zero, Climate Resilient UK \(Louise Marix Evans\) - Climate Change Committee](#)

Ireland local authorities and in England, by District Councils and Unitary Councils (i.e. not County Councils).

Consistently enforcing Building Regulations will be an important part of ensuring the Future Homes Standard for England and equivalents for the rest of the UK lead to all new homes being built with a low-carbon heating system and high energy efficiency standards.

3.2.3.2 *Place shaping*

3.2.3.2.1 *Developing Local Plans / partial plan updates that go beyond current building regulations*

In England, local authorities have the power to require marginal improvement over national standards, and the power to require a proportion of energy generation on site or nearby, known as ‘The Merton Rule’.

In 2024 The Town and Country Planning Association (TCPA) reported that three local planning authorities had adopted policies for highly energy efficient new buildings and that as many as 70 others¹¹¹ have invested resources and expertise in developing similar policies for their local areas. Several authorities set heat policies such as the London Plan’s heating hierarchy, which specifies that major developments (i.e. 10 or more dwellings) connect to an existing or planned heat network, use waste heat, or communal heat pumps or Oxford City Council and Cornwall Council, which pushed for heat pumps.

Some local authorities go beyond this to include emissions in operation, construction and in embodied emissions in building materials. Such local authorities include Bath and North East Somerset Council, Cornwall Council and Greater Lincolnshire. Research into the first six months after adoption of Bath and North East Somerset’s Net Zero planning policy suggests that it was likely reduced carbon emissions from new buildings significantly¹¹². Additional research into the three previously mentioned councils showed that in two cases, the expected dip on applications, while policies bedded in, did not occur¹¹³.

Case study: Uttlesford District Council – high heat pump uptake in new builds

Uttlesford District Council saw 60% of new dwellings having heat pumps in March 2025. The council has a Local Plan with a Core Policy for Net Zero Operational Carbon Development that sets out requirements for space heating demand and fossil fuel free developments. This states that new developments should not be connected

¹¹¹ [TCPA Statement on the 13 December WMS and local plan policy for net zero buildings update July 2024 - TCPA](#)

¹¹² [Pioneering Net Zero Carbon Construction Policy in Bath North East Somerset](#)

¹¹³ [Analysis: how setting ambitious net-zero targets need not hinder housebuilding – Bioregional](#)

to the gas grid and that space heating and hot water must be delivered through low-carbon fuels. The policy also sets out requirements for solar PV and as built performance confirmation and in-use monitoring.

Uttlesford District Council's plan is aligned with an Essex-wide recommended policy approach supported by a detailed technical evidence base, including evidence on viability and facilitated by the County Council's Climate Change and Planning Unit with the Climate Action Commission in collaboration with the local authorities of Greater Essex, the County Council and with the Essex Policy Officers Association¹¹⁴.

This shows that working together with their County Council, local planning authorities can secure the evidence base, technical support and legal backing to produce policies that can be powerful tools in reducing emissions in new buildings.

3.2.3.2.2 Regional planning

Under devolution deals, some Combined Authorities have statutory planning powers to develop Spatial Development Strategies (SDS) – high level regional plans that decide where growth should happen, how many homes are needed and what infrastructure (e.g. transport, energy) is required. These include Liverpool City Region, Greater Manchester and West of England Combined Authorities, and the Greater London Authority. SDS can provide umbrella policies for the region, including on standards for new builds (however, only London's Mayor currently has done this). The proposed NPPF revision in 2026 proposes the use of more Strategic Spatial Plans.

Most of England's Combined Authorities may establish Mayoral Development Corporations (MDCs) which can acquire, develop, hold and dispose of land and property and have powers to facilitate the provision of infrastructure. and build homes. MDCs can take over planning powers from the local planning authority in order to deliver their proposed schemes¹¹⁵. Therefore MCDs can deliver large volumes of new homes to a high standard in terms of energy efficiency, low-carbon heating, renewable generation and embodied carbon.

Case study: Places for Everyone – Greater Manchester's Joint Development Plan and Mayoral Commitment to delivery Truly Affordable Net Zero (TANZ) homes (adopted for 9 of GM's 10 local authorities).

¹¹⁴ [Net zero carbon planning policy for Greater Essex November 2023](#)

¹¹⁵ [Devolution and urban regeneration – Balfour Beatty](#)

The TANZ standard will be applied to the 20,000 social rented homes being built across the city region by 2038 and will apply to any new build social housing delivered by local authorities or housing providers in Greater Manchester.

This includes Design Guidance for Net Zero¹¹⁶ (which includes high energy efficiency, low-carbon heating systems and on site renewables)¹¹⁷ along with an energy and low-carbon proforma to support applicants in demonstrating compliance when submitting energy statements to the Local Planning Authority. Guidance for applicants and guidance for case officers helps everyone comply with the new policies.

Case study: London Old Oak and Park Royal Development Corporation – Sustainability Charter

The Old Oak and Park Royal Development Corporation which covers land in the London Boroughs of Ealing, Brent and Hammersmith aims to develop a new district covering the Park Royal industrial estate, the Old Oak area around the High Speed 2 Old Oak Common Station and protected land at Wormwood Scrubs. It adopted an ambitious Sustainability Charter¹¹⁸ which included designing resilient places well adapted to climate change and to deliver leading climate action through Net Zero carbon, renewable energy and circular economy developments. This included a Local Area Energy Plan for the area, and encouragement for developers to go beyond the London Plan's required 35% on-site reduction in carbon emissions over Building Regulations by targeting 'absolute zero' and whole life carbon assessments, along with heat networks using data centres waste heat.

3.2.3.2.3 Using developer contributions to deliver further emissions reductions

Section 106, also known as developer contributions¹¹⁹, are legally binding planning obligations entered into through negotiation by a developer and the planning authority to mitigate the impacts of a proposed development. While much of these funds go towards education, transport and highways and open or play space, they can also be used for climate mitigation schemes such as Solar and Storage at community centres or carbon offsets. Examples of this are found in Cornwall¹²⁰ and Salford¹²¹.

¹¹⁶ [1. Design Guidance for Net Zero - GMCA](#)

¹¹⁷ [2. Low carbon heat guidance - GMCA](#)

¹¹⁸ [Connecting People, Place and Planet at Old Oak and Park Royal – OPDC and Mayor of London](#)

¹¹⁹ [Start with the Spend in Mind Best Practice Guide on Developer Contributions - PAS](#)

¹²⁰ [Section 106 and Community Infrastructure Levy mapping – Cornwall Council](#)

¹²¹ [Planning obligations income and expenditure - Salford City Council](#)

Case study: Greater London Councils – Carbon Offset Fund

Greater London Councils have a Carbon Offset fund from Section 106 developer contributions, providing ringfenced funds to local projects which can be used to install energy efficiency, renewable energy and district heating schemes. Some of these funds work well to support community and public sector building projects, however, some are also underspent¹²².

3.2.3.3 Innovating and showcasing

The sections above highlight many examples where councils have either developed their own council homes to a high energy efficiency standard and with low-carbon heating or where they have developed policies to require private developments to do so. These projects provide important opportunities to show the feasibility and viability of homes built to a standard required for the Seventh Carbon Budget.

*3.2.3.4 Partnerships**3.2.3.4.1 Homes England Strategic Partnerships and provision of expertise*

Homes England is the government's housing and regeneration agency established in 2008. It has a workforce of specialists based around the country and has £16bn capital in loans, grant, equity and guarantees to bring new homes forward. It also provides a local authority capacity centre to support them in delivering housing and mixed-use schemes including new council homes.

Homes England has formed strategic Partnerships with Nottingham, Liverpool City Region, North East Combined Authority and Cambridge and Peterborough Combined Authority.

Positively, Homes England commits to increasing its focus on enabling sustainable homes and places, maximising their positive contribution to the natural environment and minimising their environmental impact. The partnership (see case study on Passive House standards above) with Salford Council, Muse and Legal and General enabling the building of new homes to Passivhaus standard is an example of this.

In Scotland and Wales, the devolved administrations themselves carry out the housing investment, land acquisition and regeneration working with local authorities and in Scotland budget is allocated directly to local authorities for its More Homes Scotland and Affordable Housing Supply Programme. New affordable homes and social housing in Scotland constructed under a building warrant from April 2025 must be built with

¹²² [London councils are sitting on £130m in climate funding. Do you want some of it? – Sam Gelder](#)

heat pumps or heat networks rather than oil or gas boilers. In Wales, the Social Housing Grant and Innovative Housing Programme fund new homes, which must meet EPC A, use no fossil fuel boilers and be Net Zero ready.

3.2.3.4.2 Shared planning services

To reduce the burden on constrained Local Planning Authorities, shared planning services, or groups of wider support with external expertise can be very helpful in providing cost savings and more efficient use of resources and skills. Some councils focus these shared services directly on building low-carbon developments.

Case study: Shared Planning Services

Essex County Council's Climate Change and Planning Unit¹²³ is funded by the Essex Climate Commission to provide support to planners across the county's 15 district, borough and city councils and supports them in working with stakeholders to deliver low-carbon developments. This unit offers support and advice to planning officers and chargeable advice to developers, to respond to the recommendations made by the Essex Climate Action Commission and to build new homes and buildings that meet excellent standards for operational energy efficiency and renewable energy generation and that are resilient to a changing climate. This tackles energy security, fuel poverty and improves health and comfort as well as supporting local economic growth.

The unit has developed Essex Design Guide with performance metrics and a series of guides and policies that are used by the local planning authorities¹²⁴. Policies require all new buildings to be designed and built to be net zero energy and carbon in operation and be fossil fuel free and generate onsite renewable energy to match the predicted annual energy use¹²⁵. The unit is also helping local planning authorities to set up systems to monitor energy use after people move in, in post-occupancy monitoring to ensure that buildings perform as intended. (See also case study above, Uttlesford District Council)

3.2.3.5 Engaging and communicating

3.2.3.5.1 Support for local developers and builders in planning low-carbon homes

Local authorities and their partners have a key role in providing practical support through supplementary planning guidance, templates, checklists and simple advice and events for local developers especially for small sites and SME construction

¹²³ [Climate and planning advice and guidance: Overview - Essex County Council](#)

¹²⁴ [Operational energy and carbon \(net zero\) planning policy statement October 2025 - EPOA](#)

¹²⁵ [Essex Energy & Carbon \(Net Zero\) Policy - Essex Design Guide](#)

companies. This is important around the adoption of new policy especially if it involves energy or carbon statements.

3.2.3.5.2 Providing information and support to people with new low-carbon technologies

Part of the challenge in moving to low-carbon heating systems is in overcoming misinformation about the technologies. As such it is important that people who move into homes with new heat pumps or who have heat pumps installed are supported in using them and using electricity tariffs effectively to heat their homes and cut costs as well as emissions. Local authorities can provide this support for council tenants or households that have heat pumps installed through a local authority delivered scheme, such as the Warm Homes: Local Grant, and can encourage developers to provide ‘soft landings’ packs and support to enable new residents to use their systems effectively.

Housebuilders in the Future Homes Standard pilots have learned that providing support to new residents of new build homes that include low-carbon technologies is vital. This is more than an information pack and videos and includes seasonal visits¹²⁶. Heat pumps have been extensively installed in social housing, and there is growing learning about good resident engagement and involvement, including the handover and follow up¹²⁷.

Case study: East Suffolk Council – The East Suffolk Developers Charter

East Suffolk Council launched its Developers Charter¹²⁸ in 2022 and added a formal recognition framework in 2025¹²⁹. It aims to promote voluntary compliance with higher environmental and social standards, primarily in developments of more than 10 homes, but is encouraged for smaller developments. It supports the use of the Sustainable Construction Supplementary Planning Document¹³⁰ which focuses on fabric first insulation and airtightness and on water efficiency. Developers that sign up to the charter access more support from planning officers during the pre-application stage.

Critically the focus on community engagement and on providing information for new residents is a key part of communicating the benefits of low-carbon technologies.

“Technical information for new residents: ensuring that new occupants fully understand the technology in their homes. This could be through demonstration show homes, virtual exploration tools, and buyer information packs.”Hastoe

¹²⁶ [Lessons from Delivering FHS Homes at Scale – Future Homes Hub](#)

¹²⁷ [Solving the UK’s social housing heat pump challenge | Comment - Housing Today](#)

¹²⁸ [Developers-Charter – East Suffolk Council](#)

¹²⁹ [Developers Charter Assessment and Recognition Framework – East Suffolk Council](#)

¹³⁰ [Sustainable Construction Supplementary Planning Document](#)

Housing Association has applied the stretch standards encouraged by the Charter in its Bramble Way development at Martlesham with its 47 homes¹³¹ built to a Hastoe New-Build Standard, with air source heat pumps, EV charge points and enhanced insulation, meeting the Future Homes Standard in advance and providing significant carbon reduction above building regulations.

3.2.4 Priority actions for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to decarbonise new homes. These are priorities set for decarbonisation (local authorities will also consider other objectives, including fuel poverty, health and regeneration).

- **Prepare for and implement the Future Homes Standard.** English councils need to internally prepare for the updated building regulations, train building control teams to enforce new regulations, and highlight developments already meeting Future Homes Standard requirements, including heat pumps. The same applies to Scottish and Welsh councils in enforcing existing standards.
- **Support local builders and construction firms.** Local authorities can provide guidance through local authority networks or directly via planning teams to help builders and developers meet low-carbon standards.
- **Strengthen Local Plans.** Use plan reviews to embed policies that support low-carbon heating and supportive technologies in new housing developments (e.g. through heat network siting and ancillary plant structures or buildings orientation to maximise solar PV output), low in-operation energy use and reduced embodied carbon emissions from building materials, smart electricity systems and storage.¹³²
- **Invest in planning officer skills and capacity.** Local authorities need to train officers in energy, carbon, and net zero skills and support them to prioritise these issues in developer negotiations.
- **Deliver low-carbon council and social housing.** Local authorities should commission and build high-quality, low-carbon homes with high levels of energy efficiency and low-carbon heating within local authority housing programmes.

¹³¹ [East Suffolk parish of Martlesham celebrates opening of 47 new homes - Hastoe Group](#)

¹³² In 2025, 29% of local planning authorities had an up-to-date Local Plan and 56% were reviewing theirs. Source: [Savills | Planning Data Update](#)

3.2.5 Challenges and barriers

Several of the challenges in relation to new homes are the same as those listed above for existing homes and are not repeated here, such as the **electricity to gas unit price ratio**, **capital costs** for low-carbon heating technologies (heat pumps compared to gas boilers), **availability of installers** and **customer knowledge and attitudes**. Additional challenges are:

3.2.5.1 National policy and regulatory frameworks

- The (English) planning system is only now gradually aligning with delivering net zero. While changes to the National Planning Policy Framework recently have improved the situations, further suggested changes (described above) may weaken councils' abilities to go beyond national minimum standards for energy efficiency in new builds.
- **Inconsistences and confusing legal context** make it hard for planning authorities to form plans and legal advice is often sought in light of legal challenges. This is exacerbated by Written Ministerial Statements, and different Planning Inspectors taking contrasting decisions on local plans and policies which have taken a robust approach to tackling climate change in their plans.

3.2.5.2 Skills, workforce and local authority capacity

- There continues to be a **workforce challenge in the building control profession** in councils, with unfilled vacancies, skills shortages and retention challenges¹³³. This is also an aging workforce with only a small percentage of under-30 year olds¹³⁴. This is an issue in terms of ensuring that developers build to the required standards. Many **planning departments face staff and skills shortages**. Only one in five are fully staffed according to recent Unison research¹³⁵. Although retention pressures have eased, recruitment challenges remain with 79% of local planning authorities affected and 93% report skills gaps particularly in digital planning, developer contributions, viability and ecology¹³⁶. A minority have a climate change and environment specialist to review energy and carbon statements and check applications against climate related criteria.

¹³³ [Local Government Building Control Workforce Strategy and Action Plan - LGA](#)

¹³⁴ [Building Control Survey 2025 - CABE](#)

¹³⁵ [Housing and growth threatened by council staff shortages Press release - UNISON National](#)

¹³⁶ [Local Authority Planning Capacity and Capability Survey 2025 - MHCLG](#)

3.3 Non-residential buildings

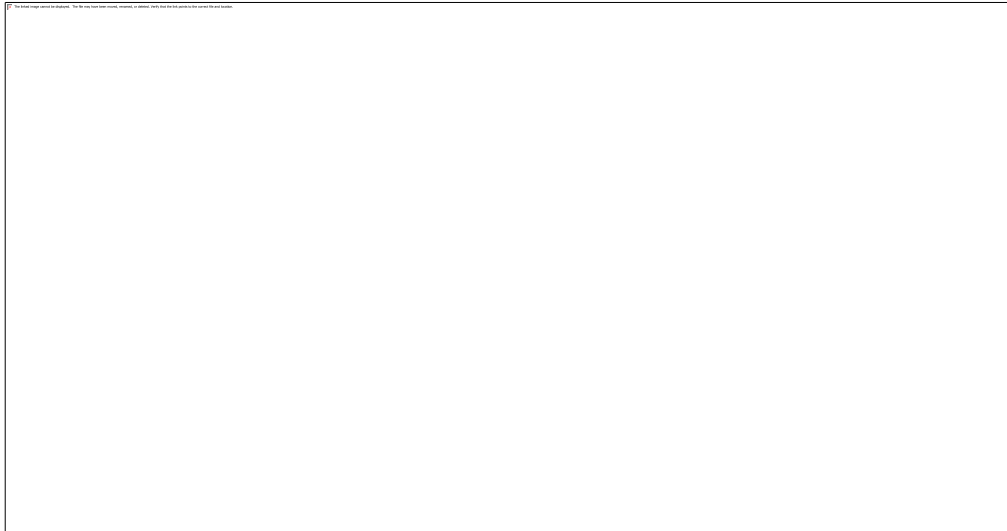


Figure 8: Refurbished industrial unit with EV charging, new roof, Solar PV, gas capped, LED lighting in warehouse, taking EPC from a low C (C74) to an A 23

In 2023, non-residential buildings accounted for 5% of UK emissions, 20.8 MtCO₂e and was the ninth highest emitting sector.

- Non-residential (commercial and public) buildings make up 30% of emissions from the UK's buildings overall.
- Public sector buildings make up around 9% of the UK's non-residential buildings and 19% of floor area and 28% of non-residential energy consumption¹³⁷. These include hospitals, schools, government and local government buildings.

3.3.1 What needs to happen for non-residential buildings?

What needs to happen for non-residential buildings to meet the Seventh Carbon Budget?

To decarbonise non-residential buildings requires the electrification of heating, greater energy efficiency and swapping gas and oil catering equipment to electric.

In the CCC's Balanced Pathway, all non-residential buildings switch to a low-carbon heating source, usually a heat pump.

¹³⁷ [National Buildings Database: Understanding Great Britain's non-domestic buildings - DESNZ](#)

- By 2040, 90% of non-residential heating is delivered by low-carbon sources compared to 25% in 2025.
- Heat pumps can be used for most non-residential buildings, deployed individually or at larger scale through a district heat network.

In the CCC's Balanced Pathway, the public sector decarbonises heating faster than the commercial sector.

- Government – including local government – should lead by example, providing confidence to develop heat pump supply chains and providing anchor loads for heat networks.
- The share of public sector heat delivered by low-carbon technology increases from 3% in 2025 to 95% in 2040.
- For the commercial sector low-carbon heat technologies increase from the current level of 35% to 87% in 2040.

Both public and commercial buildings need significantly greater savings from energy efficiency rising to 52.6TWh in 2040 in the Balanced Pathway.

- This is delivered by energy management and building instrumentation and control measures (building management systems, zone and timing controls and management practices) and insulation, heating and hot water measures.

Some other more specific changes are needed in catering and hospitals in the Balanced Pathway, for example.

- Catering needs to move from gas and oil to electric with rapid progress by the 2030s.
- Other fossil fuels used in hospitals and leisure facilities are fully electrified by 2045.

3.3.2 Policies and plans

In England and Wales, The Future Buildings Standard (FBS) forms part of the UK's transition toward Net Zero and applies to non-domestic buildings (e.g. offices, retail, industrial buildings). It is due for full implementation from 2027 and builds on the interim uplift to Building Regulations (Part L, 2021) with a focus on shifting to low-carbon heating technologies. New buildings will become zero-carbon ready, meaning they must have energy efficient fabric and services, and have low-carbon heating and hot water technologies, heat pumps or connect to low-carbon heat networks.

In England and Wales existing privately rented non-residential buildings currently need to meet a Minimum Energy Efficiency Standards (MEES) of EPC E¹³⁸. Increasing this to EPC B by 2030 has been proposed in policy consultations and is still under review and the government's response is still pending¹³⁹.

In Scotland the system is different and there is no minimum standard for let buildings, instead building energy performance regulations are triggered when a building changes hands. For larger buildings, an Action Plan (Section 63) must be developed for carbon and energy performance targets and either improvements made, or monitored with a Display Energy Certificate showing actual energy use and updated annually. This system is being reviewed to bring it into line with England and Wales, with an EPC update proposed every five years.

In Northern Ireland there is no minimum energy efficiency requirement to let a non-domestic building. For new buildings, building regulations standards were raised in 2022.

3.3.3 Local authority powers and levers to reduce emissions from non-residential buildings

3.3.3.1 *Nature of the non-residential sector*

The public sector has been driving emissions reductions in non-residential buildings, with emissions falling by 47% mainly between 1990 and 2014, after which emissions have been relatively flat. These reductions were driven largely by improvements in energy intensity including more efficient heating and lighting. Emissions from commercial buildings are similar to those in 1990, with improvements in energy intensity offset by growth in the sector. There is a wide variety of types of buildings and users, and a complex picture emerges. In England and Wales, the six largest energy building types are factory, shop, hospitality, education, office and warehouse, together accounting for approximately 85% of non-domestic building energy consumption¹⁴⁰.

Only 7% of non-domestic buildings are above 1,000 m²¹⁴¹, but they are estimated to use over 62% of the electricity and 71% of the gas used in non-domestic buildings. This makes identifying the bigger energy users easier – based on the size of their buildings but tackling the remaining emissions from smaller premises and buildings, with the sheer numbers and variety of SMEs means they can be harder to reach.

¹³⁸ [Non-domestic private rented property: minimum energy efficiency standard - landlord guidance - DESNZ](#)

¹³⁹ [Non-domestic Private Rented Sector minimum energy efficiency standards: EPC B implementation - DESNZ](#)

¹⁴⁰ [Non-domestic building stock in England and Wales: executive summary - DESNZ](#)

¹⁴¹ [The Non-Domestic National Energy Efficiency Data-Framework 2024 \(England and Wales\) - DESNZ](#)

The public sector generally owns its own estate, but in the private sector, high numbers of premises are rented, particularly for offices, warehouses and hospitality.

Business tenants often share premises: 48% of non-residential premises share a building with other non-domestic premises, and 23% of non-domestic premises share a building with domestic premises. This makes interventions harder, and data more challenging to understand. This, plus the prevalence of renting and leasing means that many building occupants are not in a position to install improvements themselves, and where they want to, some leases may mean that properties need to be returned in their original state (repairing leases), or that they need legal advice and negotiations with an agent to make changes. Changes like installing solar PV or changing heating systems can be undermined when a business tenant is getting closer to lease renewal, whereby the investment is not worth it for the remaining time of the lease.

In offices, hospitality and shop classes of buildings, 50% of premises are either in a conservation area or a building with listed status. This makes retrofitting and installing decarbonised heat more challenging, although not impossible, as Historic England's useful guides show^{142, 143}.

Significant preparation and investment is needed to bring non-domestic buildings up to higher standards, for example, Savills¹⁴⁴ estimates that 61% of London office buildings and roughly 74% of wider UK office stock fall below the required EPC B rating proposed for 2030. However, anecdotal evidence combined with lodgements of EPCs¹⁴⁵ shows that property developers and investors are acting early in anticipation of changes to the minimum energy efficiency standards expecting that EPC B will be required by 2030. At the end of leases for offices, warehouses and estates, when properties are refurbished, the leading developers are targeting EPC A or B including removing gas, installing new heating and cooling systems and installing warm roofs. This is driven by tenant demands, and investment expectations from institutional investors where an EPC of B or above is required. However, this is mainly happening in larger cities and where rents are high, where the investment makes sense. In smaller cities or towns with low rents, or lower value areas of bigger cities, such investment may be less commercially feasible.

The diagram below shows that local authorities have a range of powers and levers to lead or support decarbonisation in the non-residential buildings sector.

¹⁴² [Energy Efficiency and Retrofit in Historic Buildings - Historic England](#)

¹⁴³ [Heat Pumps in Historic Buildings - Historic England](#)

¹⁴⁴ [Making offices fit for the future: retrofit or redevelopment? - Savills Impacts](#)

¹⁴⁵ [Energy Performance of Buildings Certificates Statistical Release: January to March 2026 England and Wales - MHCLG](#)

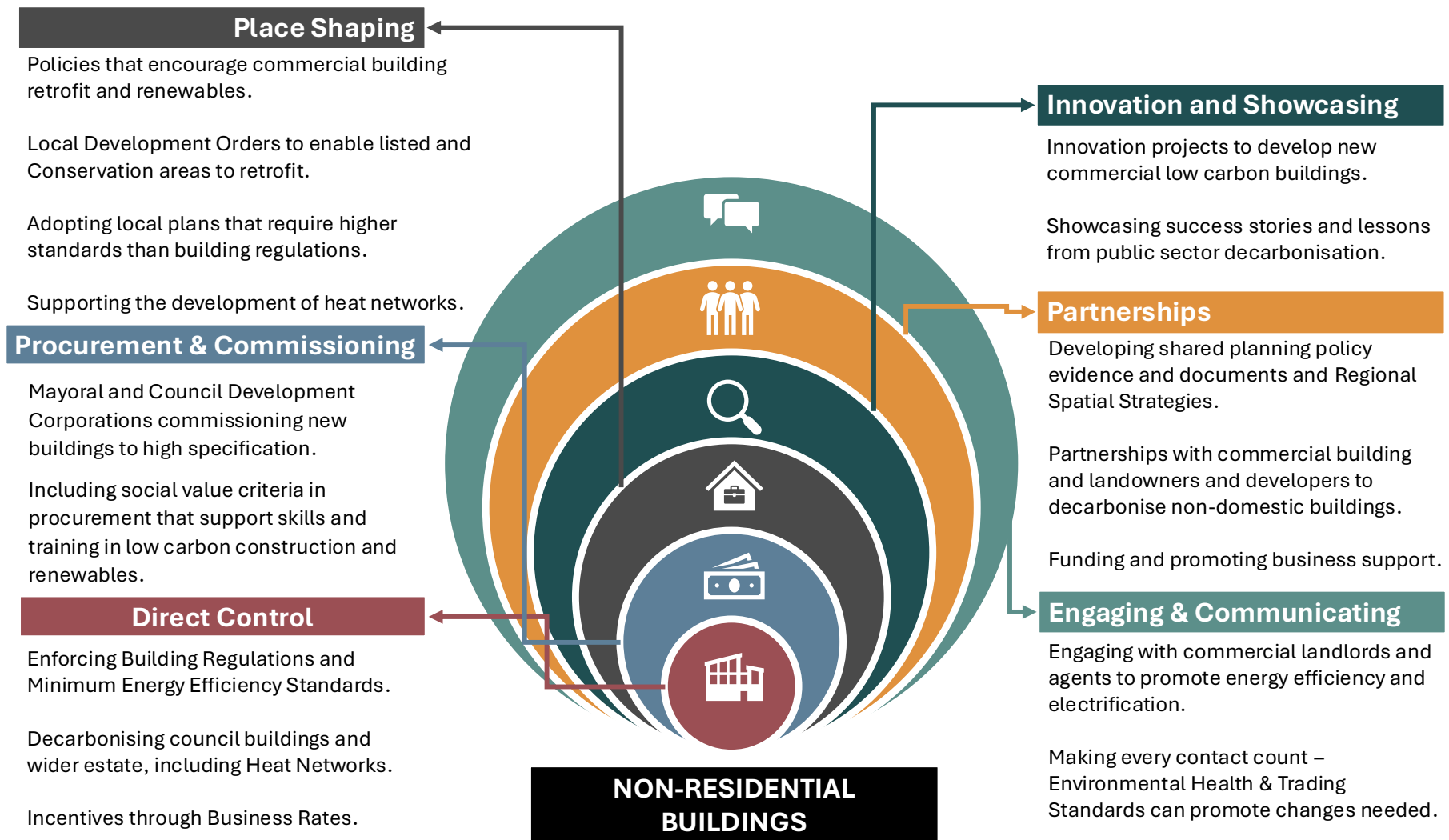


Figure 9: Onion diagram of local authority influence for non-residential buildings

3.3.3.2 Direct control

3.3.3.2.1 Council owned buildings and property

Local authorities have direct control over their own buildings and property; this includes commercial property they lease out. For many years, local authorities have been taking steps to decarbonise their own buildings, with many developing Carbon Reduction Plans and using their own funds, revolving funds and loans either from Salix Finance or borrowing from Public Works Loan Board (PWLb), or Energy Performance Contracts to invest in more efficient controls and equipment, alongside installing - carbon generation and heating.

This experience was then augmented in 2020 by Public Sector Decarbonisation Schemes (PSDS) aiming to reinvigorate the supply chains after the pandemic close-down, and the Public Sector Low Carbon Skills Fund to build capacity in the sector, including funding Heat Decarbonisation Plans. There have been four phases of this funding, which has now ended. Local authorities were the largest recipients of this funding, covering a wide array of public sector buildings including schools, leisure centres, museum, community centres and libraries as well as council offices and depots.

The schemes have enabled local authorities to start to tackle heat decarbonisation, rather than the more traditional and more cost-effective projects like energy efficiency and renewable generation. They also achieved organisational benefits through improved knowledge and engagement. They have also been core to sustaining UK heat pump supply chains¹⁴⁶.

In light of the funding scheme ending, there is now a risk that heat decarbonisation progress in the public estate slows down. This risk includes the progress of heat networks, where PSDS funding has been used to connect public buildings to heat networks where they form key anchor loads giving the scheme certainty of demand, core to making the project viable¹⁴⁷.

Energy Performance Contracting (EPC) is a means to deliver retrofit and heat decarbonisation across buildings. EPC provides guaranteed energy saving and generation or performance improvement from an Energy Services Company (ESCo) via a contractual agreement for a specified payback period which helps remove risks for clients and investors. This has been widely used as a way to procure building modernisation across the local authority sector and public sector more widely, either self-funded through council borrowing or combined with other grant-based funding. The cost of borrowing is covered by the guaranteed energy savings or income generation from the measures installed.

¹⁴⁶ [Phase 3 of the Public Sector Decarbonisation Scheme: process evaluation report \(Phases 3a and 3b\) - DESNZ](#)

¹⁴⁷ [What does PSDS's closure mean for decarbonising buildings? Local Partnerships](#)

On business or industrial estates owned by local authorities the requirement for let property to have EPC ratings of E or higher and potentially (currently under review) by an EPC B by 2030, will act as an incentive for local authorities to invest in these properties to comply with regulations.

Case study: Durham County Council: Morrison Busty Offices and Depot¹⁴⁸

Using a combination of European Regional Development Fund (ERDF) and its own invest to save funds, this £8m project decarbonised the council's office buildings. This meant moving from gas to air source heat pumps, thermal upgrade using external wall insulation, roof and new windows, installation of EV charge points for depot vehicles and a 3MW solar farm and battery storage.

A similar scheme, adding a smart local energy system, has been installed at Denbighshire County Council's Bodwelwyddan Fleet Depot with the support of the Welsh Government Energy Service. This was funded by a Welsh Government Ynni Cymru grant supporting the acceleration of Smart Local Energy Systems across public and voluntary and community sector and SMEs in Wales¹⁴⁹.

Case study: Greater Manchester Combined Authority: Greater Manchester Public Buildings Retrofit Fund – providing flexibility for reassurance to support low-carbon heat uptake

Under its integrated funding settlement GMCA has its own public sector retrofit fund (replacing Public Sector Decarbonisation Scheme) and is allowing buildings intending to connect to heat networks to retain their gas boilers, to avoid installing Air Source Heat Pumps that will cause a disincentive to connection to the network and be scrapped early. Even where low-carbon heating is installed, the fund will allow sites to retain old gas boilers for up to two years as emergency back-up. This is particularly important to provide comfort to organisations with a critical need for heat, such as care homes and swimming pools, to connect confidently and is based on problems some sites have experienced with new systems. To resolve this, GMCA wants the scheme to improve installations and commissioning, so future connections are smoother. Meanwhile, any hybrid solutions must be low-carbon, with Air Source Heat Pumps on public buildings backed up by electric systems, not gas ones

¹⁴⁸ [Morrison Busty project - Durham County Council](#)

¹⁴⁹ [Innovative Low-carbon Project Completed at Council's Fleet Depot – Business News Wales](#)

Manchester City Council has reduced emissions from council buildings by 66% since 2009/10. It developed a new buildings and energy strategy¹⁵⁰ for the estate and has retrofitted 40 buildings. The council has financed these schemes through PWLB borrowing, Salix loans and augmented it during the PSDF period with these grant funds. The council used the Re:Fit framework to procure Amresco as its Energy Services Company. Additionally it has adopted a Manchester Build Standard for new buildings, and has completed the Manchester Energy Network and connected several buildings, including its newly restored Town Hall.

Case study: Re:Fit Energy Performance Contracting

The Re:Fit scheme, developed and owned by the Greater London Authority in 2009, has evolved making the Re:Fit Framework available nationally. It is now in its fifth iteration and the Re:Fit 5 Framework is available via Local Partnerships to councils outside London, and via London's Zero Carbon Accelerator for London Councils. Between 2016 and 2024 projects delivered using the Re:Fit framework delivered £575.5m investment in capital projects, with £34.7m energy savings annually and 654,700 tCO₂ savings annually.

In terms of funding, most councils have used (Public Works Loan Board) PWLB, as typically this borrowing have been lower cost than private sector finance. For councils that want to borrow off balance sheet the new Re:Fit 5 Framework can enable funding from investors who invest in the measures and retain the savings, while offering a guaranteed price for energy to the council.

3.3.3.2.2 Enforcement of Minimum Energy Efficiency Standards in non-residential buildings

As for private sector rented housing, the local authority enforces Minimum Energy Efficiency Standards in the private rented non-residential sector. Currently, this is EPC E and above. But this is carried out in England by the Weights and Measures Authority, which in two-tier areas is the County Council (not the District Council). The role may be carried out by Trading Standards officers, or Environmental Health Officers, both of which have contact with local businesses in their wider capacity.

However, enforcement is challenging for many reasons, including lack of resources within the local authorities, lack of data, difficulties in identifying and contacting non-compliant landlords, and the limited time window at the point of let or lease renewal¹⁵¹. Furthermore, some properties are let as a shell, whereby the tenant carries out the fit-

¹⁵⁰ [Buildings and energy | Our climate action - Manchester City Council](#)

¹⁵¹ [Non-domestic Private Rented Sector Minimum Energy Efficiency Standards: EPC B future trajectory implementation - DBEIS](#)

out so the EPC will naturally be lower until after that point. As such, using MEES as a means of reducing emissions in this sector is not an effective power or lever unless policy and resourcing changes are made. The proposed minimum MEES requirement is still under review, along with the overhaul of the EPC methodology itself, but it is expected to rise to EPC C during 2027 and then B by 2030. An additional performance rating covering energy intensity and carbon emissions could also be introduced.

3.3.3.2.3 Providing incentives through Business Rates Discounts

English local authorities have powers to apply discretionary business rates relief¹⁵². This can be used to leverage emissions reductions in areas outside of the council's direct control, to self-fund a scheme and incentivise or reward business action.

Case study: Sutton London Borough Council – Go Green Scheme

Sutton Council has used its power to apply business rates relief to incentivise its Go Green Scheme¹⁵³ run by the Green Enterprise Partnership. In a two-year rolling programme, participating businesses receive 100% reduction in business rates, 30% is retained by the Partnership to provide its services, resulting in a 70% reduction for the business. The only eligibility criteria is that they must occupy a non-domestic property with a rateable value below £100,000. To qualify, they must become accredited by Green Mark¹⁵⁴ and assess their environmental impact, plan actions to reduce emissions and communicate this to customers. In the second year they implement their plan achieving a minimum of 5% carbon reductions and as a result they receive a second year of a 70% business rates reduction. The scheme aims to build capacity rather than grant dependence, motivating businesses to save emissions and money with a reward on top.

To date the scheme has included a wide variety of businesses, ranging from small manufacturers, retailers and cafés to pharmacies, dentists, law firms, accountants, a theatre, and even a football club. In 2024-25 the scheme supported 128 businesses, 90 of which qualified for business rate relief with an average emissions reduction of 20%. In 2025 a further 80 businesses have joined.

3.3.3.2.4 Borrowing powers and General Power of Competence, sale of electricity

Local authorities have various powers to do anything an individual can lawfully do as long as it is not illegal (General Power of Competence), to borrow and to sell electricity (under various legislation¹⁵⁵). This means that local authorities can develop services

¹⁵² Local Government Finance Act 1988, as amended by the Localism Act 2011

¹⁵³ [Join the Green Enterprise Partnership - Sutton.gov.uk](https://www.sutton.gov.uk/join-the-green-enterprise-partnership)

¹⁵⁴ [Green Mark - How it works](https://www.greenmark.co.uk/how-it-works)

¹⁵⁵ For a full list of powers see UK100 Powers in Place: The Handbook of local authority Net Zero Powers, 2023 [The powers local authorities need to deliver on climate - UK100](https://www.uk100.org.uk/the-powers-local-authorities-need-to-deliver-on-climate-uk100)

that can help decarbonise the non-residential buildings sector, such as investing in renewable energy generation that is directly sold to businesses.

Case study: West Suffolk District Council: Solar for Business¹⁵⁶

West Suffolk District Council has been putting solar panels on local business roofs through a 25 year lease and selling the power to the host business through Power Purchase Agreements. They are now including this scheme in a portfolio of projects including building decarbonisation measures, renewable energy investment and EV fleet transition to secure a £17m loan from the UK Wealth Fund¹⁵⁷. Over 100 solar for business schemes have been installed to date, surpluses from the scheme subsidise other environmental measures allowing the programme to be delivered on at least a cost neutral basis for the Council.

3.3.3.3 Procurement and commissioning

Local authorities can deliver efficient buildings using low-carbon heating systems through specifying outcomes and suitable technologies during any procurement or commissioning of buildings for refurbishment or new build, in the local authority estate, or in any new developments being commissioned under development corporations or regeneration schemes.

Case study: Stockport Town Centre West Mayoral Development Corporation (MDC)

Set up in 2019 with powers under the Greater Manchester Combined Authority mayor with Stockport Council, the first MDC has now been followed by a suite of others in the city region, aiming to deliver new homes, commercial and industrial sites, transport and regeneration. Stockport MDC's vision is to develop 4,000 new homes and a million square foot of new employment space, sustainably, with the community and with innovation. It has redeveloped the Interchange, including a new cycle-bridge and park, developed new homes, redeveloped mills and other sites and is starting work to explore a heat network.

Cheadle Eco Park, on a Stockport Council-owned site is an exemplar, carbon efficient industrial development, set to create upwards of 200 jobs. Six light industrial units are designed to align with Net Zero Carbon Buildings Standards. To achieve this, the partnership secured a £4.4m grant secured through the Government Towns Fund. The development is central to the Town Investment Plan, which aims to unlock Cheadle's economic potential and drive clean growth.

¹⁵⁶ [Solar for Business – West Suffolk Council](#)

¹⁵⁷ [West Suffolk Council: packaging projects together into a viable proposition - National Wealth Fund](#)

Additionally, within the procurement and commissioning role local authorities can use their procurement powers, including under the Social Value Act, and Public Procurement Act to ensure that skills, training and jobs are supported, growing capacity and expertise in the low-carbon technologies, retrofit and construction sectors. This is further supported by the 2024 Procurement Policy Note PN 01/24 Carbon Reduction Schedule¹⁵⁸ issued by the Cabinet Office to help the public sector decarbonise its supply chain, applicable for contracts over £5m.

3.3.3.4 Place shaping

Chapter 3.1 has outlined the overall role of local authorities in supporting the retrofit of existing homes to improve energy efficiency and install low-carbon heating systems. The same role applies to retrofitting existing non-residential buildings.

3.3.3.4.1 Planning policy

Planning policy can encourage retrofit and decarbonisation of heat in commercial and non-residential buildings and can in particular, can encourage and enable new mixed and commercial developments to connect to new or existing district heating networks. The latter can be supported through the use of Local Development Orders as seen in Bristol and Leeds.

“Investment in local planning authorities would increase their capacity and capabilities, while training on specific technologies, such as low-carbon heat and insulation, will prepare the authorities to handle complex planning decisions.” British Property Federation¹⁵⁹

Case study: Westminster City Council’s retrofit first policy

Westminster City Council is adopting a retrofit-first¹⁶⁰ policy for developments in its partial review of the City Plan. It encourages developers to fully investigate options for retrofit and extension at the outset before considering demolition. For the first time, it assesses the whole-lifetime carbon emissions of buildings. This helps deliver Westminster’s goal of becoming Net Zero by 2040 and providing commercial buildings that meet modern standards, all while preserving the city’s heritage and townscape.

¹⁵⁸ [Procurement Policy Note PPN 01/24 Carbon Reduction Contract Schedule](#)

¹⁵⁹ [BPF - Towards Net Zero: Challenges, opportunities, and policy recommendations – RE:UK](#)

¹⁶⁰ [New policy to make Westminster a 'retrofit first' city - Westminster City Council](#)

For new non-residential buildings the role of local authorities is similar to the role they play for new residential buildings (see Chapter 3.2).

New developments are an opportunity for local planning authorities to support growth and a vibrant economy whilst cutting emissions from materials' embodied carbon emissions, integrating cutting-edge technologies and reducing energy use in operation to deliver future-proof climate resilient and attractive places.

This can be achieved through the Local Plan and supplementary planning documents or guidance. Suggested best practice¹⁶¹ aims for:

- Retrofit first approach and whole-lifetime carbon assessment
- Reducing embodied carbon with targets for different building types
- Buildings being Net Zero in operation
- Establishing an oversight and support role, either within the planning department or external to it as a statutory stakeholder with expertise to comment on environmental information provided. This body or role can also oversee post-occupancy performance and monitoring.
- Quantifiable sustainability requirements and standardised reporting
- Local Carbon Offset fund – as is the case in London¹⁶²
- Best Practice Group working to test and share learning.

The introduction in England and Wales of the Future Buildings Standard coming into force from 2027 helps local authorities to secure developments that are low-carbon in design, with fabric energy efficiency, low energy services and with heating and hot water provided by low-carbon technologies, heat pumps or connection to district heating networks. This will be in line with the Seventh Carbon Budget.

Case study: Manchester Climate Ready Partnership – non-residential buildings recommendations to inform the Manchester Local Plan

Manchester Climate Ready Partnership which includes public, private and voluntary sector organisations, including major property-owners in the city, worked with property developers and experts to develop recommendations¹⁶¹ on new non-residential property to inform the Manchester Local Plan. This includes a review of buildings with planning consent in the last three years, and recommendations on targets, good practice and provides useful insights into tools and experiences from other areas. The report calls on the City Council to develop an ambitious plan requiring developments to be Net Zero and reduce embodied emissions to ensure continued investment and competitiveness with other global cities.

¹⁶¹ [Net Zero New Buildings Recommendations for Policy – Manchester Climate Change Partnership](#)

¹⁶² [Energy Planning Guidance - London City Hall](#)

3.3.3.4.2 Installing heat networks for public buildings and commercial buildings heat supply

In the Seventh Carbon Budget by 2040, 22% of heat in non-residential buildings will be supplied by heat networks.

Heat networks supply heat and cooling to domestic, non-domestic and industrial buildings. They can be communal systems or district heating systems. Currently, some heat networks are powered by gas, and will need decarbonising, while others use waste heat from Energy from Waste plant, or industrial processes, such as a glass factory (Leeds Pipes) or the London Underground (Bunhill, Islington) or data centres (Blackpool Council's Silicone Sands scheme).

Local authorities in England will have powers relating to Heat Networks under Heat Network Zoning¹⁶³, as Zone Coordinators. The heat networks zoning focuses on large non-residential buildings, particularly public sector buildings, as anchor loads and locations with surplus generated heat. Under the Energy Act 2023, non-domestic heat users with larger heat demands (currently set at 100MWh annual heat demand) will be mandated to connect to networks within certain designated zones where heat network heat provision can be demonstrated to be the least-cost low-carbon option. As such, heat networks are likely to play a role in decarbonising non-residential buildings that are based in areas where heat networks are being installed, and the local authority will play a critical role in helping develop networks and supporting and requiring commercial clients to connect. This could include advising property owners on steps they can take to become heat network ready, including ensuring heating systems are compatible, and that there is suitable ventilated space for equipment like sub-stations and heat exchangers¹⁶⁴.

Heat networks in England and Wales are supported by the Heat Network Transformation Programme, which provides support to new and to improve existing, heat networks. This is through the Heat Network Delivery Unit with funding for early-stage development and the Green Heat Networks Fund, a capital grant fund that supports the development of low-carbon heat networks for organisations in the public, private, and third sectors in England.

Existing schemes get support for improvements, including decarbonising gas-powered heat networks through the Heat Network Efficiency Scheme (HNES).

Scotland supports heat networks through its Heat Networks Fund, delivered by the Heat Networks Support Unit. Under the Heat Networks (Scotland) Act 2021, local

¹⁶³ [Heat network zoning: consultation summary - DESNZ](#)

¹⁶⁴ [Heat-Network-Commercial-Guidance - GSENZH](#)

authorities are required to carry out a review to consider whether heat networks are suitable for any of its area; and then to decide whether an area should become a Heat Network zone¹⁶⁵ (this sits within the local authority's LHEES).

In line with its Energy Strategy the Department for the Economy in **Northern Ireland** is proposing to establish a regulatory framework for heat networks¹⁶⁶. It is not yet clear if or how local authorities will pay a role in this.

Case study: Bristol City Leap

Bristol City council partnered with Vattenfall which acquired the existing Bristol Heat Networks Ltd company established by the council which included three operational networks serving mainly Council-owned buildings. Under the Bristol City Leap venture the heat network is being expanded to new areas with low-carbon technologies and recovered waste heat in all new permanent energy centres and gas-fired assets will be decarbonised¹⁶⁷. Currently 39 residential and commercial buildings are connected to the networks, including new build and retrofitted residential, public sector buildings including schools, fire stations and NHS facilities, the University of Bristol and commercial and mixed use developments. £227m investment is planned between 2025 – 2029 including a £61.5m social value commitment secured under the terms of Bristol City Leap.

Case study: Coventry City Council

As part of delivering its Energy Plan with Strategic Energy Partner, E:ON, heat decarbonisation is a priority. Under DESNZ's Advanced Zoning Programme, which is supporting the development of heat networks under the zoning policy, Coventry plans to expand its existing heat network with Bring Energy¹⁶⁸ using its Energy from Waste heat to a bigger area. It currently serves the councils offices, Coventry Cathedral, The Wave and Friargate¹⁶⁹.

3.3.3.5 Partnerships

3.3.3.5.1 Partnering with building owners and groups to make strategic plans

Combined and local authorities are well-placed to lead or support a place-based approach to decarbonising and retrofitting non-domestic buildings by working in

¹⁶⁵ [Heat Network Zone \(HNZ\) guidance - Scottish Government](#)

¹⁶⁶ [Heat networks - Department for the Economy NI](#)

¹⁶⁷ [Bristol heat network - Vattenfall Heat UK](#)

¹⁶⁸ [Our Networks - Bring Energy](#)

¹⁶⁹ [Low-carbon Heat – Coventry City Council](#)

partnership with building owners, landlords and agents to create a coherent approach, ensure policy barriers are addressed and to identify gaps in funding and finance.

Case study: Manchester Climate Ready Partnership – Commercial Retrofit Taskforce

Chaired by Bruntwood, Manchester Climate Change Agency convened a taskforce in 2022¹⁷⁰. It was made up of commercial building sector stakeholders, including, asset owners, property agents and consultants, contractors, developers, designers, planners and policy makers. They examined the barriers and developed recommendations for themes on finance and viability, policy, technology and skills and monitoring and verification.

The City Challenge identified that just 9% of Manchester’s commercial buildings, those over 5,000m², are responsible for 63% of emissions from the sector. As part of the DESNZ funded Net Zero Accelerator for GMCA, Manchester Climate Change Agency is now seeking to engage the owners or agents of these buildings (including those technically in Salford but part of the city centre) to identify what the retrofit plan is for each building, over what timeline, to deliver what performance improvement, and to understand in more detail what barriers are slowing activity with particular focus on finance. A survey is currently underway.

This should provide a collated view of expected change in the sector and the associated decarbonisation pathway. It should also help to understand if/what role new investment funds could play in accelerating change and if there is a gap that products currently on the finance market are not meeting. This is an innovative approach to city scale decarbonisation done in collaboration with relevant stakeholders.

3.3.3.5.2 Partnering with building owners and groups to deliver

Combined and local authorities are well placed in their strategic, local planning and place-making to support the development or re-development of older or degraded sites for non-residential building. This can be done informally through convening partnerships, or taking a more formal role channelling funds as the accountable body or through joint ventures.

Case study: Dundee City Council, Enterprise Scotland and Michelin - Michelin Scotland Innovation Parc (MSIP)

¹⁷⁰ [Accelerating Net Zero. Retrofit of Commercial Buildings In Greater Manchester – Manchester Climate Change Partnership](#)

Michelin Scotland Innovation Parc (MSIP): Dundee City Council, Enterprise Scotland and Michelin, worked together in redeveloping the former Michelin tyre manufacturing site into a low-carbon advanced manufacturing park with innovation units and a training centre. The scheme disconnected the gas network, installed renewable generation and refurbished units for modern mixed commercial use.

Case study: West Midlands Combined Authority and Birmingham City Council - Tyseley Energy Park

Tyseley Energy Park (TEP)¹⁷¹, East Birmingham: West Midlands Combined Authority and Birmingham City Council are amongst 26 organisations collaborating on projects and ideas to support the transition to Net Zero. Tyseley Energy Park is on the site of steel wire manufacturing company Webster and Horsfall, now powered by biomass. It has evolved since 2010 to house an HGV multi-fuel refuelling including hydrogen and electric charging, Birmingham's Green Energy and Innovation Quarter and low-carbon technology SME incubation centre and accommodation including the Climate Innovation Platform and Energy Transition Centre.

Case study: Trafford Council, Greater Manchester Combined Authority and the Growth Company – Bee Net Zero Trafford Park

Trafford Council, Greater Manchester Combined Authority and the Growth Company's Bee Net Zero Trafford Park¹⁷² is a partnership formed to support businesses on the park to reduce their emissions and improve efficiency. Trafford Park is the largest industrial park in Europe and an important contributor to the city-region's economy but is also the largest single carbon emitter across Greater Manchester. Through collaboration between GMCA, Trafford Council, Green Economy and other partner organisations, the initiative has engaged a total of 82 businesses, resulting in active conversations with 25 businesses located on the park. Of these, 18 are now either receiving or in the process of receiving funded support to help decarbonise their operations.

In addition, the partnership supported the delivery of a Journey to Net Zero cohort hosted within Trafford Park, which brought together 15 delegates representing 11 local businesses - building capacity, awareness, and leadership in tackling industrial emissions at the heart of Greater Manchester's manufacturing zone. (See Industry Chapter)

¹⁷¹ [Tyseley Energy Park](#)

¹⁷² [Supporting the decarbonisation of Trafford Park – BEE Net Zero](#)

3.3.3.6 *Engaging and communicating*

3.3.3.6.1 Communicating climate change targets and plans and providing leadership

Combined Authority and Local Authority climate change targets and plans and actions provide an important example for building owners and businesses in the local area. The Seventh Carbon Budget models more rapid decarbonisation of public buildings than commercial buildings. The CCC sees the role of public sector building decarbonisation as key to developing supply chains and solutions for local areas and in providing early anchor loads for heat networks. Local authorities need to engage and communicate their approaches to decarbonising their own estates to neighbouring building owners, and can help outline the lessons and benefits to encourage them to take action.

Case study: Calderdale Council and West Yorkshire Combined Authority and Wirral Council and Liverpool City Region Combined Authority – strategic leadership – Eureka! Children’s Museums Decarbonisation Plan

Eureka! Children’s Museum in Halifax, **Calderdale**, and Eureka! Science and Discovery in **Wirral** has a Decarbonisation Plan 2025-27 references the two Combined Authority climate plans and those of the two local authorities in which its sites are based, showing how council strategies often set the way for wider decarbonisation across their areas.

Eureka! Has developed a plan that includes cutting Scope 1 and 2 emissions by 90% by 2035, installing solar PV, travel plans to tackle commuter and visitor travel and consolidation of deliveries to reduce emissions and air pollution. Positively for its local authorities, it includes wider engagement with stakeholders and inclusion of climate and environment stories in its exhibitions. This in turn supports the climate change targets of the local authorities, reaching a wide audience.

Local authorities own or lease many heritage, arts and museum buildings. The **arts and museums** sector’s sustainability activities have been supported for many years by Julie’s Bicycle, which recently announced a further 10 organisations taking steps to decarbonise their buildings supported by the Arts Council England Environmental Programme’s Capital Investment Readiness¹⁷³ strand of Transforming Energy. This brings 10 cultural organisations together to reduce energy use, advance electrification and fully decarbonise their buildings by 2030. The scheme includes Museums, Theatres in Oxford, London and Ipswich and arts centres. Earlier cohorts of the predecessor programme, Spotlight, between 2018 and 2022 reduced electricity usage by 19% and gas usage by 32%¹⁷⁴. More widely, Julie’s Bicycle

¹⁷³ [Electrifying the Arts: Ten Cultural Organisations Leading the Decarbonisation Charge - Julie's Bicycle](#)

¹⁷⁴ [Capital Investment Ready - Julie's Bicycle](#)

supports community and place-based engagement on climate change, as well as low-carbon touring and filming production practices.

3.3.3.6.2 Supporting businesses to decarbonise their buildings

Combined and local authorities can encourage businesses to install energy efficiency and low-carbon heating, to save money, deliver compliance, and be investable and rentable in the future. Such engagement is often wrapped up in wider business support programmes offered by local authorities, Chambers of Commerce and Local Economic Partnerships, or through Climate Partnerships. Engagement can take place on an individual level or as part of wider, collective engagement with businesses, trade associations, agents and the main landlords. Often such groups are able to network and support each other to develop solutions and coordination can help grow local supply chains which can help provide such services.

Case study: Coventry City Council - hosting Business Energy Advice Service

Business Energy Advice Service (West Midlands and Warwickshire)¹⁷⁵ hosted by Coventry City Council provides free energy and environmental audits, grants and loans to small to medium sized businesses (SMEs) across the area. This has transitioned from ERDF funding to UK Government funding, and has enabled business premises to install solar PV, LED lighting, insulation, double-glazing and boiler upgrades.

Case study: York and North Yorkshire Combined Authority is using its UK Shared Prosperity Fund allocation to provide a **Business Sustainability Programme**¹⁷⁶ to support businesses, tackle climate change and deliver economic growth. This currently provides free energy audits to businesses and farms along with 60% match funding for measures installed including heat pumps.

Case study: London's Zero Carbon Accelerator¹⁷⁷ supports organisations across the public, social housing, community and arts and culture sectors to decarbonise their buildings by providing a range of support services from strategy and planning, developing the business case to stakeholder engagement, procurement, monitoring and securing social value.

20 local authorities are managing their own estate emissions and making support available to SMEs in their area to reduce emissions from buildings and transport through the Zellar¹⁷⁸ platform. These include **Brighton and Hove Council**,

¹⁷⁵ [Business Energy Advice Service \(West Midlands and Warwickshire\) – Coventry City Council](#)

¹⁷⁶ [Business Sustainability Programme - Mayoral Combined Authority](#)

¹⁷⁷ [Zero Carbon Accelerator - Decarbonising London's buildings](#)

¹⁷⁸ [Zellar](#)

Cheltenham District Council, Somerset Council and Greater Lincolnshire Local Economic Partnership.

3.3.4 Priority next steps for local authorities

The role of local authorities for non-residential buildings mainly mirrors the role for existing and new residential buildings. In England and Wales, the introduction of the Future Buildings Standard will mean new non-residential buildings will be constructed to the standard required to meet the Seventh Carbon Budget, namely with low-carbon heating systems and high levels of energy efficiency. A similar requirement already exists for Scotland. Local authorities will need to work closely with their other public sector peers across the wider built environment to identify opportunities for heat networks, area wide regeneration and retrofit and in sharing skills and experience in the public estate.

- Develop a plan to decarbonise council-owned non-residential buildings.**
 Local authorities have direct control over their own estate, making this one of the clearest areas for immediate action. Developing a structured plan enables councils to sequence fabric improvements, electrify heating, and replace end-of-life fossil fuel systems with heat pumps or heat network connections.
- Support the development of a local supply chains for decarbonising non-residential buildings.** Councils can use plans to decarbonise their own housing stock and non-residential building stock, collective purchasing schemes and partnerships with colleges, training providers and manufacturers to grow local installer capacity and create stable demand. They can also work with the wider public sector to identify demand for heat networks, synergies in building retrofit and develop an area wide culture of building decarbonisation.
- Where applicable: support development of heat networks,** including by providing anchor load and working with commercial clients to help them connect to heat networks. Councils with dense urban areas should, where deemed appropriate, identify and support the process of developing low-carbon heat networks following national zoning processes.
- Develop supportive planning policies and practices for energy efficiency measures and low-carbon heating systems.** Councils can provide decarbonisation advice and straightforward planning processes for building owners and developers that are submitting planning applications that support decarbonisation. Councils can clarify that most heat pump installations do not need planning permission, and develop supplementary planning policies that support energy efficiency measures.

- **Engagement of non-residential building owners/ tenants about energy efficiency, low-carbon heating and supportive technologies such as solar PV and battery storage.** Councils can work with business networks, landlords, SMEs and chambers of commerce to raise awareness of the benefits of electrified heating, energy efficiency measures and improved energy performance, share case studies, and provide impartial advice. They can promote the installation of solar PV across the commercial and industrial buildings in their local area, including by supporting Community Energy organisations, business advice services and through their own investment and installation services.
- **Support developers, builders and construction firms in preparing for the Future Buildings Standard and encourage energy efficiency and low-carbon heating now.** Local authorities can provide guidance through local authority networks or directly via planning teams to help builders meet low-carbon standards.
- **Strengthen enforcement of Minimum Energy Efficiency Standards (MEES) for private rented non-residential properties.** Move towards a more proactive (rather than majority complaint-led) enforcement of the required EPC E through local authority Trading Standards (Local Weights and Measure Authority function).

3.3.5 Challenges and barriers

Many of the challenges for reducing emissions from non-residential buildings are similar to the challenges outlines in more detail for residential existing and new buildings (see Sections 3.1 *Residential buildings - existing homes* and 3.2 *Residential buildings - new homes* for more detail). These include:

- The high electricity to gas price ratio.
 - Capital costs for low-carbon heating technologies.
 - Availability of installers.
 - Attitudes and knowledge of low-carbon heating systems.
 - Missing alignment between different policy areas, such as heat decarbonisation and energy planning.
- Skills shortages in buildings control and planning teams.

Specific barriers and challenges to non-residential buildings decarbonisation include:

3.3.5.1 Funding, investment and cost barriers

- **Resource constraints** and the end to Public Sector Decarbonisation Scheme (PSDS) in England make it difficult for local authorities to fund upgrade to their own non-residential buildings stock. The PSDS has been successful in enabling

local authorities to retrofit and decarbonise heating in public sector buildings, including some very hard to treat Victorian town halls. It has also enabled learning and skills to be developed within local authorities, however, the funding has ended in England.

3.3.5.2 *Some SMEs struggle to access support to reduce emissions and loans to enter the low-carbon goods and services sector. There has been a reduction in funds for business support schemes. National policy and regulatory frameworks*

- There is a wider **lack of national policy to incentivise decarbonisation action in the non-residential sector**, potentially reflecting a belief that the sector will act on its own.
- **Enforcement of MEES by local authorities is difficult** because of lack of resources within local authorities, difficulty identifying premises and landlords, and the tight window of opportunity to take enforcement action between leases.

3.3.5.3 *Governance, roles and market structures*

- The mix of heating types between individual and district heat pumps for non-residential buildings in different areas remains uncertain. This means that **planning and engagement is needed to work out a route-map locally**, or across non-residential building portfolios, by owners and developers. Part of this will be enabled through Local Area Energy Planning (in place for Wales and parts of England) and Local Heat and Energy Efficiency Strategies (LHEES) in Scotland, which will identify opportunities for heat networks. This is further complicated by the issue that **heat networks are slow to develop**, despite good support from national governments. Heat Zoning policy is positive, but shifts to heat networks are significant projects and require sustained effort, capability and commitment on the part of local authorities. Confidence and skills within local authorities that will be leading on heat networks need building and supporting.
- **Commercial property leases and agents can make it difficult** for tenants to install improvements, while tenants can refuse interventions by landlords due to possible disruption.



4 Surface transport

Surface transport (including road, rail, and other land-based modes of transport) has been the highest emitting sector in the UK economy for a decade. In 2023, surface transport accounted for 24% of UK emissions, 102.8 MtCO₂e.

In the Seventh Carbon Budget by 2040, surface transport emissions fall by 86% relative to 2023. By 2050 the sector emissions will be almost fully decarbonised through rapid electrification.

In 2023, 95% of surface transport emissions came from cars (59%), HGVs (19%) and vans (18%), with the remaining 5% being emissions mostly from buses, motorcycles and rail.

This section looks at the overall Powers and Levers available to local authorities to reduce emissions in travel and surface transport overall, then outlines the two main areas of the Seventh Carbon Budget Balanced Pathway which are firstly the rapid uptake of Electric Vehicles (EVs) (for cars, vans, HGVs and buses) and secondly a 7% modal shift from cars to public transport and active modes of travel.

4.1 Introduction to transport

4.1.1 Context - England

In England, local transport authorities are the upper tier authorities (county councils and unitaries) with responsibility for local roads outside the major A roads and Motorways, which are the responsibility of National Highways. District Councils have responsibility for parking and are the local planning authorities, so the powers to address emissions from transport are somewhat split between two-tier authorities. This split also occurs in relation to Air Quality, whereby District Councils and unitaries are responsible for Local Air Quality Management and in the case of two-tier areas, the District works with the County as an Air Quality Partner and proposes actions for the County Council to take to tackle declared Air Quality Management Areas¹⁷⁹. Unitary and County Councils are also responsible for local buses and public transport services. In England, Wales and Scotland this includes a Duty to secure services deemed ‘socially necessary,’ that are not commercially viable, such as services to hospitals, major employment sites or evening services.

¹⁷⁹ [Unlocking local action on clean air - IPPR](#)

Under the Local Transport Act 2000, these local transport authorities (outside London) must produce Local Transport Plans every five years, which guide funding. Previous guidance from the Department for Transport expected these to include Cycling and Walking Infrastructure Plans, Bus Service Improvement Plans, Electric Vehicle Charging Strategies and quantifiable carbon reductions across different types of transport. Guidance on developing Local Transport Plans has not been provided despite being awaited for the last three years. The existing Transport Decarbonisation Local Authority Toolkit, which contained useful case studies, was withdrawn in May 2025¹⁸⁰. A consultation call for ideas¹⁸¹ on an Integrated Transport Strategy was held between November 2024 and February 2025.

These Local Transport Plans may also form parts of strategic partnerships or joint ventures with energy partners under plans to deliver strategic schemes identified in Local Area Energy Plans. For example, Oldham Council is planning to procure a Strategic Energy Partner to deliver a heat network, renewable energy generation and storage and EV charging infrastructure in order to act on its Local Area Energy Plan and deliver its Green New Deal Strategy¹⁸².

Mayoral Combined Authorities and Strategic Authorities are increasingly taking on the functions of local authorities on strategic planning, including bus franchising. This builds on the roles that Passenger Transport Executives and Integrated Transport Authorities had coming into Combined Authorities. The exact responsibilities of the Combined Authorities for transport differ depending on their devolution deals. Their roles also include planning investments for mass transit like tram routes. In future, they will also have a greater role in planning rail services. This consolidation and devolution has produced an opportunity for more coherence, integration and better planning at a city-regional scale. This change is now seeing more bus franchising, emerging cycling and walking infrastructure networks and investment into zero emissions buses and integrated ticketing.

Case study: Transport for London

London is unique in the UK as a city having a transport body with control over nearly every aspect of its transport network. It was set up under the Mayor of London's general duty to develop and implement policies to promote and encourage safe, integrated, efficient and economic transport facilities and services to, from and within London. Transport for London owns and operates buses, underground, light rail, overground rail, trams and other transport services and is the Highways Authority for the main roads in London, while local authorities manage the other local roads.

¹⁸⁰ [\[Withdrawn\] Transport decarbonisation: local authority toolkit - DfT](#)

¹⁸¹ [Integrated National Transport Strategy: a call for s - DfT](#)

¹⁸² [Oldham Green New Deal Partnership \(GNDP\) - Find a Tender](#)

Transport for London is also unique in the UK as it can cover its own operating costs, with 60% of its income from fares, and the rest from road-charging, rents and fees. It can undertake borrowing and receives settlements from the Department for Transport for further investment across the city area. TfL can cross-subsidise between its services, so the underground can subsidise its extensive bus network. It uses income from the Congestion Charge and Ultra Low Emissions Zone to improve road services and reduce congestion and improve air quality. As such, it has high levels of overall control of the key aspects of the transport system, so it can make sequenced interventions and investments to deliver the Mayor's Transport Strategy which includes the target for 80% of all trips in London to be made on foot, by cycle or using public transport by 2041.

Key features that other authorities are taking up based on lessons from London's transport system include through-ticketing and travel cards (the Oyster card was launched in 2003) and integrated payment systems which make transport cheaper and more convenient, fare caps, night services, priority seating, wheelchair accessible bus fleet (2005), cycle hire schemes and cycle networks. It has also developed well-recognised maps and live information to help improve the passenger experience – including 'Next Stop' audio and visual display information on buses.

On top of all this, some areas of England have regional strategic transport bodies such as Transport for the North and Transport South-East. These produce regional strategies for roads and rail and lobby for investment.

4.1.2 Context - Wales

In Wales, local authorities have similar powers as those in England while the Welsh Government is responsible for the Trunk and Motorway Network.

Local authorities also manage the Bus Services Support Grant and Concessionary Fares Scheme that supports bus operators. The Active Travel (Wales) Act 2013 places duties on local authorities relating to the provision of active travel routes and promotion of active travel.

Wales has four Corporate Joint Committees (CJCs) covering the country¹⁸³, which were established under the Local Government and Elections (Wales) Act 2021. CJCs are made up of local authorities, and National Parks, and they develop Regional Transport Plans setting out improvements to travel, Strategic Development Plans covering housing and transport and promote economic well-being in their area. The Regional Transport Plans must make the best use of existing transport infrastructure, improving access to public transport and encouraging people to walk, cycle or wheel more often.

¹⁸³ [Collaboration nation: what are Corporate Joint Committees and what will they do? – Welsh Parliament](#)

Regional Transport Plans replace the previous Local Transport Plans and the CJC replaces the Joint Transport Authorities.

Under the Active Travel (Wales) Act 2013, all local authorities in Wales must regularly review and improve walking, wheeling, and cycling provisions, and map all routes in designated towns that meet Welsh Government standards.

Case study: North Wales Regional Transport Delivery Plan (draft)¹⁸⁴

Objectives of the plan include improving digital connectivity to enable more remote working to reduce overall travel need and enable shorter trips better suited to sustainable modes, improving accessibility and transport choice, targeting a mode share of 45% of journeys to be undertaken by walking cycling and public transport by 2040, supporting the EV transition and ensuring that half the population is within an hour's travel on public transport to employment and regional sites.

The plan encourages everyone to think of transport as an interconnected network not a list of projects.

4.1.3 Context - Scotland

In Scotland, the local authority role is like that in England and Wales. All Scotland's local authorities are Highways Authorities, responsible for local roads, public transport and local bus services. Motorways and trunk roads are managed by Transport Scotland.

Local authorities are members of Scotland's seven Regional Transport Partnerships (RTPs) which are responsible for planning regional transport services through developing Regional Transport Strategies. Some RTPs own and deliver services, such as the Strathclyde Partnership for Transport, covering 12 local authorities, which owns the Glasgow subway and major bus stations and provides services across the west of Scotland.

4.1.4 Context – Northern Ireland

Local authorities in **Northern Ireland** have no statutory responsibilities regarding transport policy or planning. However, they have a prominent role in the production of local transport plans for which the Ministry of Infrastructure is responsible. In 2020, transport planning was started to develop the framework for transport policy and investment to 2035¹⁸⁵. Four separate transport plans have been developed parallel with the Local Planning Process led by councils. The transport plans align with the

¹⁸⁴ [Sustainable Construction Supplementary Planning Document](#)

¹⁸⁵ [Eastern Transport Plan \(ETP\) 2035 - Department for Infrastructure](#)

Programme for Government and the NI Climate Change Act, and will develop further in line with each Council's local development plan process.

4.2 Vehicles

4.2.1 What needs to happen for vehicles, cars, vans and HGVs?

What needs to happen with vehicles to meet the Seventh Carbon budget?

In the CCC's Balanced Pathway, by 2040, a significant shift to Electric Vehicles (EVs) for cars and vans is needed.

- By 2040, 80% of cars and 74% of vans on the road will be electric (fully battery electric not hybrid/plug-in hybrid).
- **EV uptake will be supported by the falling cost of batteries**, so new electric cars reach price parity with comparable petrol and diesel cars between 2026 and 2028.
- **The number of public charge points needs to grow** from 54,000 charge points in 2023 to around 300,000 by 2030 and over 550,000 by 2040. In April 2025 it had risen to 76,500¹⁸⁶. The reliability and accessibility of public charge points need to improve.
- There will be no hydrogen cars or vans.

In the CCC's Balanced Pathway, HGVs and buses become zero emissions, largely battery-electric.

- **HGVs are expected to switch to zero emission options, mainly battery-electric**, with 63% of the HGV fleet being electric by 2040. Phase out dates for ending the sale of new non-zero-emission HGVs will be 2035 for smaller HGVs and 2040 for larger HGVs.
- **Buses will be zero emissions**. Buses make up a small proportion of transport emissions, but the share of zero emissions buses will rise from 1% in 2023 to 18% by 2030 and 60% by 2040.

New electric cars and vans are expected to become cheaper to buy than internal combustion engine (ICE) cars by 2026-2028, used EVs have already reached price parity with their fossil fuel equivalents. They are already cheaper to run where home charging is available¹⁸⁷. As more people buy or lease EVs, the used car and van markets will grow, making these choices more widely available to people. Used EVs have now reached price parity with their fossil fuel equivalents.

¹⁸⁶ [Electric vehicle charging devices by local authority](#)

¹⁸⁷ [Get an electric vehicle - Clean Energy Homepage](#)

4.2.2 Policies and plans

The **zero emissions vehicles (ZEV) mandate** supports the move to EVs through legally binding targets on the share of cars and vans sold in the UK that must be zero-emission. The phase out date on the sale of new petrol and diesel cars has been reinstated to 2030. This allows some plug-in hybrids to continue being sold until 2035. The phase out date for new petrol and diesel vans is now 2035. The phase-out date for new internal combustion engine (ICE) HGVs over 26 tonnes is due to be 2040 according to government commitments, with an earlier deadline of 2035 for smaller HGVs, but a regulatory mechanism is needed along with subsidies.

Some grants are available to support the purchase of certain types of new EV cars, vans, trucks and taxis.

The Government has also announced plans to introduce a pay-per-mile scheme for EVs to replace government income from fuel duty, and EVs are no longer exempt from Vehicle Excise Duty¹⁸⁸.

4.3 Local authority powers and levers to support EV uptake.

UK local authorities have limited legislated power to reduce emissions from surface transport and increase the uptake of EVs beyond their own fleets. However, they can play a particular role in increasing familiarity with EVs and in providing the necessary charging infrastructure for the 40% of households without driveways, commercial fleets with home-based drivers and enabling top-up and destination charging.

¹⁸⁸ [Vehicle excise duty and zero emission vehicles - House of Commons Library](#)

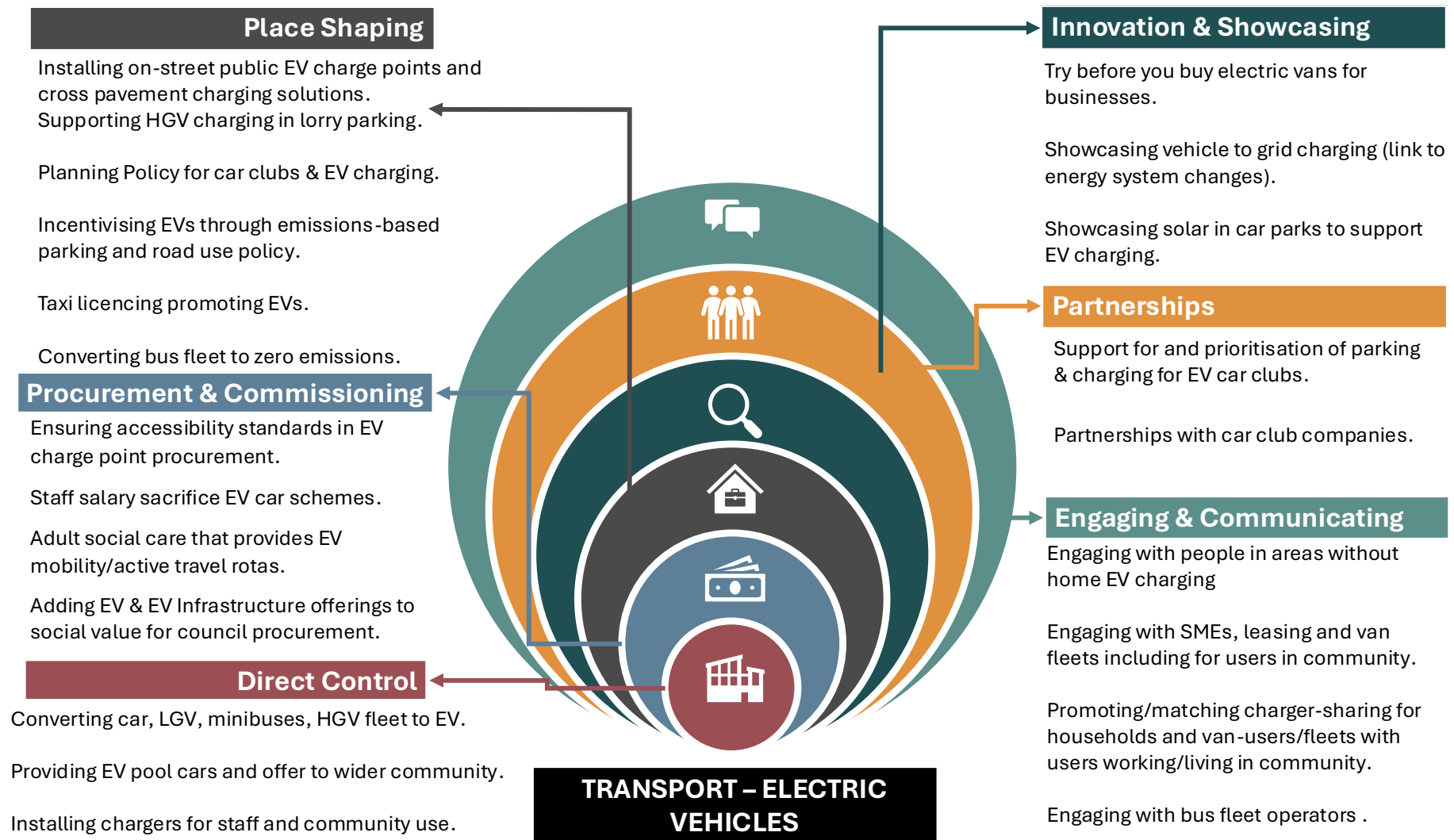


Figure 10: Onion diagram of local authority influence for electric vehicles

4.3.1.1 Direct control

4.3.1.1.1 Own fleet EVs

Local authorities of all types can and are starting to decarbonise their own fleets and take up EV cars and vans. This switch can be made within the natural cycle of fleet management and replacement. For cars and vans, fleet changes can usually be made with slow charging overnight every few days, which does not require grid-upgrades, once chargers are installed in car parks and onsite.

As larger vehicles, such as mini-buses, refuse and recycling trucks, are moved over to electric, site and depot upgrades are required. Some local authorities use this as an opportunity to decarbonise entire depots, installing charging for their fleets alongside solar generation and battery storage (see Buildings chapter 2 non-residential buildings for examples from Durham County Council and Denbighshire).

Despite the higher upfront costs and insurance costs, electric vehicles are proving cheaper for councils to run since recharging is cheaper than refuelling and maintenance costs are lower. As such, with slow night-time charging at council sites councils can save money overall with the EV switch¹⁸⁹.

Case study: Islington Borough Council – fleet conversion to electric by 2030

The council is progressing in converting its entire fleet to electric vehicles by 2030. In 2023 it completed works to its waste and recycling centre to install hundreds of charge points, 80 electric vehicles including waste trucks, cage tippers, minibuses and cars. This has been funded by the Mayor of London's Good Growth Fund and Islington Council each putting in £1.5m and a further £2.7m from the council to expand the scheme. Carbon savings, financial savings and cleaner air are outcomes of the investment¹⁹⁰.

4.3.1.2 EV pool cars

Local authorities can provide EV pool cars to staff to reduce car commuting emissions and increase familiarity with electric cars.

4.3.1.2.1 Offer of EV pool to other users

Some local authorities use their own EVs to support a wider shift by making their vehicles available for car-share users in the community. Some councils offer trials for businesses. About 50%¹⁹¹ of businesses that take part in those trials are reported to go on to lease or purchase an EV.

¹⁸⁹ [The case for electric vehicles - Local Government Association](#)

¹⁹⁰ [Drive for greener fleet continues with completion of electrification works - Islington Council News](#)

¹⁹¹ [Case study: Electric van trial for businesses - Kent County Council](#)

Case study: Try before you buy and car clubs

Leeds City Council decided not to buy any internal combustion engine vehicles after 2025. In the meantime, with funding support from National Highways, it made its own electric vans and cars available for businesses to trial. This trial ended in 2022 with 192 businesses completing the trials of which 14%, 27 businesses leased or purchased 72 EVs. The figure would have been higher were there not shortages of e-vans at that time. 27%, 52 businesses planned to lease or purchase an EV in future.

Kent County Council ran a similar scheme, also with National Highways funding, purchasing 48 different types of electric van which were available to trial for free in a scheme available to businesses, charities and public sector organisations in Kent and Medway who wished to try before they buy. 336 businesses in Kent and the South East took part in the trial¹⁹². 58% of businesses that trialled an electric van, said they were likely to now purchase their own¹⁹³.

Lancaster City Council – Co-Wheels¹⁹⁴ Lancaster City Council offers its EVs to the local car-club and has allocated car club parking spaces across its car parks.

Oxfordshire County Council with Oxford City Council and Cherwell, South Oxfordshire, Vale of White Horse and West Oxfordshire district councils – EV car clubs. In 2023-24 the council piloted EV car clubs at 13 locations with chargepoints in allocated bays at district council car parks around the county¹⁹⁵. It operates the schemes with three car club operators, Enterprise Car Club, Co-Wheels and Zimbl. The pilot became permanent in 10 locations where it was successful and has been extended to three further towns, Chipping Norton, Thame and Woodstock.

4.3.1.2.2 Installing EV chargers on own estate and car parks for wide use, including vans and car clubs

Unitary local authorities and district councils own and control car parks and can install EV charge points in these. Some councils have used OLEZ funding to install charge points on car parks and their own estates and included specific bays for taxi charging. They can allocate EV charge points for specific users, such as taxis and EV car club bays, as well as protected EV charging bays for disabled drivers.

Other local authorities are going further, taking the EV ownership and charging experience and infrastructure out to other fleet operators and communities, including

¹⁹² [Kent REVS Van Trial – Low Carbon Kent](#)

¹⁹³ [Case study: Electric van trial for businesses - Kent County Council](#)

¹⁹⁴ [Co Wheels car club welcomes new vehicles and more locations - Lancaster City Council](#)

¹⁹⁵ [Electric vehicle \(EV\) car club pilot | Oxfordshire County Council](#)

making depot charging and wider partnerships available. This kind of thinking is one where local authorities with a seemingly low influence over emissions can have a catalytic effect to support the EV transition. Furthermore, it can provide an additional income stream to the council.

Case study: Dundee City Council – EV charging network and charger sharing to support commercial fleet switch

Since introducing EVs in 2011, 40% of the council’s cars and vans are battery powered and Dundee City Council¹⁹⁶ has developed an extensive charging network across the city, including supporting an e-bus service and converting a former petrol station into a charging station at Princess Street.

As an early-mover, the city benefitted from OLEV Go Ultra Low funding, Innovate UK funding trial pop-up chargers, a low emission zone declared in 2022 that came into force in 2024, an increasingly electrified taxi fleet with 230 electric taxis in 2025 (was 37% of taxis in 2024).

It is now leading on a shift towards slow night-time charging for its fleet and sharing its charging infrastructure with Royal Mail and another fleet operator, to promote slow-charging rather than having staff use expensive rapid chargers. The council has an EV charging depot, completed in 2024, with 25 slow 7kW chargers for overnight/weekend charging, 2 50kW rapid chargers and one super-rapid 100kW for top up. Electricity is centrally procured by the Scottish Government for the public sector, making it cheaper to charge onsite than at staff homes.

With resilience in mind, Dundee’s depots have solar panels and second life batteries installed, so that in an emergency power cut, council vehicles which would be needed to respond, are able to charge.

4.3.1.3 Procurement and commissioning

Combined and local authorities can use procurement and commissioning powers and roles to enable and encourage the uptake and use of electric vehicles.

4.3.1.3.1 Accessible charge points

Local authorities play an important role in providing on-street electric vehicle charging (see below under place making). This means they procure the installation of on- street chargers. In doing so, they can support the transition to EVs, by ensuring that these chargers are also accessible for Disabled people, who may otherwise be deterred to make the switch.

¹⁹⁶ [How Dundee City Council became Scotland's pioneering EV fleet - Fleet Europe](#)

2025 research by Stellantis (Vauxhall) found that across the UK only 2.2% of all on-street chargers are adapted specifically for use by disabled people¹⁹⁷. or that meet PAS1899¹⁹⁸ 2022 is a national accessible charging standard that provides minimum accessibility requirements. Councils should be requiring charge point installers and operators to meet the PAS1899 standard as a minimum.

4.3.1.3.2 Staff car schemes

As employers , local authorities can offer salary sacrifice schemes that make it easier and cheaper for employees to take up electric vehicles (and as big employers they can reach a large number of employees). This helps reduce council's Scope 3 commuting emissions. It can also be designed to include used cars, further reducing costs.

4.3.1.3.3 Procuring and commissioning low emissions social care

Home carers or domiciliary carers travel to people's homes. Most home care workers own a car and use that for work, with 36% driving over 400 miles a month for work¹⁹⁹.

Rural authorities commissioning care (unitary and county councils) should be looking at ways to support uptake of EVs by home carers working with care providers since nearly half of rural care providers have reported staff leaving due to unaffordable petrol and diesel costs¹⁹⁹.

Case study: France – EV social leasing for lower paid workers

France provides a social leasing scheme for lower paid workers to access electric vehicles. The climate change charity Possible has suggested a similar scheme be developed for high mileage lower income rural carers which could lead to savings in fuel costs of up to £1,000 a year for home carers²⁰⁰.

4.3.1.3.4 Social value offers for EV and EV infrastructure

Under procurement rules, including the Public Services (Social Value) Act 2013 and Procurement Act 2023 local authorities include social value requirements in procurement. These can cover climate change and environment measures, including reduction in emissions by travel, access to low-carbon or active transport and reduction of distances within the service. As such, councils can use this to encourage suppliers of goods and services to shift towards electric vehicles in delivering their contracts.

¹⁹⁷ [More than a third of councils still do not provide EV charging adapted to suit disabled drivers | Vauxhall - Stellantis Media](#)

¹⁹⁸ [Accessible EV charging standards: PAS1899 - Energy Saving Trust](#)

¹⁹⁹ [Greening social care](#)

²⁰⁰ [Clean Cars for Carers: Enabling rural care workers to switch to electric cars — Possible](#)

4.3.1.4 Place shaping

The number of public EV chargers in the UK has almost doubled from just under 60,000 in 2023 to almost 120,000 at the start of 2026²⁰¹. This is welcome, but coverage of public EV charge points needs to be adequate across every area of the country. It is currently very uneven, with the highest number of public chargers per 100,000 people in London Boroughs and a much lower number in Northern Ireland.

Between January 2024 and January 2025, the number of charging devices located in urban areas increased by 35%, or 14,021 devices, whereas the number of charging devices located in rural areas increased by 45%, or 2,974 devices²⁰². This shows that rural areas are making efforts to install EV chargers.

4.3.1.4.1 Installing and enabling on street charging

Highways authorities can enable people without off-street parking to charge by installing on street chargers from lamp-posts, pavement charge points or installing charging at hubs. These can be installed using various Highways powers, combined with planning permission, if required, and parking designation and enforcement.

The Local Electric Vehicle Infrastructure (LEVI) fund has been available in England to support local authorities in installing on-street charging in underserved areas²⁰³.

Councils can also use a concession model to deliver on-street and bay-based charging, whereby the council procures a charge point operator which invests in and installs chargers and pays the council a land-rent. This enables councils to get large numbers of chargers installed without capital outlay. This approach has enabled Hackney to be recognised as London's best area for EV charging²⁰⁴, with 1,214 public EV charge points and one of the highest growth rates and dense coverage.

Scotland has the highest number of public chargers per person outside London, achieving its target of 6,000 chargers by 2026 two years early. Its EV Infrastructure Fund allocated £30 million including £140,000 to each local authority area to support the cost of identifying EV charging requirements and carrying out legal and procurement works²⁰⁵. The government plans to work with local authorities and the private sector to install a further 24,000 chargers by 2030²⁰⁶.

Wales has an Ultra-low Emission Vehicles (ULEV) transformation fund for on-street and charging hubs of £30 million with varied uptake, Cardiff City Region leading the way with plans to install another 600-700 public charge points by 2026 up from 200.

²⁰¹ [Electric vehicle public charging infrastructure statistics: January 2026](#)

²⁰² [Electric vehicle public charging infrastructure statistics: January 2025](#)

²⁰³ [Local Electric Vehicle Infrastructure \(LEVI\) capital: funding amounts and project status](#)

²⁰⁴ [Best EV Charging by London Borough - The Solar Co](#)

²⁰⁵ [Electric Vehicle Infrastructure Fund and ChargePlace Scotland funding: EIR release](#)

²⁰⁶ [Plan to add 24,000 public electric vehicle charge points by 2030 published | Transport Scotland](#)

Northern Ireland EV uptake is low at 1.5% of car owners compared to 3% across the UK and the public charging network is installed and operated by the private sector. Grants are targeted at landlords and workplaces or residents rather than local authorities, which do not have a highways role, but do have a planning role for on-street charge-points.

Case study: Derry City and Strabane District Council – on-street residential charge point review

Northern Ireland, Derry City and Strabane District Council (DCSDC) led an ORCS (OnStreet Residential Charge-point Scheme) funding application on behalf of a consortium of nine Northern Ireland councils. The appointed charge-point operator is obliged to submit planning applications for any charge-point going on-street, which councils will determine. However, the Department for Infrastructure’s forthcoming trial of cross-pavement “Temporary Cable Cover Solutions” may reduce the need for public charging on residential streets, depending on the success of the rolling trial, and which could reduce costs for residents and enable people to act when they are ready to switch to an EV. This is something councils will be keeping under review. In terms of locations, council-owned car parks are also included in the contract.

Northern Ireland will be heavily reliant on private charge point operator investment, given that ORCS funding came to an end and with LEVI funding only open to local authorities in England. The DCSDC-led contract is the first government contract in NI for public EV charging and in addition to this initial 15-20 year contract and DCSDC are planning further Invitations to Tender for EV infrastructure in coming months. It is hoped that this will bring a significant boost to public EV charging in NI.

Case study: Hackney Council concession approach to EV charging

Hackney Council in 2024 signed a contract with EV charge point operator Zest²⁰⁷ to install 2,400 fast and slow chargers and provide coverage across the borough, with the aim of reaching 3,000 charge points by 2026. These have been installed in a combination of lamp post chargers, pavement mounted units and dedicated bays. It also has an agreement with ESB for rapid charging. Residents can access a night-time discount through Hackney Light and Power. New installations and bays provide more space for larger vehicles such as delivery vans, and drivers with accessibility needs. The concession approach means that councils can see EV charge points installed without having to make capital investment themselves.

²⁰⁷ [On-Street EV Charging: Solutions for Local Authorities - ZEST](#)

4.3.1.4.2 Enabling on street charging through cross-pavement EV infrastructure solutions

Using various powers including Highways, Traffic Regulation Orders, Planning Permissions and Local Development Orders, councils can enable people with on-street parking near their home to charge using home electricity, by allowing cross-pavement charging. In England, the decision to allow such a cross-pavement charging solutions currently lies with local authorities and different areas have adopted differing approaches and allowed different solutions. Councils may provide information and guidance about what is permitted and safe, for example, by stating what kind of charging cable cover should be used²⁰⁸. They can and are going further, by providing guidance or services to install pavement channels or gulleys for EV charging.

In England people wanting to install chargers on homes facing the street still have to apply for planning permission to install a charger on the wall and for the cross-pavement solution and apply for a permit under section 178 of the Highways Act 1980 to lay a cable across a pavement. The Government is currently consulting²⁰⁹ as to whether cross-pavement charging infrastructure and associated charge points should be permitted under Permitted Development Rights, making it easier for such installations.

In Northern Ireland residents can apply directly to the Department for Infrastructure to get a cross-pavement installation license²¹⁰.

Case study: Enabling in-pavement gutter charging

West Berkshire Council and Kerbocharge

Over 30 councils including **West Berkshire Council** have developed a solution to enable residents to install charge points at home with a covered pavement channel. Partnering with Kerbocharge²¹¹, residents pay a fee and the council's contractor carries out the works to install the channel enabling safe charging. In some cases, such as conservation areas, planning permission is still required to install the charger on the home, but in most places this is now permitted development.

Kerbocharge developed a pack for local authorities covering issues of planning permission (letter of comfort to resident), liability and maintenance. Over 1,000 channels have been installed to date, with waiting lists of 1,000s according to Kerbocharge website.

²⁰⁸ [Cross-pavement solutions for charging electric vehicles - DfT](#)

²⁰⁹ [Changes to various permitted development rights for EV charging - DfT](#)

²¹⁰ [Cross-pavement EV charging approved across whole of Northern Ireland - evfleetworld](#)

²¹¹ [Kerbo Charge - EV Charging Cable Channel. Charge Without a Driveway - Kerbo Charge](#)

Blackburn with Darwen Council – EV cable channel policy and installation service

Blackburn with Darwen Council has introduced a policy²¹² to support residents who do not have off-street parking to install chargepoints and cables to enable EV charging at home. The council also provides the installation service²¹³, paid for by the resident, who can also apply for a grant. This simplifies the process for people living in the council area's 15,000 terraced homes. LEVI funding is being used to provide this service to 160 residents for just a £100 application fee as part of the roll-out.

4.3.1.4.3 Enabling electric transition for vans and fleets

In terms of van and fleet drivers, charge points need to be provided for those drivers who bring their vans home or who work in the community, on call or shifts. Guidance on including van and fleet requirements in charging strategies is provided by British Vehicle Rental and Leasing Association (BVRLA) and contact with larger van users and larger fleets is usually coordinated by Regional Transport Boards who will raise needs with Local Transport Authorities.

The Association of Fleet Professionals (AFP) provides data²¹⁴ help to understand the numbers of fleet professional drivers and their off-site charging needs in different UK regions. Key findings include that nearly four out of 10 homes (38.7%) are without off-road space that would enable chargers to be fitted for an electric panel van. Overall, 65-70% of AFP van drivers need access to kerbside charging.

Case study: Fleet Friendly EV Charging Pledge

BVRLA (British Van Rental Leasing Association) has a **Fleet Friendly EV Charging Pledge**²¹⁵ which recognises the collaborative action needed from government, regional transport boards, local authorities, charge point operators, electricity distribution network operators (DNOs), fleets and other stakeholders in developing a charging network that works for all.

Signatories include local authorities including Coventry City Council, Dundee City Council, London Borough of Hounslow, Suffolk County Council and West Suffolk Council. They have committed to considering fleet operators and drivers in charging infrastructure strategies and plans, engaging with the fleet sector to understand their charging needs and providing fleet-focused EV charging information and guidance.

²¹² [Appendix Cable Channel Policy – Blackburn with Darwen Borough Council](#)

²¹³ [Electric vehicle cable channel | Blackburn with Darwen Borough Council](#)

²¹⁴ [EV Kerbside Charging - AFP](#)

²¹⁵ [Fleet Friendly Charging Pledge - BVRLA](#)

BRVLA's research²¹⁶ found that by early 2024 5% of local authorities had engaged with fleets, up from 3% on 2023, and 57% of local authorities had a designated contact point for EV infrastructure, up from 38% in 2023.

4.3.1.4.4 Parking policy

Councils can use parking policy and Traffic Regulation Orders to support car clubs and EV charging, by providing exclusive parking spaces for car club cars in car parks or on-street, reducing fees for car club users or operators, and providing free parking for EV during the hours they are charging including overnight.

Generally, councils charge car-club operating companies for parking bays to recover fees otherwise lost, but more recently with the exit of ZipCar from London, some councils, like Southwark, where 60% of residents do not own cars, have offered free permits or reduced cost permits in a bid to retain or attract a new car club operator²¹⁷.

Councils may also charge emissions-based parking fees and residents parking permit fees to incentivise the uptake of cleaner or smaller vehicles in the local area and to reward people making a move towards EVs. London councils including Lewisham, Lambeth, Croydon, Merton and Newham use emissions-based parking fees with the cheapest charges for EVs and highest ones for high-emission SUVs and older petrol and diesel cars.

Case study: Bath and North East Somerset Council – emissions-based residents parking permits

The council introduced emissions-based residents parking permits²¹⁸ in 2022, and has since extended this to car parks and on-street parking during subsequent years. The aim of the scheme is two-fold, to reduce emissions and improve air quality in line with the council's climate and air quality strategies, and to complement its sustainable transport aims including its 15 Liveable Neighbourhoods which improve residential areas and support sustainable travel and safety.

4.3.1.4.5 Clean Air Zones, Ultra Low Emissions Zones and congestion charging

These policies are primarily designed to improve local air quality and reduce congestion, rather than to incentivise a shift to electric vehicles. However, due to the much lower negative air quality impacts of EVs, they tend to be beneficial for EV drivers. London has led in congestion charging and ultra-low emissions zones, while the rest of

²¹⁶ [BVRLA Fleet Friendly Charging Index](#)

²¹⁷ [Southwark Council makes bold offer of free parking permits to car club providers and calls on Zipcar to pause plans to leave London - Southwark Council](#)

²¹⁸ [Emission-based car parking charges - Bath and North East Somerset Council](#)

the country has tended towards Clean Air Zones, usually required by government due to breaches in Air Quality. The introduction of such schemes is usually accompanied by funding from government to start them, then they self-fund operating and enforcement costs, with surplus income from clean air zone fees being spent on public transport, active travel and scrappage schemes to support the transition of vehicles to cleaner models. York City Council introduced a voluntary clean air zone for buses in order to improve air quality in the city. London's Congestion Charge now applies to EVs, previously exempt from the charge, while these remain exempt from the ULEZ charge. Residents within the Congestion Charge zone can register for a 90% discount on the fee regardless of vehicle type, however, EVs will be incentivised further from March 2027 when new applicants for the discount can only apply if they have an EV.

4.3.1.4.6 Taxi and Private Hire Vehicles Licensing

Taxi licensing is a key power local authorities have over a small number of vehicles, but which are heavily used, often in city centres. In 2024, there were 313,008 licensed taxis and Private Hire Vehicles, in England, an increase of 8.2% since 2023²¹⁹ and 22,402 in Scotland²²⁰.

Some local authorities have used taxi licensing to upgrade the fleet and manage a switch towards EVs, by limiting the age of vehicles permitted.

Clean air zones usually include taxis, and when introduced, councils provide financial support to taxi operators to upgrade their vehicles.

Case study: Cardiff City Council - Incentivising the transition of taxis and staff commuters to electric vehicles

As part of a Department for Transport funded Connected Places Catapult Local Authority Transport Decarbonisation Accelerator, **Cardiff City Council** has partnered with two companies, EVSerious and ZETI²²¹, to support taxi drivers in understanding the benefits of a switch to electric taxis, including using an App to assess their driving patterns and pair them with the best EV, alongside understanding the financial implications – and matching them with preferential funding from investors.

The Council is also using the EVSerious app to understand commuting patterns and its Scope 3 emissions from staff travel, with a view to supporting a switch to EVs.

²¹⁹ [Taxi and private hire vehicle statistics, England: 2024 \(revised\) - DfT](#)

²²⁰ [Chapter 1 - Road Transport Vehicles - Transport Scotland](#)

²²¹ [Cardiff drives forward with electric taxi transition - Connected Places Catapult](#)

Case study: Bradford City Council – Clean Air Zone

Introduced in 2022, Bradford's Clean Air Zone C+ applies to all vehicles except cars. In 2024 the council reported that its licensed taxi fleet had become the cleanest fleet in the UK. The city has a higher private hire emission standard than that of all other CAZ and ULEZ in the UK (requires petrol hybrid Euro 5/6²²²), with 99% of the licensed fleet either electric hybrid or electric vehicle. Taxis account for over 10% of all journeys made within the Inner Ring Road and the reduction of taxi emissions has played a significant part in improving air quality and health around the City Centre. The Council has seen significant demand for electric taxi grants and has paid or allocated over 520 grants at present²²³. The Clean Air Zone has also included electric HGV, crane, winter gritters and other trials and innovations.

Critically it has measured the health effects in a Health Impact Assessment finding that since the introduction of the CAZ there have been:

- 598 fewer primary care visits for respiratory health every month which is a 25% reduction.
- 134 fewer primary care visits for cardiovascular health every month which is a 24% reduction.
- £30,743 cost savings for the NHS per month*.

*Full health cost savings are being calculated by York Health Economics Unit and will be published in 2026 and are expected to be significantly higher.

4.3.1.4.7 Bus fleet conversion to zero emissions

In March 2023, there were 30,154 buses used by local operators in England, Scotland and Wales, 76% of which were diesel buses²²⁴. In 2024, 16.7% of London's buses were battery electric, 14% in Scotland²²⁵.

The government consulted in 2021 about a Zero Emissions Bus mandate and this year it has announced new measures within the Better Bus Services Bill to end the use of new non-Zero Emissions Buses on local routes by 2030, but those already in use would not be affected²²⁶. Respondents to the consultation were concerned the urban shift would be easier than the rural one and that SME operators would be disadvantaged in securing grant support, particularly competitive grants.

²²² [Frequently asked questions - Bradford Metropolitan District Council \(BMDC\)](#)

²²³ [Report of the Strategic Director, Place to the meeting of Regeneration and Environment Overview and Scrutiny Committee to be held on Tuesday 3 December 2024 - BMDC](#)

²²⁴ [Annual bus statistics: year ending March 2023 \(revised\) - DfT](#)

²²⁵ [Bus statistics data tables - DfT](#)

²²⁶ [Ending the sale of new, non-zero emission buses, coaches and minibuses – DfT and Office for Zero Emission Vehicles](#)

Local authority powers regarding buses are discussed in the modal shift section below. But local authorities can already encourage and support bus decarbonization and electrification through several means, from clean air zones and ultra-low emissions zones (see above) whether voluntary or mandated by government, through to purchasing or leasing their own electric bus fleet if they operate their own buses or working with bus fleet operators to support their fleet upgrades and any required charging infrastructure at depots.

Case study: Warrington Council - Warrington's Own Buses

Warrington Council is unusual in that it operates its own bus company (as do Reading and Blackpool Councils). It is replacing its 105 buses with all electric buses²²⁷, charged with renewable energy alongside wider improvements to the networks such as fully accessible buses, new bus shelters, enhanced timetables and anytime concessionary travel alongside free local bus travel for care leavers aged between 18 – 22. The scheme was supported by the Department for Transport's ZEBRA funding (Zero Emissions Bus Regional Areas) which funds 75% of the difference in cost between electric and diesel buses and 75% of the cost of the charging infrastructure. The new fleet will improve air quality, reduce emissions and provide quieter and safer journeys.

Case study: Coventry City Council – Electric buses

Like Warrington, Coventry aims to go all-electric and in November 2024 80% of buses, more than 200 travelling in and into the area, were battery electric²²⁸. Both Stagecoach and National Express ordered new buses, alongside Transport for the West Midlands/Dept of Transport and Warwickshire County Council support to fund charging infrastructure. This includes on-board replacement batteries, rapid charging and depot charging facilities supported by solar PV and second life batteries²²⁹.

York City Council – Voluntary Clean Air Zone

York City Council announced a voluntary clean air zone for its city centre in 2020 which applied only to buses. This required buses to meet Euro V standards, rising to Euro VI or electric in 2024. This prompted First Bus to establish one of the first fully

²²⁷ [Warrington's electric bus family grows – as double deckers arrive! – Warrington Borough Council](#)

²²⁸ [Coventry set to be the UK's first all-electric city – Coventry City Council](#)

²²⁹ [Zenobē supports Coventry on the road to becoming UK's first all-electric bus city - Zenobē](#)

electric bus depots outside London, and the first in Yorkshire, with the City Council bringing in ZEBRA funding to support this²³⁰.

4.3.1.4.8 HGV electrification

Councils are increasingly switching their own HGVs and plant fleets to electric, alongside HVO (vegetable oil), and some have trialled hydrogen as part of their emissions reduction plans. In terms of the wider HGV fleet, local authorities' powers to cut their emissions is more limited. In most Clean Air Zones HGVs need to meet Euro VI emissions standards, and in some, vans are included.

In addition, local authorities may be requested to update weight limits under Highways powers to enable heavier electric vehicles to access key HGV destinations. In a planning role, local planning authorities may be able to encourage upgrades to lorry parking, to enable the installation of energy and charging infrastructure. Planning authorities will need to support the installation of the HGV public charging infrastructure, but can also encourage depot sharing, or even condition it in planning consents.

Case study: Sharing charging infrastructure for fleets

The HGV Decarbonisation Pathway for Scotland from the Zero Emission Truck Taskforce in 2024 identifies some key actions local authorities can take, particularly in sharing energy infrastructure for bus operators and public fleets with other fleets.

First Bus has established arrangements with delivery service DPD and Police Scotland to access charging at Caledonia while the electric bus fleet is out in service. They have worked closely with Hitachi Zero Carbon to enable the depot's charge points to be controlled via smart charging software ensuring that power is used in the most efficient way and minimising draw down from the national grid at peak times. They have also partnered with broadband network Openreach for their vehicles to access charge points in both Glasgow and Aberdeen bus depots. More examples of EV charging infrastructure sharing are shown below.

In the PAUA Pins project, funded by Department for Transport and Innovate UK, technology company PAUA partnered with Cenex and **Suffolk County Council** and **Oxfordshire County Council** to see if shared depot charging can succeed²³¹. It has

²³⁰ [Clean Air Zone for buses – City of York Council](#)

²³¹ [Paua leads shared charging depot trial scheme](#)

gone on to develop PAUA Share²³², a platform for depot charger sharing, that links depots with fleets that need a charging network.

4.3.1.5 Innovation and showcasing

4.3.1.5.1 Try-before-you-buy schemes

As described above, many local authorities have run or are currently running try-before-you-buy schemes for electric cars and vans. Along with supporting EV car clubs, these showcase EVs, familiarising people with them, and helping them decide if and when they might be ready to make a switch as they come to replace their car or van.

4.3.1.5.2 Solar on car parks to support EV charging

Since 2023, in England solar on car parks falls under permitted development rights and no longer requires planning consent to remove barriers and increase installations²³³. As part of the Clean Power Action Plan, the government has also consulted for England, Wales and Northern Ireland as to whether to mandate solar PV on car parks over a certain size²³⁴. It notes that there are 20,000 council owned car parks.

Solar on car parks has usually been separate from the actual EV charging, but it is now coming together through smart grids and battery storage, enabling car park hosts to maximise revenue from their schemes, or to use the power in nearby locations rather than exporting it all to the grid.

Case study: Cambridgeshire County Council – Solar Park and Ride schemes

As part of a much wider set of renewable energy projects, Cambridgeshire County Council has installed 1MW solar PV canopies at its Park and Ride in its **St Ives Smart Energy Grid**, along with battery storage and 9 22kW charge points and private wire supply to a nearby business. The £5.6m scheme was funded through the European Regional Development Fund (ERDF), and will generate an income stream for the council²³⁵.

A sister scheme on **Bramham Road Park and Ride** has seen 2.5MW solar pv canopies installed in phases to reduce disruption along with 16 22kW dual charge points and three PAS 1899:2022 accessible charge points, this also supplies a local company through a private wire.

²³² [Paua Share](#)

²³³ [The Town and Country Planning \(General Permitted Development etc.\) \(England\) \(Amendment\) \(No. 2\) Order 2023](#)

²³⁴ [Solar on car parks and electric vehicle charging – DESNZ and Office for Zero Emission Vehicles](#)

²³⁵ [St Ives Park & Ride Smart Energy Grid - Cambridgeshire County Council](#)

4.3.1.5.3 Vehicle to grid charging

As the electricity grid integrates more renewable energy generation it also needs more storage and flexibility. Combined and local authorities will have a role in partnering, innovating and trialling various solutions that make use of the batteries in vehicles to support grid flexibility.

Tapping into innovation funding from Distribution Network Operators (DNOs), Innovate UK and funding available to universities and private sector companies that want to try out new systems and technologies is a way local authorities can support innovation.

Case study: Nottingham City Council – Vehicle to Grid (V2G) micro-grid²³⁶

Funded by Interreg North-West Europe, with a contribution from Innovate UK, the CleanMobilEnergy pilot in 2023 aimed to maximise the use of energy by using battery storage and 40 V2G vehicles for short-term storage of electricity generated by solar panels on the roof of the council's depot. At the time, 51% of the council's vehicles were electric, including refuse trucks, road sweepers and vans. The council could sell into the grid when prices were high, and charge up when prices were low, saving money and carbon.

4.3.1.6 Partnerships

Many of the examples above highlight the importance of forging partnerships with, for example, central government, private companies, fleet operators or Distribution Network Operators to deliver the transition to electric vehicles. The examples show the large variety of different partnerships and partnership models.

4.3.1.7 Engaging and communicating

4.3.1.7.1 Community engagement and involvement in the electric vehicle transition

Alongside installing infrastructure and creating a positive enabling environment to support EV uptake, local authorities can use their leadership role to engage and communicate with communities to ensure that no one is left behind in the switch to electric vehicles and to involve people and businesses in the solutions needed to enable them to switch.

Local authorities have carried out engagement and involvement to inform their plans for on-street charging, for example, **Blackburn Council** held focus groups to explore how people living in terraced areas felt about electric vehicles and charging to inform the

²³⁶ [Nottingham launches vehicle-to-grid demonstrator project - LAPV](#)

Lancashire County Council led LEVI application²³⁷. This resulted in insights for the council, but also peer learning between participants, who shared facts, experiences and lessons with each other.

Case study: South Cambridgeshire District Council and Cambridgeshire County Council - Promoting Charger Sharing

South Cambridgeshire District Council's 2022 EV Strategy²³⁸ commits to supporting charger sharing or peer-to-peer charging by promoting this through residents' magazines and its Zero Carbon Communities network. It has promoted a variety of charger sharing apps including Co-Charger, JustCharge, Zap-Home and Book my Charger on its website²³⁹.

Charger sharing is a complementary way to support on-street charging provision, making many more chargers available at affordable prices (cheaper than using a petrol/diesel car) across a community with one charger supporting several neighbours. It can also be provided by churches, community centres, workplaces and medical facilities. Charger sharing can also support the e-van fleet transition because many fleet drivers bring their van home overnight.

4.3.1.7.2 Engagement with SMEs, van fleets and businesses

Local authorities, along with business support organisations, or Environmental Health and Trading Standard visits, could engage with SMEs and fleets in the area to explain upcoming policy and phase-out for vans and HGVs, and consider their strategies to replace vans with electric models.

These conversations can highlight the plug-in grant funding that is available towards new electric vans and HGVs. Highlighting the savings and benefits as technology and costs change is also useful²⁴⁰. Such engagement will help local authorities understand the specific local barriers and what they and partners can do to support businesses in the transition to electric vehicles. This could include charger sharing or access to depots for cheaper charging.

4.3.2 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most

²³⁷ [Blackburn with Darwen Climate Emergency Action Plan 2024/25 - Blackburn with Darwen Borough Council](#)

²³⁸ [Approach to EV Charging – South Cambridgeshire District Council](#)

²³⁹ [Electric vehicles - East Cambridgeshire District Council](#)

²⁴⁰ [Electrifying the Fleet-REA and EST](#)

impactful measures to decarbonise vehicles. These are priorities set for decarbonisation (local authorities will also consider other objectives).

- Support the provision of on-street charging.** Through the Local Electric Vehicle Infrastructure (LEVI) fund in England, councils can plan and deliver charging points in streets, neighbourhoods and town centres, targeting locations where commercial providers are unlikely to invest. Effective rollout requires councils to identify suitable sites, work with Distribution Network Operators on grid capacity, and coordinate procurement with reliable operators. Scottish local authorities have led the way on EV charging, supported by national funding, and are now forming bigger partnerships with private charge point operators. Similarly Welsh local authorities are moving to partnership models that don't require public funding.
 Transition local authority fleets to EVs. Local authorities need to shift their own operational fleet vehicles, cars vans and, where applicable, vehicles like refuse collection trucks to electric vehicles.
- Build charging infrastructure on council land.** Councils can use their own land, such as depots, car parks, leisure centres and public buildings, to install EV charging that serves both their own operational needs and those of the wider community. Many authorities begin by electrifying their own fleets and installing dedicated chargers at depots, but these assets can be made available to residents, visitors and businesses.
- Support cross-pavement charging solutions.** For many households, especially in terraced streets, accessing EV charging depends on cross-pavement solutions such as cable gullies, cable covers or pavement ducts. Local authorities can enable this by providing an installation service themselves or by setting clear application processes, updating local guidance, using permitted development rights where appropriate, and ensuring installations meet accessibility and safety standards. Councils can also encourage charger sharing schemes, where residents make private chargers available to neighbours and commercial fleets.
- Support wider uptake through increased familiarity of EVs,** by creating practical opportunities for residents, staff and local businesses to experience electric vehicles first-hand. They can offer EV pool cars for council staff and community use and expand access through salary-sacrifice schemes. For businesses local authorities can work with partners to run EV trials, loan schemes or demonstrator programmes, helping fleet managers understand charging needs, vehicle suitability and operational costs. They can also introduce parking charges to incentivise EV car clubs and EVs, and smaller cars with lower fees.

4.3.3 Challenges and barriers

4.3.3.1 Governance, roles and market structures

- **Procurement and market barriers.** Procurement processes for EV charging infrastructure can be slow and complex, particularly for long-term concessions or innovative charging models. Councils may lack commercial expertise to negotiate effectively with charge point operators, and social value frameworks do not always include EV related criteria. These factors can reduce the attractiveness of local areas to private investors.
- **Challenges electrifying vans and HGVs.** Electrifying vans and HGVs is more complex due to higher upfront costs, limited model availability and uncertainty around charging access. Depot electrification is often constrained by grid capacity and land availability, and there is a shortage of dedicated freight charging hubs. Opportunities for depot sharing between bus operators, freight operators and SMEs remain underdeveloped due to legal and operational barriers. Regional coordination is needed to support freight operators, but this remains under-developed. Electric van uptake is lagging, and policy support is needed to help van fleet operators switch, alongside helping smaller companies and sole-traders to switch²⁴¹. Work is needed to understand and overcome barriers to uptake such as charging and access to finance.
- **Uneven public charging provision.** Although rollout is improving, public charging remains uneven. Market led deployment tends to favour areas with higher utilisation. Accessibility standards for Disabled drivers are not consistently applied.

4.3.3.2 Funding, investment and cost barriers

- **Funding constraints and short-termism.** Historically, public funding for electric vehicle (EV) infrastructure was heavily fragmented, competitive, and short-term. While the introduction of targeted, multi-year frameworks—such as the Department for Transport's **Local Electric Vehicle Infrastructure (LEVI) fund** in England and equivalent strategic funds in the Devolved Administrations—has significantly improved long-term capital planning. However, revenue funding may not be sufficient, despite being essential for planning, engagement and maintenance.
- **The cost of on-street charging.** The price-gap between costs for those with home chargers able to benefit from cheap night-time or smart time of day tariffs and those charging on public chargers is significant²⁴². The CCC has recommended that Government should consider options to reduce the cost of

²⁴¹ [Electric van demand static in 2024 despite biggest overall market in three years - SMMT](#)

²⁴² [EV public charging costs | RAC Charge Watch - RAC Drive](#)

local public EV charging in residential areas. Councils have pointed out that VAT is payable on public charging, and there are calls to remove this to reduce costs to drivers. In addition, currently EV drivers must download lots of different Apps to access different public charge points, this is inconvenient.

4.3.3.3 *Skills, workforce and local authority capacity*

- **Skills and capacity gaps.** Many authorities lack the specialist skills needed to plan, procure and manage EV infrastructure, including commercial negotiation, grid integration and freight electrification. Capacity varies widely, and reliance on consultants can reduce continuity. Training for planners, procurement teams and fleet managers is inconsistent, and capability gaps remain a significant barrier to delivery.

4.3.3.4 *Infrastructure and energy system constraints*

- **Grid capacity and energy system barriers.** Grid constraints continue to delay the installation of public and depot charging, particularly in rural areas and at sites requiring rapid or high-power charging. Local authorities have limited influence over network investment decisions, and connection processes can be slow and costly. A lack of alignment between EV charging plans and Local Area Energy Plans further complicates delivery.

4.3.3.5 *Public engagement, behaviour and awareness*

Public acceptance and behavioural barriers. Misconceptions about EV range, cost and charging reliability persist²⁴³, and some residents oppose on street charging due to concerns about clutter or loss of parking. People without home charging face higher costs, and awareness of alternatives such as charger sharing or mobility hubs remains low. These behavioural factors can slow uptake even where infrastructure is available. Knowledge and acceptance of EVs by SMEs, tradespeople and logistics operators can pose a similar challenge.

4.4 Modal shift

4.4.1 What needs to happen for modal shift?

What needs to happen for modal shift to meet the Seventh Carbon Budget?

In the Balanced Pathway, some car journeys need to be switched to public transport and active travel, particularly in urban areas.

- In the Balanced Pathway, there is a **7% shift of car demand to public transport and active travel by 2035**, particularly in our towns and cities.

²⁴³ [Transport and transport technology: public attitudes tracker - DfT](#)

Although ambitious, this is achievable based on evidence from Germany and the Netherlands and towns and cities across the UK.

- It is assumed that modal shift will be higher in urban areas compared to more rural areas.
- The Balanced Pathway assumes that the steep rise in **van** mileage slows down and states that this should be monitored.

‘Active Travel’ refers to walking and cycling but also includes ‘wheeling’ to include the travel by wheelchair, mobility scooters, tricycles and other adaptive modes.

4.4.2 Local authority powers and levers to encourage modal shift

Legislated powers over public transport and infrastructure for active travel are moderate to good (depending on the type of authority) to enable modal shift to deliver the Seventh Carbon Budget. These powers are greater in London and Combined Authorities, but all have challenges and gaps. Critically, they can locate development sites along transport corridors to ensure that public transport is possible and reduce car use. While clean air laws can reduce emissions, this is not their main intent.

As a first step many local authorities have set out their ambition for modal shift, as reducing private car and van kilometres is long-term project that needs careful planning, sequencing and communicating.

Case study: Ambitious plans for modal shift

Analysis by Low Traffic Future in April 2024 of Local Transport Plans²⁴⁴ found that very few local transport authorities or groups of authorities have adopted ambitious targets to reduce motor-vehicle traffic on their roads and/or to increase the use of sustainable transport modes in line with what is needed to reach a decarbonised transport system by 2050.

Examples of high ambition include:

- **West Midlands Combined Authority:** aiming for a 35% reduction in car distance travelled by 2030
- **Oxfordshire County Council:** aiming for a 25% reduction in car-trips by 2030 and a 33% reduction by 2040
- **Reading Borough Council:** aiming to reduce car use as a proportion of trips made to or through Reading town centre from 25.4% to 10% by 2040, with the proportions made by public transport and by active travel rising to 50% and 40% respectively

²⁴⁴ [The Current State of Local Plans \(LTPs\), April 2024 - Low Traffic Future](#)

- **York City Council:** aiming for a 20% reduction in car-mileage by 2030

The Scottish government is reviewing its 2020 ambitious car use reduction targets which were to reduce car use by 20% by 2030 in light of the steep increase post-pandemic in car use, societal norms reinforcing individual car use, the complexity of travel behaviour and the economic factors in achieving a shift away from car dependency. It issued a renewed policy statement²⁰¹ saying it remains committed to working with RTPs to support measures to encourage active travel and accompany greater investment in public transport for a fairer and greener transport network.

The Scottish Government and the Convention of Scottish Local Authorities (COSLA) will continue to work with stakeholders to develop a longer-term target on car use to support the nation's 2045 net zero target, investigate regulatory changes that would enable local authorities to apply road charging, develop place- and user-specific delivery plans to support reduced car use and alternative transport options and to set out a positive communications and engagement vision on the benefits of reduced car use.

There are big differences in the patterns of car use and availability of public transport and potential for active travel between different areas and local authorities. Rural areas are more heavily dependent on cars, with longer distances travelled and more challenges in providing public transport like buses to more sparsely populated areas. In addition, narrow roads can make active travel infrastructure difficult to incorporate within the highway area. This leads to tensions in providing advice to local authorities on which actions to prioritise to reduce emissions. A range of examples are provided in this Chapter. There is a social justice element to providing affordable, accessible public and active travel universally regardless of whether people live in rural or urban areas.

The powers and influence local authorities have to reduce emissions through modal shift from cars to public transport, shared transport and active travel are shown below.

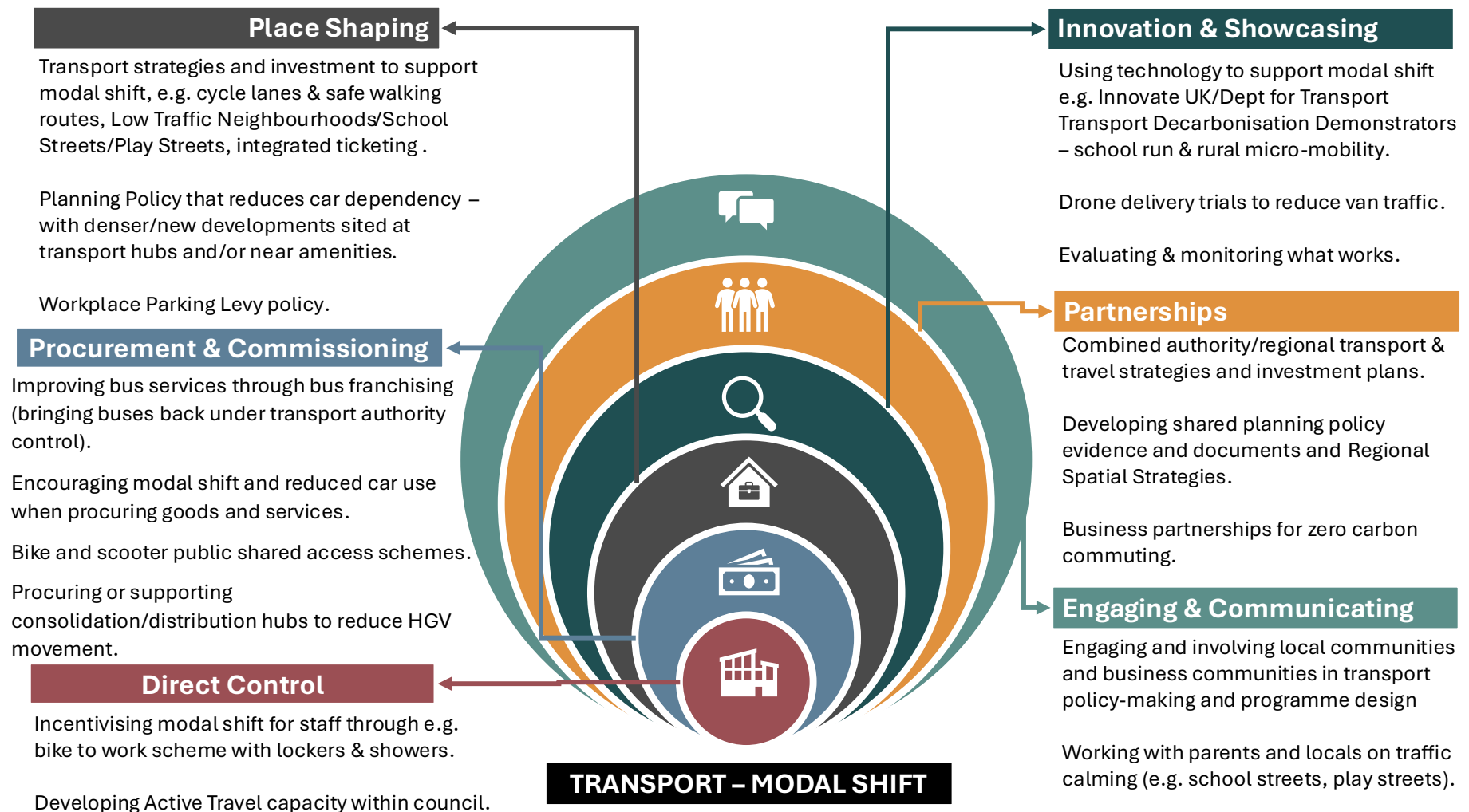


Figure 11: Onion diagram of local authority influence for modal shift

4.4.2.1 Direct control

4.4.2.1.1 Staff commute

Councils can reduce council staff commuting emissions by measuring emissions, conducting travel surveys and devising interventions, including agile or remote working policies, providing access to pool cars and bikes for people who need to travel for their jobs to commute to work without requiring a car. They can also provide the salary sacrifice Cycle to Work²⁴⁵ scheme, along with lockers and showers. Other options include promoting and incentivising public transport and ride sharing, including through parking permits and policy. These interventions not only reduce emissions but can improve employee health and wellbeing.

Case study: Gloucester City Council – Green Travel Plan

Gloucester City Council's 2022 plan to cut officer commuting emissions was developed through a Mobilityways survey of their 228 staff to understand their commute time, barriers to working from home and staff preferences. The most significant measure was the formal adoption of an agile working policy, which has already led to a substantial reduction in per capita commuting emissions to 185kg CO₂ per person, measuring significantly lower than the national average best-case scenario of 281kg²⁴⁶. The Plan includes 15 recommendations to further promote sustainable travel, such as exploring segregated cycling infrastructure, encouraging public transport use, and setting a minimum target of a 17% reduction in miles officers commute by car by 2030. This approach set a data-driven example for the wider district's goal of carbon neutrality by 2045. The council has also invested in its Locality Hubs where staff can work in different parts of the county. Support for cycling includes the salary sacrifice Cycle-to-Work scheme, transport hub investment and has benefited from improvements to the Gloucestershire Cycle Spine²⁴⁷ – a segregated cycle route between Cheltenham and Gloucester.

Case study: Cheshire East Council – Tackling Staff Commuting Emissions

Cheshire East Council's 2020 SCATTER modelling and further analysis of emissions by influence showed that commuting was a significant emissions area to address²⁴⁸. Options for action to reduce commuting emissions included Carbon Literacy training, staff commuting survey and providing information on alternative travel options, promoting cycle to work scheme and mileage payments, incentivising low emission vehicle uptake, producing a business travel plan and framework, fleet and

²⁴⁵ [Cycle to work scheme implementation guidance for employers - DfT](#)

²⁴⁶ [Gloucester's plan to cut commuting emissions - UK100](#)

²⁴⁷ [Gloucestershire Cycle Spine hailed as 'gamechanger' for cyclists - BBC News](#)

²⁴⁸ [Carbon Neutrality Action Plan 2020-2025 – Cheshire East Council](#)

pool car management, working from home polices and adopting remote working technologies.

4.4.2.1.2 Developing capacity within council on active travel

A 2023 National Audit Office report found that a key barrier to active travel uptake was local transport authorities’ limited skills and capacity to deliver active travel interventions.

Active Travel England’s Local Authority Active Travel Capability Ratings 2025²⁴⁹ assesses the ability of local transport authorities (LTAs) (outside London) to lead and organise, plan, design and deliver active travel schemes. The ratings highlighted improvements to these capabilities compared to 2024 and will be used to calculate the government’s multi-year funding to local authorities and will set local transport budgets up to 2029/30. Those with higher scores, particularly outside of areas receiving Transport for City Regions funding, will be given more funding. Tees Valley Combined Authority’s rating decreased and it will receive targeted intervention to address this. The urban rural gap began to close, with rural counties moving from level 1 to 2, including Derbyshire and Cheshire East, while Oxfordshire and Gloucestershire moved from 2 to 3.

Table 2: Active Travel England’s Local Authority Active Travel Capability Ratings

Level	Description	LTAs (2025)
Level 0	Local leadership and organisational capability for active travel is not obvious; no significant plans are in place; only lower-complexity schemes have been delivered.	0
Level 1	Some local leadership and organisational capability with basic plans and isolated schemes that do not yet form a coherent network.	39
Level 2	Strong local leadership and organisational capability, with clear plans forming the basis of an emerging network with a few elements already in place.	30
Level 3	Very strong local leadership and organisational capability, comprehensive plans, and a significant network in place with a growing number of people choosing to walk, wheel and cycle.	11

²⁴⁹ [Local Authority Active Travel Capability Ratings 2025 – Active Travel England](#)

Level	Description	LTAs (2025)
Level 4	Established culture of active travel with successive increases in walking, wheeling and cycling, underpinned by a dense integrated network and highly supportive policies.	0

As such, local authorities can take action to make active travel (and thus support modal shift) more likely by training and capacity-building across departments and for Elected Members, and by using the checking services provided by Active Travel England. In England, the Consolidated Active Travel Fund has allocated capital and revenue funding to local highways authorities, which can include funds for capability building.

Case study: Gloucestershire County Council – Gloucestershire Cycle Spine

According to the ATE Local Authority Active Travel Capability Ratings, the county “demonstrated strong commitment to expanding active travel provision across its largely rural landscape. The emerging ‘Cycle Spine’ is already delivering enhanced links to key towns and villages, with a plan to eventually provide access to half of Gloucestershire’s population through a mix of new routes and paths.” ATE noted the good partnership working with its six district councils, and its work on stakeholder engagement and adaptive design.

Gloucestershire is using Active Travel Fund, Levelling Up Fund, National Highways, Walk Wheel Cycle Trust, Community Infrastructure Levy and local contributions to install its 26-mile spine route.

4.4.2.2 Procurement and commissioning

4.4.2.2.1 Procurement policies and practices to support modal shift

Since local authorities procure large numbers of goods and services, and these Scope 3 emissions make up 70-80% of local authority emissions overall, low-carbon procurement practices can be used to reduce transport emissions. This can be achieved by, for example, encouraging modal shift and reducing car and vehicle mileage for services which involve people travelling through social value procurement.

Case study: City of London - Low-carbon Procurement Guide²⁵⁰

The guide is informed by the Climate Change Strategy and strategies for Air Quality and Responsible Business. It includes pre-procurement questions to be used internally including whether transport and logistics can be rationalised to reduce

²⁵⁰ [Low Carbon Procurement Guidance - City of London](#)

road vehicle trips for delivery. It provides a ‘heatmap’ matrix to help the council to identify opportunities and manage risks across the lifecycle of products and services alongside leverage and scope available.

4.4.2.2.2 Bus services

In the 1970s buses were publicly owned and operated, regulated and subsidised to enable less profitable routes to operate. Under the Transport Act 1985 they were deregulated with only Greater London and Northern Ireland retaining direct control of all bus services, and although few local authorities retained ownership of their bus companies, they still had to compete with private operators, as was the case in Reading, Warrington and Edinburgh. During this time local transport authorities had minimal leverage, they only commissioned or procured services from a private operator via competitive tender, but lacking the overall power to direct commercial buses where to run. This resulted in cuts to key services and over supply on more popular routes, and an uneven provision of bus access across areas.

In 2000, local transport authorities were given a bit more leverage with further powers given through the Bus Services Act 2017. Finally, the Bus Services Act 2025 has provided all transport authorities the ability to control routes, timetables and integrated ticketing, through bus franchising, and returned the right to establish and operate municipal bus companies. It also tightens rules against operators cancelling ‘socially necessary’ routes at short notice. This sees much greater powers and levers available to local transport authorities to improve bus services and integrate these into wider place shaping for economic, social and environmental impacts. In Scotland and Wales different legislation and dates apply, but the story is largely similar, however Wales is taking a centralised approach to bus franchising by Transport for Wales with regional coordination through council Corporate Joint Committees.

Improving bus services to drive up passenger numbers can be an effective way of achieving modal shift from car journeys, and creating ongoing improved bus services as they become more viable with greater use²⁵¹. However, although recovering continually, bus use has still not returned to pre-pandemic levels, reaching 90% of pre-pandemic levels in England in by March 2024²⁵².

Local transport authorities (LTAs) (i.e. Combined Authorities, County Councils, Unitary and Borough Councils, not District Councils outside London) will play a key role in delivering the government’s objectives in the National Bus Strategy, which is to grow bus patronage. In line with the National Bus Strategy, England’s 80 LTAs produced Bus

²⁵¹ [National Bus Strategy: 2024 Bus Service Improvement Plans Guidance to local authorities and bus operators - DfT](#)

²⁵² [Annual bus statistics: year ending March 2024 \(revised\) - DfT](#)

Service Improvement Plans in 2024. These plans must outline how twelve objectives are met, including frequency, reliability, cheaper fares, comprehensive (balancing over-provision on some routes to boost provision elsewhere including weekends and evenings), ease of understanding and use, integration with other transport modes, zero emissions, accessibility, innovation and safety. They also include the socially and economically necessary services (SENS), those providing a service to people who can't walk far, bike or drive a car and services to key workplaces or public services like a hospital.

Bus Service Improvement Plans are a way the Government encourages local authorities to replicate successes across LTAs. For example, the National Bus Strategy expects LTAs to replicate youth fares implemented in Liverpool City Region, which saw more young people using the bus; fare caps and jobseeker, care leaver and armed services veteran bus fares. These are being supported by target indicators and new Bus Connectivity Assessments, which provide an overview of connections and the costs of running these services and will inform Government's funding and policy requirements.

4.4.2.2.3 Bus Franchising

Under the Bus Services Acts 2017 and 2025, Combined Authorities, then subsequently Local Transport Authorities (LTAs) in England can more easily set up a bus franchising scheme in their area, effectively bringing buses back under local transport authority control to set the services, times, routes and standards, in their local area. The 2025 Act also ensures that 'lifeline' services cannot be removed or changed without councils reviewing their ability to serve those communities, particularly in rural or deprived areas.

Bus franchising is likely to bring investment into multi-modal transport interchanges, new or refurbished depots, new buses, including zero emissions buses and the reinstatement of bus lanes. Following on from Greater Manchester, the process of bus franchising is underway in West Yorkshire (2025 – 2028), Liverpool City Region (2026 - 2027), West Midlands (2027 – 2029) and South Yorkshire (decision taken in March 2025).

Earlier in 2025, Cambridgeshire and Peterborough Combined Authority started a bus reform process, moving towards bus franchising. This has reinvigorated public transport, including a new £1 fare for under-25s and new demand-responsive services in rural areas through flexible bookable buses in Fenland, East Cambridgeshire and South Cambridgeshire.

Franchising can also operate in a defined area alongside an Enhanced Partnership, for example, providing services to a market town or other location poorly serviced by existing buses, and not commercially viable under an Enhanced Partnership. This model of franchising is less resource intensive for the local transport authority to develop and may be an option for more rural areas.

In Scotland all local transport authorities can franchise their bus services following legislation in 2019 and subsequent secondary legislation in 2025. This process is likely to take between five and seven years and face similar challenges to those in Greater Manchester with legal challenges from bus operators. It is also a more complex process than that in England, with a Traffic Commissioner carrying out additional scrutiny. There are calls for this extra step to be removed to deliver franchising earlier²⁵³. The first area, Strathclyde Transport Partnership started the franchising process in 2024 and consulted on its plans earlier in 2025.

Bus franchising in Wales is also underway, with the Bus Services (Wales) Bill passing through the Senedd, enabling a Welsh Bus Network Plan, local bus services franchising and allowing local authorities to establish new municipal bus companies. The intention is that local authorities, Corporate Joint Committees, Transport for Wales and the Welsh Government will work together to design and deliver better bus networks. Wales will be divided into nine zones for bus franchising, starting in 2026 through to 2028. Alongside core services, feeder routes and flexi services delivering demand responsive minibuses will ensure rural populations are connected into the main network²⁵⁴.

Case study: Greater Manchester Combined Authority/Transport for Greater Manchester: Bee Network²⁵⁵

Against a backdrop of falling bus use particularly after the Covid pandemic, Greater Manchester is delivering increases in bus use. In the two years since its first areas were franchised, bringing buses back under public control, it has seen a 14% increase in bus journeys year on year. It has changed 75 routes to improve services making them start earlier in the mornings and go on later into the evenings, more frequent and better connected, meaning that 84% of residents are within a 5-minute walk of a half-hourly bus or tram service (daytime, weekdays) up from 78% in 2022. 17% of the bus fleet is zero emission compared to 2% pre-franchising. Punctuality is increasing and new night-time services are being launched, along with a focus on safety with Greater Manchester Police having an “11th district” on top of the ten local authorities, dedicated to safety on the transport network. In 2024 it launched the integrated payments Tap and Go across the buses and trams on the Bee Network²⁵⁶.

²⁵³ [The Long Road to Bus Franchising - Get Glasgow Moving](#)

²⁵⁴ [Our roadmap to bus reform – Transport for Wales](#)

²⁵⁵ [Delivering Better Bus Services for Greater Manchester - GMCA](#)

²⁵⁶ [‘Change Day’ has come as Greater Manchester delivers ‘London-style’ network with launch of modern ‘tap and go’ contactless payments across bus and tram](#)

4.4.2.2.4 Concessionary bus fares

Local authorities (county councils, unitaries, London Boroughs and Passenger Transport Executives now part of Mayoral Combined Authorities) in England as Travel Concession Authorities must administer the English National Concessionary Travel Scheme (ENCTS)²⁵⁷, which provides free local bus travel, within certain hours and on certain days of the week, to eligible older people and eligible disabled people under the Transport Act 1985, Transport Act 2000 (modified by the Concessionary Bus Travel Act 2007) and Greater London Authority Act 1999. This involves reimbursing bus operators for journeys made under ENCTS for which they receive funding from the Government.

In addition to this, under the Transport Act 1985 they have discretionary powers to use their own funds to offer concessions over and above the mandatory scheme, for example to young people, students, apprentices or people below the pension age. They can also extend the hours offered, for example providing free or reduced fares before the mandated eligible time of 9.30am. They can also offer fixed fares, such as the £2.50 fares offered by Transport for Greater Manchester, offered when the national bus fare scheme rose to £3.00. These discretionary powers extend to discounts on rail fares.

Devolved administrations also have concessionary travel schemes with wider coverage and more generous provision than England.

Scotland has National Concessionary Travel Schemes²⁵⁸ administered by councils, that provide free bus travel for people under the age of 21 and over 60 and for eligible disabled people. Free bus travel for the under 21s aims to provide access for young people to education, leisure and work and helps save them money and build sustainable travel into the habits early in life.

Wales provide a Concessionary Travel Card that extends free bus travel to over 60s, disabled people and a discount to young people aged 16-21 years. As for English authorities, Scottish and Welsh local authorities or transport authorities can go beyond the mandatory offer and offer additional discounts, including for rail fares.

Northern Ireland's councils do not play a role in bus fares, as the national transport operator, Translink is the integrated public transport operator for bus and rail, and the Department for Infrastructure administers the concessionary fares scheme.

4.4.2.2.5 Micromobility: Shared bike, e-scooter and e-bike schemes

CoMoUK's Annual Bike Share report²⁵⁹ for 2023 found that bike share motivates people to take up cycling, and that 32% of bike share users combine bike use with other means

²⁵⁷ [Managing the English national concessionary travel scheme \(ENCTS\) - DfT](#)

²⁵⁸ [A Guide to Concessionary Travel – Transport Scotland](#)

²⁵⁹ [UK Annual Bike Share Report UK 2023 - CoMoUK](#)

of transport. 39% of bike share users use it for commuting or going to school at least once a week. A quarter of users would have made the trip by car.

Local authorities have been providing shared micromobility schemes, covering bike hire, e-bike, cargo bike hire and more recently e-scooters.

Local authorities can manage and fund or subsidise schemes operated by a private operator, as is the case for London's Santander Cycles and the Starling bikes scheme in Manchester, Trafford and Salford, which is managed and funded by Transport for Greater Manchester on behalf of the Greater Manchester Combined Authority and operated by Beryl, a bike share company operating in London and other areas. These are generally docked schemes, with specified parking and charging places, which are put in place using a Traffic Management Order.

Local authorities can also provide a licence or permission to operate a private scheme such as Lime bikes.

E-scooter trials show they can replace short car trips and support access to public transport, but their overall impact on reducing emissions is relatively small, with only modest CO₂ savings compared to total car emissions^{260, 261} In addition, local authorities need to carefully consider design and location of docking stations (which take up highway space)²⁶² and work with operators to reduce the issue of abandoned bikes and scooters.

E-scooters schemes have been provided under trial conditions since 2020, recently extended for the fifth time, to 2028. This has delayed new legislation to make them mainstream. Local authorities must use amended Traffic Regulation Orders to allow them, because legislation is lagging and private use without a motorbike licence, registration, tax and insurance is not legal as they are classed as motor vehicles.

Lastly, lessons from Europe show that city centre secure, staffed bike parks subsidised by city councils can be effective. These schemes store bikes away from pavements and roads and provide security for users. Some provide additional services such as e-bike charging, pushchairs and parcel collection and returns services²⁶³.

Micromobility schemes are most commercially viable in areas with higher population density and mixed types of destination. Rural schemes can be implemented, usually in towns, such as Totnes (South Hams District Council) and Saffron Walden (Uttlesford District Council) which also provides a Bike Club scheme for people to rent an e-bike or

²⁶⁰ [National evaluation of e-scooter trials - ARUP](#)

²⁶¹ [Shared micromobility within the UK - LGA](#)

²⁶² [Cycle and scooter hire schemes - Active Travel England](#)

²⁶³ [Bicycle parking - Gemeente Utrecht](#)

pedal bike for up to six months at a subsidised rate as part of the market town's Clean Air project²⁶⁴.

4.4.2.2.6 Procure/support consolidation hubs to reduce van and HGV movement (supporting uptake of Active Travel)

Research²⁶⁵ for the Local Government Association into the role of local authorities in tackling sustainable freight solutions highlighted that local authorities can support solutions for last mile parcel delivery through:

- E-cargo bikes and micro-consolidation
- Compulsory consolidation centres
- Smaller electric vans for rural areas
- Road pricing for last-mile deliveries
- Pricing to disincentivise rapid (next day) delivery)

The research came up with a set of recommendations to tackle the issue, including developing new legislation to give greater powers to local authorities, and pilot schemes to franchise last mile delivery and use the Traffic Regulation Order framework to reduce the number of vehicle movements including using smarter regulation like dynamic kerb space and delivery management.

In the meantime, some local authorities are already working with delivery companies to introduce e-cargo deliveries and reduce van movement, making highways safer for other users. They also already have powers to limit HGV access to urban areas, loading and delivery restrictions, and congestion or clean air charges, which can incentivise the development of consolidation centres and use of smaller vehicles for deliveries. Using planning policy, Section 106 obligations can also require new developments to use consolidation centres to reduce future vehicle movements, which is being done by the City of London.

Case study: Camden Council – Planning Conditions for Delivery Consolidation for New Laboratory

Camden Council set Section 106 planning conditions for Francis Crick Institute relating to the servicing of this large research laboratory. The conditions required a consolidation service based outside central London, to sort and consolidate its over 120 daily deliveries, which are then delivered to the main building just twice a day in a ULEZ compliant vehicle. This removes 20 trucks a day from central London roads. No funding is provided by the council for this arrangement^{266, 267}.

²⁶⁴ [EV bikes: hire or try before you buy - Uttlesford District Council](#)

²⁶⁵ [The future of last-mile deliveries: Understanding the local perspective - LGA](#)

²⁶⁶ [Understanding Freight and Logistics consolidation centres guide.](#)

²⁶⁷ [Working with the Francis Crick Institute - Restore Information Management](#)

Case study: Transport for London - London's Cargo Bike Action Plan

Launched in 2023, the plan²⁶⁸ aims to replace 1-2% of van kilometres across Greater London by 2025 with cargo bikes, rising to 4% in 2030 and in the same year 17% in central London areas. Transport for London is building the baseline and intelligence to understand future volumes and flows to support spatial planning and aid design of its cycle infrastructure. TfL is working with local authorities and developers to identify short-stay parking for cargo bikes, for example, Lambeth Council has a target of 25% of car parking space allocated to low-carbon modes. This is in support of the Greater London Authority's commitment for all vehicles under 3.5 tonnes used for last-mile deliveries to GLA facilities be zero emissions, which is supported through its procurement policies.

4.4.2.3 Place shaping

Combined and local authorities, particularly local transport authorities, but also local planning authorities (District Councils rather than County Councils in two tier systems in England) have increasingly important roles in place-shaping to deliver the systems-wide connected infrastructure required for modal shift and transport decarbonisation. This includes long-term planning for rapid transit, bus-ways and new railway stations. The Railways Bill to establish Great British Railways will include a new statutory role of devolved leaders in governing, managing, planning and developing the rail network.

There is also a growing and stronger role played by Regional Transport Bodies, which bring together combined authorities, local transport authorities, National Highways, the Department for Transport and Local Economic Partnerships. Such regional bodies or sub-national transport bodies play an important role in supporting decarbonisation²⁶⁹, rural transport excellence, local capability and capacity in local authorities and connected mobility.²⁷⁰ Resources they have developed include a decarbonisation playbook²⁷¹ that helps local transport authorities to develop their Local Transport Plans, and support rural transport capacity development. They also provide an important link between the Department for Transport and local delivery, and can save time and resources for local authorities which can use the resources and support available to focus on delivery.

²⁶⁸ [Cargo bike action plan - TfL](#)

²⁶⁹ [TfN's Carbon Reduction Tools | Transport for the North - Transport for the North](#)

²⁷⁰ [Sub-national Transport Bodies: evaluation of initiatives to support local authority capacity and capability](#)

²⁷¹ [Carbon Assessment Playbook](#)

Wales, Scotland and Northern Ireland also have regional structures that support a regional overview and support for transport planning.

4.4.2.3.1 Transport strategies and investment

Local transport authorities in England, Scotland and Wales have a wide range of powers available to them to implement measures to support modal shift including:

- Cycle lanes and safe walking and wheeling routes
- Cycle parking including cycle hangars suitable for terraces and flats²⁷²
- Low Traffic Neighbourhoods/School Streets/Play Streets
- Pedestrianised streets
- HGV management
- Lower speed limits
- Super bus networks (Cornwall, London Superloop)
- Priority bus lanes and bus priority measures at traffic controls
- Parking policies – including policies that favour public transport and low emissions or shared vehicles
- Park and ride schemes
- Clean Air Zones.

In many cases, these powers can be slow to use (such as Traffic Regulation Orders), are incomplete or contradictory (such as enforcing against parking on cycle routes or pavements outside London), and rely on funding being available. Stop start funding, funding reliant on outdated methods of calculating the cost benefit ratios, and lack of local authority capacity can lead to piecemeal interventions that do not manage to incorporate the whole set of measures needed for integrated, low-carbon, active and inclusive measures. Mature combined authorities are starting to tackle this, as we see with the growing networks of segregated cycle lanes in Leeds and Greater Manchester.

Case study: Hackney Low Traffic Neighbourhoods²⁷³

The London Borough of Hackney has introduced 19 low traffic neighbourhoods (LTNs) since 2020, aimed at supporting people to walk, cycle and shop locally. Over 50% of the Borough is covered by a low traffic zone. LTNs close off roads to through traffic using traffic filters. Cyclists, emergency and waste vehicles can pass through, along with Blue Badge holders, for some filters. There have been average traffic reductions of 38% in the LTNs and 2% on boundary roads for the four biggest schemes and reductions in nitrogen oxide at 329 of 388 locations. Polling found a quarter of people more likely to increase the amount of walking, running and cycling

²⁷² [London Cycle Hangars Report – FARE CITY](#)

²⁷³ [Low traffic neighbourhoods - Hackney Council](#)

they do as a result of the LTNs and that in some places cycling rates have increased²⁷⁴.

Some LTNs have proved unpopular, and the council has made changes in particular for Blue Badge holders in response to feedback, and is using live traffic monitors to monitor changes in traffic patterns and continues to carry out engagement with its residents.

The power to introduce a **Workplace Parking Levy** exists in England and Scotland, but has only been used by one local authority, Nottingham City Council with great success, providing income to the council to invest in link buses, extended tram network and improved infrastructure across the city. It carries political risk, and although some other local authorities have begun exploring it, none have yet completed implementation.

4.4.2.3.2 Local Planning Authority – Local Plans and Policies

Local authorities planning role is a power which can either help or hinder progress in reducing emissions in transport (see Section 2.3 *A brief introduction to the role of Local Planning Authorities* for an overview of the planning role). Local Plans are expected to promote sustainable transport and identify opportunities to promote walking, cycling and public transport use, reducing environmental impacts of traffic and transport infrastructure. They are expected to draw on Local Cycling and Walking Infrastructure Plans. However, they are only permitted to set maximum parking standards if there is a 'clear and compelling justification that they are necessary for managing the local road network. National Planning Guidance also recognises that Travel Plans, Transport Assessments and Statements are ways to assess and mitigate the negative transport impacts of development however, these are often required by local planning authorities but their implementation and impact is often not monitored.

Active Travel England is a statutory consultee for larger planning applications (sites with more than 150 homes, 5 hectares or more than 7,500m²) in England and can work with local planning authorities to ensure new developments are designed with active travel in mind. This would include high quality cycling and walking networks, cycle parking, green spaces and green routes.

²⁷⁴ London Borough of Hackney, *Borough-wide LTN Monitoring Strategy Review* (September 2022); data independently evaluated and verified in Aldred, R., et al. (2023), "Changes in motor traffic inside London's Low Traffic Neighbourhoods and on surrounding boundary roads," *Journal of Transport & Health*, 28, 101550. Perceptions on active travel derived from the *Hackney / Sustrans Active Travel Perception Survey* (2022).

Planning Policy for Wales²⁷⁵ promotes sustainable transport and developments sited in locations where they can be ‘easily accessed by sustainable modes of travel without the need for a car’.

The location of new developments dictates whether it is likely to lock in or lock out car use. Research shows little improvement in public transport use by residents in new builds, with car travel typically faster and far more accessible - especially in rural and edge-of-town areas - leading most new homes to remain car-dependent²⁷⁶.

Local planning authorities can take steps to focus new developments on sites with existing public transport infrastructure – train or tube stations, and bus corridors. They can also require or make investments into extending sustainable transport infrastructure to serve new developments. Alongside this, they can ensure that developments are sufficiently dense to be attractive for new bus services; and that services are provided within developments – for example, creating mixed developments for residential, employment, leisure and retail, which create new communities, rather than isolated car-dependent housing estates.

Case study: Greater Cambridge Local Plan – 20 year master plan²⁷⁷

“Achieving Net Zero status cuts across all elements of place making; not just through how homes and buildings are designed and constructed, but also by ensuring new development is in places where it is or can be well served by low-carbon transport links like public transport, cycling and walking as well as renewable and low-carbon energy.” Its infrastructure topic paper outlines the focus on reducing car use and requiring developments to be located and designed to reduce the need to travel, particularly by car, and promote sustainable travel. Developers will be required to contribute to public and community transport and deliver new and improved active travel connections, in line with quality standards in an Active Travel Toolkit.

In collecting its evidence base, analysis into location of developments and emissions (see chart below) showed that village locations locked in high transport emissions, whereas dense developments and those on public transport corridors were much lower.

²⁷⁵ [Planning Policy Wales - Edition 12](#)

²⁷⁶ [The Location of Development 4 - RTPI](#)

²⁷⁷ [Draft Greater Cambridge Local Plan for consultation | Greater Cambridge Shared Planning](#)

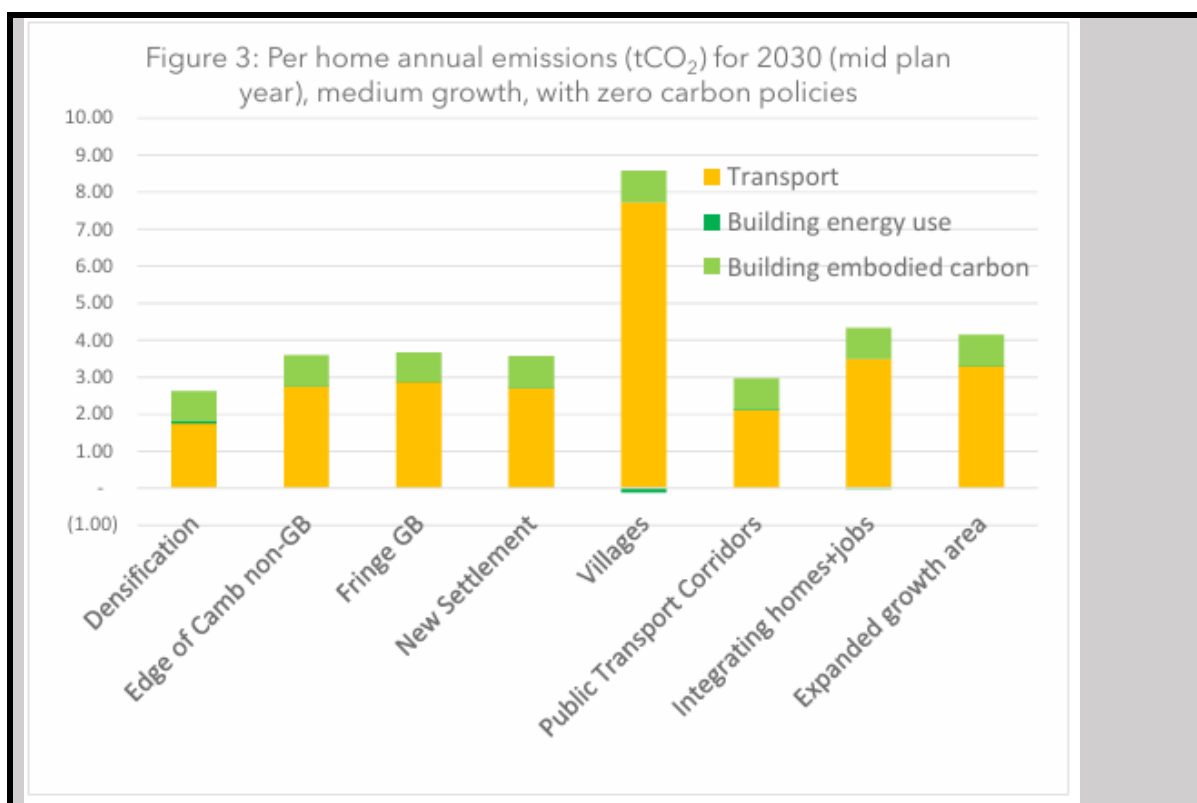


Figure 12: Greater Cambridge Local Plan Per home annual emissions for 2030.²⁷⁸

Research from Transport for New Homes highlights the positive aspect of integrated planning in Cambridge: “New transport infrastructure coordinated with new housing. The housing areas near Cambridge benefited greatly from the busway. This was a rare case of transit oriented development and it seemed to work.”

Case study: West Northamptonshire Council

Another area experiencing significant new development through the Ox-Cam Arc is **West Northamptonshire Council**. “Housing and employment growth in the Council area is expected to add pressure to our existing transport networks, particularly if changes are not made to how, when and where some journeys are made. In coordination with the Local Plan, these areas need to be well served by a reliable, accessible, and well-connected transport system that also offer greater choice and flexibility, which is integrated and serves and benefits existing communities, employment areas and visitors.” Its March 2025 Local Transport Plan²⁷⁹, although lacking targets, is unique in that it is to report the number of homes started (i.e. new homes) which are within 400m, or 800m of a public transport node, or within 1500m of a rail station. Although this ‘as the crow flies’ metric does not measure safety or

²⁷⁸ Source: [GCLP Strategic spatial options assessment Implications for carbon emissions Nov2020](#)

²⁷⁹ [Local Transport Plan 2025 – West Northamptonshire Council](#)

ease of walking or cycling to the public transport spot, it is welcome that the council is monitoring whether the new housing in their area is supporting sustainable transport.

4.4.2.4 Innovation and showcasing

4.4.2.4.1 Innovation funding

Local authorities are taking advantage of technology, innovating to support modal shift, including with funding from Innovate UK and Department for Transport's Transport Decarbonisation Demonstrators²⁸⁰.

Case study: Essex County Council – HomeRun²⁸¹: School Travel Evaluation Platform (STEP)

HomeRun developed the School Travel Evaluation Platform (STEP) with part-funding by the Department for Transport through Innovate UK. STEP is also in use by Hertfordshire County Council, Wiltshire Council, Leicester City Council, Westminster Council and Camden Council. 51% of peak time rush hour is to educational establishments between 8-9am during school terms but 95% of schools lack up to date travel data and do not engage in travel planning.. HomeRun uses Machine Learning based on pupil data and possible journeys that get pupils to school on time by analysing bus routes and schedules, presence of pavements and gradients so it can target interventions that are relevant to parents. By using the underlying geographical and demographical data STEP can quantify the shift that's theoretically possible at each school, from driving to active modes and public transport. Furthermore, it measures the projected carbon savings that result, thereby allowing Essex to see which schools have the greatest potential, and seek to engage with and support those schools on developing their School Travel Plans. There are also plans to use it with Highways colleagues, where designs of networks can try to facilitate that modal shift STEP suggests is possible.

Case study: East Lothian Council – Bus Shelters as Modular Mobility Hubs²⁸²

A challenge for rural councils is to design transport infrastructure that integrates different transport modes, to encourage people to use buses but to make the first and last mile journey by walking and cycling. In Scotland in particular, bus shelters need to be protected from the weather, and accessible. Cenex and industrial

²⁸⁰ [Demonstrating Decarbonisation: How Local Authorities and Innovators are Transforming Transport - Innovate UK Business Connect](#)

²⁸¹ [Countryside Climate Network: Q1 meeting - Decarbonising rural transport](#)

²⁸² [IUK East Lothian Bus Shelter - Cenex](#)

designers Quarterre, carried out community engagement and surveys for user needs including older and retired people, commuters, young families and disabled people. This engagement has informed the development of bus shelter designs that provide modular benches to extend installations, seating options and easy wayfinding to connect locations. They have produced a Toolkit of design recommendations so local authorities can develop user-friendly and multi-modal bus shelters.

4.4.2.4.2 Smart controls and live data

Several local authorities are using Smart Signal Control with sensors across their areas to reduce congestion and improve bus journey punctuality and reliability, which are vital to retaining and growing passenger numbers. The same system can also be used to measure the impact of interventions and prioritise active and public transport through traffic signals. Leeds City Council has sensors in place at 25 sites in the city and has integrated multimodal detection data into the control system to deliver dynamic, responsive signal control that keeps traffic flowing. This is used to improve bus journeys by prioritising buses at key junctions. It can also detect a cyclist from 70 metres away and provide a green signal for their arrival at the junction²⁸³.

Collecting real time data, local authorities are monitoring the effect of interventions like new bus lanes, school streets and cycling routes, and are able to trial interventions and alter them, or gather evidence for decision-making. Nottingham City Council, Coventry City Council, Westminster Council and West Sussex County Council²⁸⁴ are using VivaCity sensors and AI supported data in this way.

4.4.2.4.3 Demand Responsive Transport (DRT) using route optimisation technology

Across the UK, flexible, on-demand transport solutions have been in place for years, moving from dial-a-ride to using more sophisticated routing technologies and progressing from pilots to permanent schemes in rural communities where traditional fixed route bus services are not viable.

Research for the County Councils Network in 2023 found that 75% of councils in county and rural areas offer DRT. However, most county councils operate these services at a loss, making them unsustainable in the long-term without further funding.

Well-known schemes such as Aberdeen's A2B service which has been operating since 2004, Go-Connect (Sevenoaks), MK Connect (Milton Keynes), Call Connect in Lincolnshire have been operational for some time, and in some cases are saving money

²⁸³ [Optimising your Bus Service Improvement Plan - VivaCity](#)

²⁸⁴ [West Sussex County Council used VivaCity data to decide to make School Street schemes permanent - VivaCity](#)

or fleet numbers for councils, and are expanding to new areas. In Leicestershire housing developers have contributed to DTR through Section 106 payments.

Wales' ffllecsi network is provided at the national level by Transport for Wales, and is integrated across the country with the fixed routes network. Community Transport has been a core element of mobility in Northern Ireland, while its draft transport strategy includes reference to DRT, as well as fixed route bus services to rural areas.

Case study: Gloucestershire County Council – The Robin Demand Responsive Bus Service

Gloucestershire County Council and the Department for Transport's Rural Mobility Fund have developed a demand responsive service²⁸⁵ for rural Gloucestershire that uses an on-demand technology to book a minibusservice via an app, website or by phone. Local bus operators and community transport providers work with the council to provide the services. People book between two weeks and 30 minutes ahead and Padam Mobility software then optimises the route in real time. This service has provided buses to villages that had no public transport or a once-weekly bus service and provides most services during peak commuting times.

Case study: Hertfordshire County Council – HertsLynx

Hertfordshire County Council introduced the HertsLynx DRT scheme in 2022 with three 16-seater buses in 2021, expanding this to four in 2022. It can be booked in real time or up to four weeks in advance and serves an area where 40,000 people live more than a 15 minute walk from a bus stop. A study²⁸⁶ of East Hertfordshire, where 57% of people live outside the two main towns (316 people per km²) and North Hertfordshire (355 people per km²) found that *“DRT services serve a much higher proportion of the population in the area [than fixed route buses or rail], they are faster and also create an experience similar to introducing a more frequent service without requiring as many vehicles or service hours”*. But it found that there were gaps in provision and that it would need more vehicles to meet demand. It concluded that *“DRT has made a good start improving transport options, reducing the journey time penalties and connecting a much higher number of people to the transport network, it is cost effective in comparison with fixed routes, but there is more work to do.”*

²⁸⁵ [What is the Robin? - Gloucestershire County Council](#)

²⁸⁶ [Frequency is Freedom but is On-Demand Better? - Beate Kubitz Associates Ltd, Padam Mobility](#)

4.4.2.5 Partnerships

Enhanced Partnerships in areas without Bus Franchising enable local transport operators to develop Bus Service Improvement Plans and work with bus operators to introduce a fully-integrated service, including through ticketing, bus priority measures, more frequent and weekend and evening services, along with better quality information.

Case studies above in the Placemaking section have provided examples of local planning authorities working together to develop an evidence base to inform the Local Plan and support modal shift through targeting developments on public transport corridors.

Local authorities can support, fund or convene travel and transport related partnerships with the business community, to understand, provide and promote public transport services to key employment sites at the right times and support businesses in developing sustainable travel plans. They can also support the community and voluntary sector in helping people to become more active, including walking and cycling, through social prescribing and through providing bike access schemes and learn-to-bike schemes.

Case study: West Yorkshire Combined Authority (WYCA) – Community walking and cycling hubs

WYCA provides grants of up to £50,000 to support organisations to become a community walking and cycling hub – one stop shops for people to get support to walk and cycle, with advice on routes, equipment, training and group activities.

The funding is available for partnerships including local authorities. There are currently 26 hubs across the region, providing refurbished bikes, bikes to borrow including cargo bikes, beginners bike rides, group walks, and a mobile adaptive cycling group offering disabled people the chance to try adaptive cycling equipment, build confidence in wheelchair skills and go rambling with adaptive equipment.

Case study: Greater Manchester Combined Authority and 10 local authorities - Greater Manchester (GM) Moving

GM Moving is a sports partnership of the 10 local authorities, Transport for Greater Manchester, the Integrated Care Partnership, GM Active, 10GM (the voluntary sector) and the Combined Authority. GM Moving is the strategy for physical activity, informing city-region strategies to tackle health and economic inequalities. It provides support in developing and evidencing interventions across active travel, informing the design of the Bee Network and supporting the Right to the Streets

initiative to make streets and public spaces more welcoming for women and girls. GM Moving also plays a key role in making sure the diversity of residents' voices are heard in policy and scheme design.

4.4.2.6 Engaging and communicating

Engagement, involvement and communication are important for initiatives that affect people's habits and routines, especially their ability to travel and get to school, work and appointments on time, conveniently and affordably.

2023 research by WSP²⁸⁷ into requirements and barriers to modal shift recommends combining information and communication with interventions and engaging users and the public in co-design, designing and trialling solutions before adjustment and roll out if they are successful.

4.4.2.6.1 Engage and involve local communities and business communities in transport policy-making and programme design

There is growing acknowledgement that traditional methods of consultation are not sufficient to bring people along with transport and travel policies, and that deeper engagement and co-productive methods are more effective in developing solutions that work for local people and businesses.

Some councils are taking a public engagement approach to decision-making, which comes up with better options and solutions. This is known as Engage, Participate/Deliberate, Decide²⁸⁸.

*"Where possible, offer in-person engagement events to listen to and address concerns raised by local residents. This is especially important for larger schemes or those with long term aims such as infrastructure changes or permit scheme. Events should be scheduled at different times, and days to accommodate as many people as possible."*²⁸⁹

Case study: Southampton City Council – Citizens' Assembly

In 2023, Southampton City Council wanted to work with residents and businesses to inform its Local Transport Plan. It held a Citizens' Assembly with the University of Southampton and University of Oxford and commissioned the charity Involve to design and facilitate the assembly. 75 people attended civil society events to develop and deliberate the question: "How do we ensure an accessible, affordable

²⁸⁷ [Understanding the requirements and barriers for modal shift - WSP](#)

²⁸⁸ [Accountable Public Governance: From "Decide-Announce-Defend" to "Engage-Deliberate-Decide" – Open Government Partnership](#)

²⁸⁹ [A School Streets Toolkit — Open Plans](#)

and connected transport system in the city, whilst reducing carbon emissions and meeting climate targets?” Working over three weekends and hearing from 16 speakers, the Assembly members produced a vision statement and recommendations for priority actions²⁹⁰. These will inform the next Local Transport Plan and guide the council in future engagement.

Case study: Belfast City Council – Citizens’ Jury on Car Dependency²⁹¹

In 2022, Involve and Queen’s University Belfast brought 19 residents together to answer the question “How can car dependency and levels of car use in Belfast be reduced?” Over two days, the Jury heard from a wide range of experts, including from Belfast City Council, Translink and the Department of Infrastructure. It developed a set of recommendations with a rationale and set of actions moving thinking forward about reducing car dependency across Greater Belfast.

Case study: Greater Manchester - GM Moving – The Big Active Conversation²⁹²

GM’s Transport Strategy has a ‘right mix vision’²⁹³ that “by 2040 we want 50% of all journeys in Greater Manchester to be made by walking, cycling and public transport.” From 2021 to 2023, Transport for Greater Manchester and GM Moving partners held a series of events for people to explore progress, stories, challenges and expertise in support of making the city-region a place for everyone to travel actively. These conversations have provided detailed insights into what different people across Greater Manchester need in place to be able to move around and live an active life. They have helped inform the principles of Accessibility, Behaviour Change and Communications and Stakeholder Engagement that underpin the active travel mission. And they’ve helped identify the five-year priorities which are:

- Infrastructure delivery – universally accessible, coherent and connected
- Home to school travel
- Cycle hire and access to cycles including adapted bikes
- Integration with public transport
- Road danger reduction.

²⁹⁰ [How can citizens shape decisions about the future of transport and responses to climate change in Southampton? - Involve](#)

²⁹¹ [How can car dependency and levels of car use in Belfast be reduced? - Involve](#)

²⁹² [Active Travel Partners - TfGM Bee Active](#)

²⁹³ [Greater Manchester Transport Strategy 2040 - Bee Network](#)

4.4.3 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to encourage modal shift. These are priorities set for decarbonisation (local authorities will also consider other objectives).

- **Local place shaping to support modal shift.** Local authorities can use their place-shaping powers to redesign streets and public spaces so that walking, cycling and public transport become safe, attractive and convenient options. This includes delivering high-quality cycle lanes, pedestrianisation schemes, bus lanes, reallocated road space, or park-and-ride facilities.
- **Local Plans and planning policies and practices that support modal shift.** Through Local Plans and development management, planning authorities can shape long-term travel patterns by ensuring new development is located and designed to reduce car dependency. This includes requiring good access to public transport, safe active travel connections, mixed-use layouts, and reduced parking standards in well-served areas.
- **Encourage modal shift for local authority staff business and commuting journeys** through agile/remote working, car and bike pooling, travel plans and incentives such as bike salary sacrifice schemes.
- **Build internal capabilities to deliver active travel schemes.** Councils can strengthen internal capabilities in active travel planning, delivery skills, community engagement and monitoring so that they can deliver well-designed networks that increase walking and cycling. Active Travel England's Capability Ratings assess each authority's capabilities to determine access to multi-year funding, and unlock additional government investment.
- **Support bus uptake through improved routes, timings and fares.** In England local authorities can do this through strong Bus Service Improvement Plans (BSIPs) – plans that set out a local authority's vision for bus service improvements. High-performing authorities use BSIPs to coordinate service frequencies, integrate ticketing, and align bus routes with active travel infrastructure. Local authorities can also use new opportunities for greater control through bus franchising, where the local authority designs the whole bus network, frequency, fares and branding, and holds the contract with operators.

4.4.4 Challenges and barriers

Local authorities face a range of barriers and challenges in delivering modal shift which include the following.

4.4.4.1 *Public engagement, behaviour and awareness*

- Active travel schemes, LTNs, bus lanes and parking reforms can become highly contested, creating polarisation and making councillors risk averse.
- Car culture remains deeply embedded, and alternatives are often perceived as (or are) less convenient. Safety concerns deter walking and cycling, awareness of alternatives is limited, and habitual travel patterns are difficult to shift without sustained intervention.

4.4.4.2 *Governance, roles and market structures*

- Spatial and structural constraints such as car dependent settlement patterns, particularly in rural and peri-urban areas, limit the feasibility of modal shift. Active travel networks are often incomplete or poor quality, and secure cycle parking is lacking, particularly in dense housing areas. Bus priority measures remain limited, radial bus networks often fail to support crosstown journeys, governance is fragmented across tiers, and services drop sharply at urban–rural boundaries. Bus services are inconsistent or declining, with commercial market constraints limiting coverage and frequency. Franchising processes are slow and complex, integrated ticketing remains limited. Solutions are extremely location-specific with different solutions needed in different places, and often require collaboration across boundaries, particularly urban – rural boundaries.

4.4.4.3 *Funding, investment and cost barriers*

- Short-term, competitive and fragmented funding pots make it difficult to plan coherent networks. Revenue funding for buses, engagement and monitoring is limited, and the imbalance between capital and revenue restricts operation and maintenance. A lack of long-term certainty undermines strategic planning. The CCC’s Seventh Carbon Budget advice states that local authorities need funding and powers to deliver better public transport and walking and cycling infrastructure. Long-term clarity is also needed on what funding streams will be available to implement plans and additional powers for local areas to deliver an integrated public transport offer.
- **Costs and funding produce equity and accessibility challenges** whereby transport poverty affects rural and deprived areas, and cost barriers limit access to bikes, e-bikes, bus fares and micromobility.

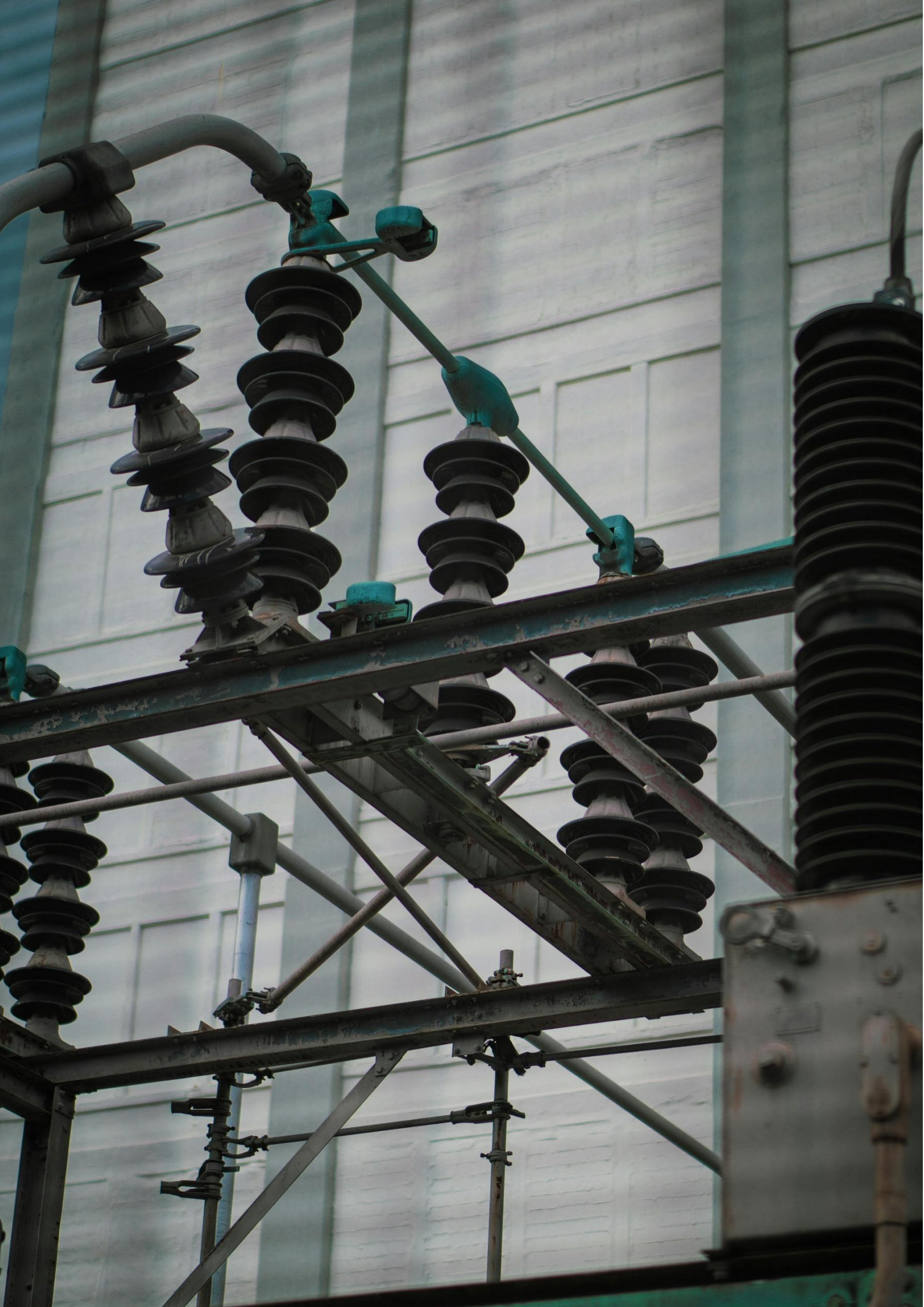
4.4.4.4 *Skills, workforce and local authority capacity*

- Many authorities lack in-house expertise in transport planning, active travel design and behaviour change. High turnover and reliance on consultants reduces continuity, and confidence in delivering contested schemes remains low. Active Travel England capability assessments show many LTAs still operating at early stages of maturity.

- **Local authorities face data and evaluation limitations** - Baseline data on walking, wheeling and cycling is limited, and monitoring and evaluation are inconsistent. Existing modelling tools are poorly suited to active travel and behaviour change, and wider benefits such as health and air quality remain difficult to quantify. Integrated mobility platforms remain underdeveloped and limited digital capability constrains data driven planning and coordination across modes.

4.4.4.5 National policy and regulatory frameworks

- Outdated national regulations, including slow progress on e-scooter legislation, hinder innovation. Traffic Regulation Orders are slow and resource intensive, planning decisions continue to prioritise car access, and two-tier areas lack powers for fully integrated transport planning.



5 Electricity supply

Electricity supply is the fifth highest-emitting sector in the UK in 2023, accounting for 9% of UK emissions, 37.8 MtCO₂e. These emissions are mainly from unabated gas use, which accounted for 30% of UK generation in 2023.

In the Balanced Pathway:

By 2040, electricity supply emissions fall by 88% relative to 2023.

By 2050, the sector decarbonises almost completely, with residual emissions coming from only a small proportion of CO₂ not captured at gas carbon capture and storage plants.

Demand for electricity will increase due to the switch to electric vehicles, heat pumps and the electrification of industry. Annual demand by 2050 could be more than double 2023 levels, from 274 TWh in 2023 to 692 TWh in 2050. This scale of growth is feasible with the right investment and system planning.

5.1 What needs to happen for electricity supply?

What needs to happen for electricity supply to meet the Seventh Carbon Budget?

In the Balanced Pathway, electricity will be generated largely by renewables, with around 80% of generation in 2040 from wind and solar. Deployment of renewables needs to happen at pace.

- Deployment rates of offshore wind will need to increase from 1-2 GW deployed to 5.7 GW per year to 2030 and then maintain an average of 4.0 GW per year out to 2050, along with repowering older sites.
- **Onshore wind capacity will need to double by 2040** - building out 0.8 GW per year, peaking deployment in 2030 at 1.9 GW
- **Solar capacity will need to quadruple by 2040** with an average of 3.4 GW per year (similar to the peak of 4.1 GW in 2015).
- A very small proportion of land will be required for solar (c. 1%) and onshore wind (c.2%). Installing small scale solar on rooftops could reduce the land demand for solar.
- Unabated²⁹⁴ gas generation is reduced to around 7% of generation by 2030 and the growth in electricity demand is met by low-carbon generation after that.

²⁹⁴ Unabated means gas burnt without capturing emissions through Carbon Capture and Storage (CCS)

In the CCC's Balanced Pathway, variable renewables will need to be complemented by storable energy in the form of low-carbon dispatchable generation (i.e. energy sources that can provide electricity on demand, e.g. hydropower, natural gas peaking plants and battery storage), and nuclear, BECCS and battery storage, alongside demand flexibility.

In the CCC's Balanced Pathway, the electricity generated by renewables will need to be transported from where it is produced to where it is needed, in homes, transport and industry, which requires the construction of new transmission and distribution infrastructure (e.g. new lines, cables and pylons and associated sub-stations).

These new developments need to happen rapidly to support the growing demand from electricity from low-carbon technologies (e.g. electric cars and low-carbon heating systems and industrial electrification).

See Section 7 *Waste* for energy from waste.

The Electricity supply capacity mix in the CCC's Seventh Carbon Budget balanced pathway:

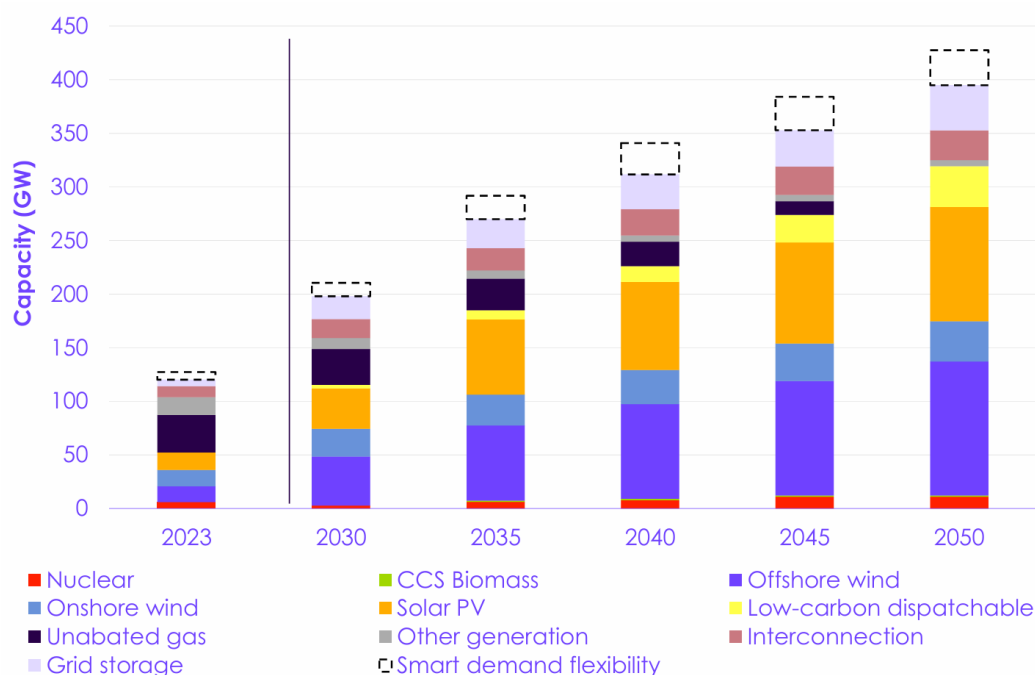


Figure 13: Electricity supply capacity mix in the CCC's Seventh Carbon Budget balanced pathway

What the future electricity supply system looks like in more detail and what local planning authorities can expect to see coming forward for development

In the Balanced Pathway variable renewables, particularly offshore wind forms the backbone of the future electricity system, supported by storable energy, smart demand flexibility and international interconnectors to keep supply secure during calm weather periods.

- **Variable renewables** in the form of wind and solar will form 80% of generation in 2040. This will require increasing the deployment rate from currently around 1-2 GW per year to almost 6 GW per year to 2030 and then maintaining an average of 4 GW per year out to 2050.
- **Network capacity** must expand rapidly to match supply and demand, mainly via overhead lines rather than costly underground cables, keeping costs down. This means more pylons, lines, substations, and stronger distribution networks. Major grid connections (transmission boundaries) must, on average, double by 2035 and triple by 2050.
- **Electricity storage:** Grid storage balances variable renewables, storing cheap energy for higher-demand or higher-value use. It operates on short to medium timescales to provide this flexibility:
 - Short-duration (up to 9 hours) batteries increase tenfold from 2023 levels to 35 GW by 2050.
 - Medium term (days-to-weeks) storage including pumped hydro and some developing technologies (compressed and liquid air, flow batteries and thermal storage) will provide 7 GW by 2050.
- **Firm power** makes up 13% of generation in 2040 – mostly nuclear (large scale or small modular reactors), reaching 11 GW of capacity by 2050 from 6 GW in 2023. Bioenergy with carbon capture and storage (BECCS) contributes under 2% of generation in 2040.
- **Dispatchable generation** provides 7% of generation by 2040, this is from gas with CCS or hydrogen fired turbines, with the occasional use of unabated gas. Between 2030 and 2050, the average build rate needs to be 1.8 GW a year (half the historical peak for building unabated gas combined cycle gas turbines).
- **Smart demand** flexibility cuts costs and boosts security. Consumers (residential, commercial and industrial) will voluntarily shift and vary their demand in response to price signals. This smooths peaks in demand and absorbs surplus. The biggest potential for residential demand flexibility lies in EV smart charging or pre-heating with Heat Pumps. Green hydrogen production can absorb excess supply (cutting the need to curtail or pay for

wind turbines to be switched off). Flexibility reduces generation, storage and network capacity needs.

- **Interconnection** imports cheaper electricity and exports UK surpluses. Capacity must rise from today's 10 GW across six interconnectors to 28 GW by 2050. Import carbon intensity depends on European decarbonisation.

The CCC's Seventh Carbon Budget report outlines how the grid can withstand adverse weather from a day to over a week using storable fuels, flexibility and interconnection.

5.2 Policies and plans

Energy is mostly a reserved matter in Great Britain, which means it is controlled by the UK government, rather than the Scottish, Welsh governments. However, the Scottish government can take decisions on promoting renewable energy and on onshore oil and gas licensing. It can also take planning decisions on electricity generation with capacities exceeding 50MW (nationally significant infrastructure projects) including nuclear. Scottish government is working with UK government on reforms including the Electricity Act 1989 applications for consent process. Proposed changes will enable an accelerated process for considering and determining applications in Scotland while increasing statutory public participation in the development of proposals²⁹⁵. Carbon Capture and Storage legislation and regulation is also reserved to the UK government, meaning that Scotland and Wales must work with it in decarbonising unabated gas generation where appropriate. Northern Ireland operates its own devolved framework governed by separate local institutions, including its own regulator, legislative acts, and a cross-border market structure with the Republic of Ireland. There are significant national plans and policies either in place or in development to transform the energy system in the coming decades. Although centrally driven, these will have an impact on Devolved Administrations in Scotland and Wales and on combined and local authorities. These include the following:

- **The Planning and Infrastructure Act**²⁹⁶ passed in December 2025 aims to speed up and streamline infrastructure development, which includes big renewable generation projects and energy transmission and storage infrastructure (such as pylons) in England and Wales, with some provisions applying in Scotland, by:
 - Speeding up delivery of critical infrastructure and Nationally Significant Infrastructure Projects.

²⁹⁵ [Climate Change Plan: monitoring report 2025 – Scottish Government](#)

²⁹⁶ [Guide to the Planning and Infrastructure Bill - MHCLG](#)

- Facilitating upgrading of electricity networks and clean power sources.
- Requiring updates to National Policy Statements every five years to allow for technical developments and policy certainty.
- Allowing for ‘good quality engagement with communities and consultees’ but also to ‘streamlining unnecessary processes and gold-plating’.
- Changing the *first-come, first-served* approach to grid connections and allow the Secretary of State and Ofgem to prioritise the connections queue for three years from the bill becoming law.
- Introducing a cap and floor mechanism to provide investor certainty for Long Duration Electricity Storage infrastructure, which will enable the pumped hydro and battery sectors to repower and expand.
- Providing consumer benefits for homes near electricity transmission projects – where infrastructure passes through, but does not benefit communities with new jobs, skills or investment. This is suggested as a discount on bills of up to £2,500 over ten years for households living up to 500m from new and significantly upgraded transmission infrastructure.
- Introducing Spatial Development Strategies for Combined Authorities and Upper Tier authorities in England that guide Local Plans and enable growth – these will also identify the infrastructure required.
- **Clean Power Action Plan 2030 Plan**²⁹⁷ intends to develop secure, low-carbon and affordable energy and create new energy industries and jobs:
 - It aims to deliver an energy system that generates enough clean power to meet the UK’s total annual electricity demand (227GW) at pace – **consents for grid infrastructure need to be in place during 2026 to give time for schemes to be constructed and generating by 2030.**
 - It will change the way connections to the grid work, accelerate the planning process, including the Nationally Significant Infrastructure Projects (NSIP) regime, streamline environmental requirements and reduce risk/likelihood of legal challenge. This includes support to local planning authorities and the wider planning sector through capacity and capability support and a Clean Power 2030 Unit to convene nature, communities and industry groups on complex projects to expedite the pre-application process.
 - It aims for a shift towards a more digital, flexible way of consuming energy through business and consumer-led smart tariffs and automated systems to enable appliances to use cheaper electricity and onsite renewable energy.

²⁹⁷ [Clean power 2030 action plan main report – UK Government](#)

- It aims to boost local economies - opportunities for local places to benefit from investment and industrial development located near electricity generation, bringing high value jobs and future-proofing communities. This could include new data centres in Scotland.
- It aims to enable investment and scaling of local, community led and owned energy developments (see Local Power Plan below).
- **The Local Power Plan²⁹⁸**, published by the UK Government and Great British Energy (GBE) in February 2026, sets out a national strategy to expand community and locally-owned clean energy. The strategy commits funding of up to £1 billion, and outlines an ambition to provide practical support, new business models, and regulatory reforms to help more than 1,000 local and community energy generation and distribution projects - such as rooftop solar, small onshore wind and hydropower, sometimes coupled with battery storage- develop across the UK. Its core aim is to ensure that communities can directly benefit from the clean energy they help to generate, creating local jobs, lowering bills and strengthening energy security and reducing exposure to global fossil fuel markets. Local authorities are identified as key delivery partners in the Local Power Plan. GBE has provided £16 million for the Mayoral Renewables Fund, funding solar and related technologies across 14 strategic authorities.
- **The Clean Flexibility Roadmap²⁹⁹** sets out the government's joint strategy (with Ofgem and NESO) for building a clean, flexible, consumer-focused electricity system with actions to scale flexibility - including short- and long-duration solutions (like consumer demand shifting, batteries, and low-carbon generation).
- **National Energy System Operator (NESO)** is working on the period 2030 – 2050 (2045 for Scotland) and developing two key plans which are:
 - **Strategic Spatial Energy Plan (SSEP)³⁰⁰** will be a national plan mapping 19 zones across the country, and the quantities and types of electricity and hydrogen generation and storage needed.
 - **Centralised Strategic Network Plan (CSNP)³⁰¹** will be a GB-wide plan that maps optimal locations for electricity transmission infrastructure, i.e. where transmission lines will go across GB, on both land and sea.
 - **Regional Energy Strategic Planning³⁰² (RESP)** in contrast to the CSNP and SSEP, which are top-down plans, Regional Energy Strategic Plans will map what energy infrastructure is required in local areas to ensure that

²⁹⁸ [Local Power Plan Great British Energy and DESNZ](#)

²⁹⁹ [Clean Flexibility Roadmap – DESNZ, Ofgem and NESO](#)

³⁰⁰ [Strategic Spatial Energy Planning \(SSEP\) - National Energy System Operator](#)

³⁰¹ [Centralised Strategic Network Plan \(CSNP\) - National Energy System Operator](#)

³⁰² [Regional Energy Strategic Planning \(RESP\) - National Energy System Operator](#)

they can meet Net Zero and deliver economic growth. Moving to a joined-up whole-system approach, will ensure investment is targeted where it is needed. The RESPs aim to join up the national, regional and local levels of energy system planning. RESP governance will be through Strategic Boards for Scotland, Wales and nine English regions, comprising distribution network operator (DNOs), gas distribution networks (GNDs), local authority representatives, the Scottish and Welsh governments and other relevant cross-sector bodies. Working groups under such boards will include more local authorities. Capacity support through forums and webinars (but not funding) is being provided to help local authorities participate. Local authorities will have already submitted Strategic Energy Need forms to the transitional RESPs (tRESP) process (as well as information for their local DNO's Distribution Future Energy Scenarios (DFES) which is an annual process). The tRESPs will be finalised in early 2026 to inform the next DNO business plans (known as ED3). The full RESPs will be ready by the end of 2028.

5.3 Local authority powers and levers to reduce emissions in electricity supply

On one hand, local authorities have direct powers to install energy generation schemes and to develop planning policy that strongly supports renewable energy generation schemes. They can also work in partnership with others to see renewables and flexibility schemes installed. They also have a key role in working with others to ensure people can benefit from electrification of heat and transport, and save money by understanding and using flexible tariffs and smart systems.

But on the other hand, local authorities have limited powers regarding the large-scale, rapidly deploying renewable and hydrogen generation schemes and the transmission and distribution networks that will generally be developed as Nationally Significant Infrastructure Projects (NSIP). This process is led by the Planning Inspectorate on behalf of the Secretary of State³⁰³. Local authorities take part in the process, but do not have decision-making powers. Their role includes engaging with the promoter on the scheme in the pre-application stage, providing information on aspects of scoping for Environmental Impact Reports, community consultation, impacts and mitigations, community funds. If Development Consent Orders (DCO) for NSIP projects are granted (i.e. if the scheme is permitted by the Secretary of State), local authorities have a role in monitoring or enforcing requirements. They may also develop associated local planning policies relating to the project. These roles are slightly different in Wales. Local

³⁰³ [Nationally Significant Infrastructure Projects: Advice for Local Authorities – Planning Inspectorate](#)

authorities that have experienced high numbers of DCOs have built up valuable expertise in managing the process.

See Place Shaping and Engagement and Communications sections below for NSIP and DCO planning insights.

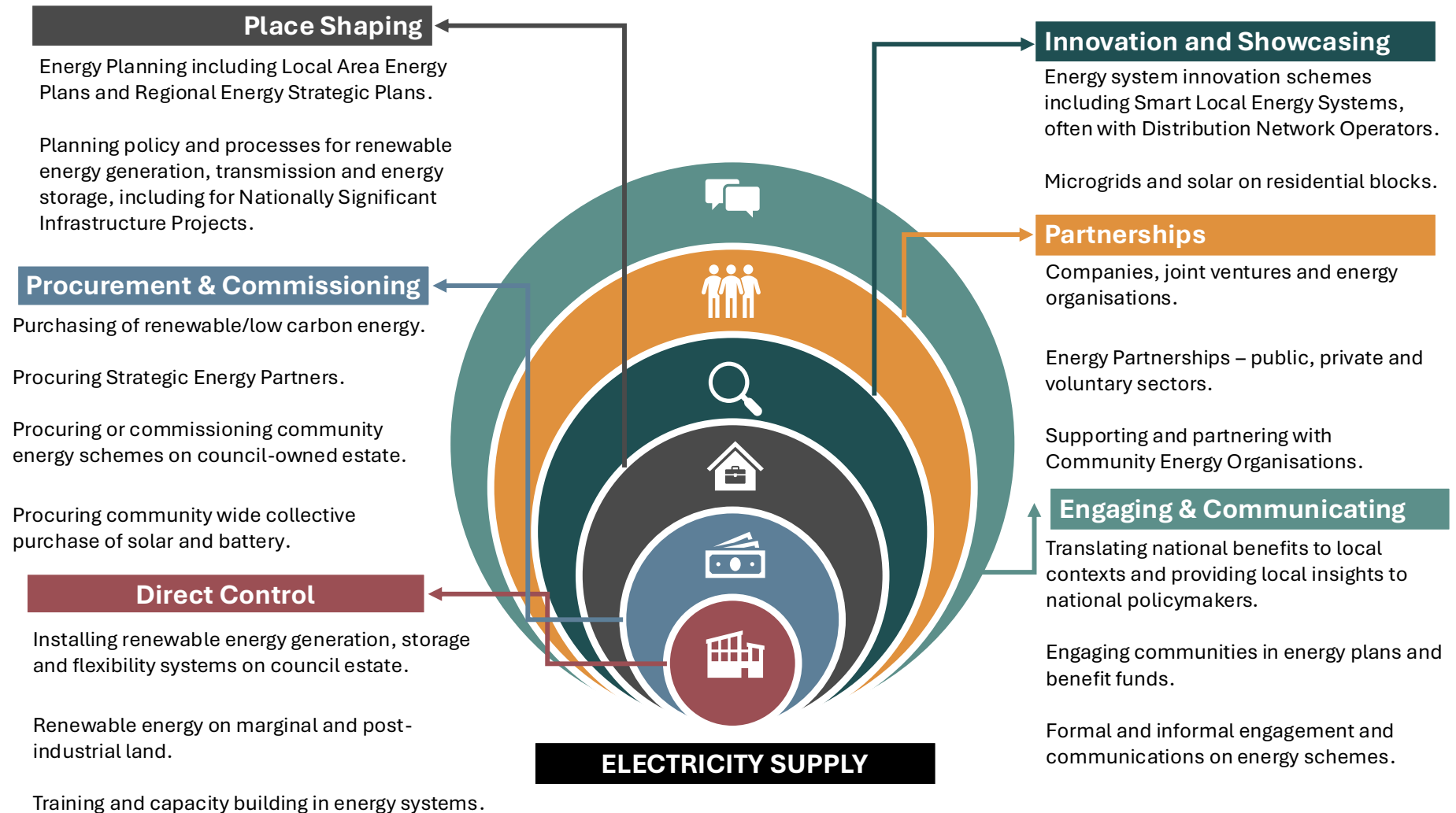


Figure 14: Onion diagram of local authority influence for electricity supply

5.3.1.1 Direct control

5.3.1.1.1 Installing renewable energy generation, storage and flexibility systems (smart systems) on council estate

Under the Energy Act 1989 (and other related amendments/regulations) local authorities can sell heat and can sell electricity from renewable sources as an unlicensed small generator (i.e. below 10MW).

For many years, local authorities have installed renewables on their own estate (homes, buildings and land, including biomethane capture on county farms). This is possible through capital schemes, borrowing and invest-to-save schemes

Greater innovation is underway with new schemes such as micro-grids that enable residents in blocks to benefit from cheaper electricity and smart systems (see Innovation below).

It is also likely that local authorities will play a role in flexibility going forward. Energy demand flexibility is the ability to shift when energy is used or stored to avoid high-cost periods and ease strain on the grid - using more electricity when supply is abundant and storing or supplying energy (e.g. via batteries) when it is needed. This is incentivised by payments from energy suppliers, Distribution Network Operators and NESO. Local authorities can get ready to deliver flexibility on their own estates, support community and commercial participation through partnerships with network operators, and use planning, procurement, and local programmes to help unlock local flexible demand and storage services.

See non-residential buildings section for case studies of council depots and EV charging co-located with local authority owned solar generation and storage.

Case study: Liverpool City Council and SPEN – Asset mapping and flexibility

Liverpool City Council has been working with its Distribution Network Operator, SP Energy Networks, to understand how existing and planned energy assets, including electric vehicle charging, may be used within SP Energy Networks' flexibility requirements on specific parts of its network. This is important as it helps design installations and metering in such a way as to be able to provide energy demand flexibility.

The flexibility markets have the potential to provide revenue for the council from SP Energy Networks as flexibility payments are made for supplying electricity into the system, increasing or decreasing electricity use on the local network on different timescales (i.e. agreed over the long-term or sometimes very short notice). The council has signed up as a Flex provider for SPEN on the Piclo MAX platform which means has registered which assets can generate power or be switched off if there are

calls for demand constraint, it then receives information on competitions coming up in the next month, SPEN's 'month ahead' market and decides what price it wants to bid at to provide energy or cut back on it, SPEN either accept or reject the bid, and if accepted Liverpool City Council will be given instructions on how much energy to despatch and will be paid for that. Liverpool City Council are using the Piclo MAX platform which means they do not have to do anything manually as the system communicates with their assets directly. Effectively, being part of this system means the council can make money when they don't need the energy they are generating themselves.

SPEN's Local Authorities Guide to Participating in SP Energy Networks' Flexibility Service³⁰⁴ June 2025 gives a useful outline of this process.

5.3.1.1.2 Renewable energy on marginal and post-industrial land

Many local authorities own closed landfill sites which, while unsuitable for most forms of development, are often ideal locations for ground-mounted solar farms. Developing these sites allows councils to turn a long-term liability into an asset that generates clean energy and revenue.

Case Study: Cambridgeshire, Wolverhampton, and Somerset.

Several councils are pursuing a marginal land to renewable energy strategy. Cambridgeshire County Council is developing a 2.7 MW solar farm with battery storage on its closed landfill at Stanground, which will generate nearly 2,900 MWh per year³⁰⁵. Similarly, the City of Wolverhampton Council is enabling the development of a solar farm on the former Bowmans Harbour landfill to provide renewable power directly to the nearby New Cross Hospital³⁰⁶. Funded by Levelling Up, Salix and NHS, the scheme will generate electricity for three quarters of the year for the hospital, saving it £15-20 million over the coming 20 years³⁰⁷. Somerset County Council paused a scheme to install an 8.5MW solar park at the Saltlands landfill site near Bridgwater following grid connection delays and financial constraints. It has instead proposed to lease the land to a private developer, reducing any need for further public spending, having had a grid offer for a smaller part of the site³⁰⁸.

³⁰⁴ [Participating in SP Energy Networks' Flexibility Services \(SPEN\)](#)

³⁰⁵ [Stanground Closed Landfill: Solar Farm and Battery Energy Storage | Cambridgeshire County Council](#)

³⁰⁶ Case study on using council assets for energy generation – CLES [Wolverhampton Solar Farm - CLES](#)

³⁰⁷ Detail on project delivery including private wire and methane venting – Carbon and Energy Fund (CEF) [New Cross Hospital - CEF](#)

³⁰⁸ Climate and Place Scrutiny Committee – Somerset Council [\(Public Pack\) Agenda Document for Scrutiny Committee - Climate and Place, 20/12/2024 10:00](#)

5.3.1.1.3 Training and capacity building in energy systems

Training and capacity building is needed to ensure local authorities can be an active partner in local energy planning and the wider transition to low-carbon electricity supply. This should go beyond an understanding of carbon savings and renewable energy, and should introduce a deeper understanding of the energy system and markets across generation, transmission, storage and flexibility. Capacity building should also include a better understanding of the role local authorities and local planning authorities in the energy transition across officers and senior leaders as energy planning underpins economic development, housing and industrial developments, transport and wider health and well-being.

Local authorities need to be able to respond to NESO's plans including the Regional Energy Strategic Plans (RESs). This will ensure local authorities can offer local perspectives on energy planning and enable local authorities to become active partners. As a result, they can help get the best outcomes for residents and suppliers in their local areas. This could include suggesting alternative or more suitable sites for infrastructure location and be more powerful partners during actual planning and construction of schemes to provide greater protections for nature and communities.

Net Zero Hubs and the Sustainable Scotland Network, Welsh Government Energy Service, Climate NI and cross-authority and shared specialist services can assist with specific skills and capacity where local authorities do not have an ongoing requirement for these, but a base-level of knowledge is needed across all local authorities.

Planning Advisory Service (PAS)³⁰⁹

PAS provides information and support to planning officers and elected members including on planning for heat and for Nationally Significant Infrastructure Projects (NSIP). Its Nationally Significant Infrastructure Project Network³¹⁰ supports local authorities that are either dealing with or expecting a NSIP application or engaging in the Development Consent Order process (the approval process for a NSIP application).

Case study: West Midlands Combined Authority - Energy Capital³¹¹ — collaboration and knowledge sharing

The Energy Capital Partnership convenes local authorities, government, investor, legal, consumer and energy systems expertise. Energy Capital's team of officers hosts monthly Collaboration Days, an annual Partnership Conference and specialist

³⁰⁹ [Welcome to the Planning Advisory Service \(PAS\) - LGA](#)

³¹⁰ [Nationally Significant Infrastructure Projects - LGA](#)

³¹¹ [Energy Capital: Accelerating the energy transition across the West Midlands - WMCA](#)

policy workshops across the region to facilitate knowledge sharing and co-working. This not only helps to deliver projects but also grow capacity and capabilities to ensure the energy transition supports growth and inclusion across the West Midlands.

Energy Capital has also provided free training to the West Midlands Local Area Energy Planning Coordination Group (Local Authority officers) on strategic approaches to heat networks and heat network operation and maintenance for the housing sector by Chirpy Heat (specialist heat network consultancy), and a workshop run by the Centre for Sustainable Energy on using the THERMOS and HotMaps tools for heat network planning.

5.3.1.2 Procurement & commissioning

5.3.1.2.1 Purchase of renewable/low-carbon energy

Purchasing energy from clean or renewable sources is a long-established way for local authorities to cut their Scope 2 emissions.

Investment in local area or out-of-area solar farms and windfarms has also been used to reduce Scope 2 emissions through sleeved power purchase agreements (i.e. purchasing the equivalent amount of electricity consumed by the local authority). This supports build-out of solar or wind schemes and provides certainty for investors or refinancing in these schemes. Power purchase agreements (PPAs) of various types, directly with a UK renewable generator, is also an effective way to support the renewables sector.

5.3.1.2.2 Procurement of Strategic Energy Partners

Strategic Energy Partners (SEPs) are organisations procured by local authorities through long-term contracts to help plan, deliver, and manage large-scale energy projects and programmes. The projects they deliver include build-out and/or decarbonisation of district heating schemes, installation of renewable and low-carbon electricity infrastructure and generation, EV charging and retrofit programmes. In future they may also include storage and flexibility projects and services. SEPs can be:

- Private companies (e.g. energy services companies, engineering firms, developers)
 - Consortia or joint ventures (multiple firms working together)
- Sometimes public-private partnerships with the local authority as a partner.

These partners are contracted by the local authority to bring the skills, funding, and delivery capacity that the council doesn't have in-house, and to take projects from planning through to implementation. Such partnerships have been developed in Bristol, Coventry, Midlothian and procurement is underway in Oldham, all with a very strong

focus on not only delivering low-carbon infrastructure but also community benefits across jobs and skills and support for community energy schemes.

The disadvantage of a strategic energy partner procurement can be that it is time consuming and costly requiring specialist support and numerous procurement stages with a lot of preparation and time from local authority teams.

Case Study: Newport City Council – Egni Co-op Collaboration

Newport City Council³¹² set up a collaboration with Community Energy organisation Egni Co-op, to meet the target of becoming a carbon neutral organisation by 2030, despite already procuring renewable energy for its own estate. By 2021 the partnership had installed 2.074MW renewable energy across 27 sites in Newport, with an estimated annual generation of over 1,900,000 kWh. This enabled the council to access lower cost, onsite generation alongside its existing energy supplier.

Case Study: Bristol City Council – Joint Venture Bristol City Leap

The joint venture between Amresco and Bristol City Council with Vattenfall leading on the heat network expansion, also includes large-scale electricity generation projects, with two sites for ground-mounted solar schemes identified in summer 2025. The first, for a 4.8MW scheme at Avonmouth and a second site in south Bristol for 1.3MW.

As well as significant investments in large-scale schemes, Bristol City Leap strongly supports the Community Energy sector, through its £1.5m Community Energy Fund³¹³.

Case Study: Camden Council – Community Energy Market Engagement³¹⁴

The London Borough of Camden is planning to procure a community energy partner through a concession process to deliver community energy projects on Council buildings such as schools, leisure centres and housing sites. This is envisaged to be through the proven method of installing energy efficiency, solar PV and other renewables and selling energy or recouping energy savings from the host building user. Investment will be raised through a community share offer and the scheme would transfer to the council after 15 years. The Council held a market engagement event in July 2025 to start the process.

³¹² [Newport City Council: Community Renewable Energy for Newport -LGA](#)

³¹³ [Community Energy Fund - Bristol City Leap](#)

³¹⁴ [London Borough of Camden Community Energy market engagement - Find a Tender](#)

5.3.1.2.3 Procuring or commissioning community energy schemes on council-owned estate

Councils can partner with community energy organisations on renewable energy generation and power purchase agreements on councils' own buildings, including council homes. This is possible outside of a traditional procurement process, whereby councils may 'dispose of assets at less than the market value' under a Section 123 clause of the Local Government Act 1972. This means they can provide a roof lease and become a host for community-owned solar. The Local Power Plan strongly supports development of community energy schemes and new resources and networks³¹⁵ are being developed to support local authorities and community groups in working more effectively together.

Case study: Barnsley Council and Energise Barnsley

321 council-owned homes managed by Berneslai Housing Association and 16 council buildings have solar installed through Energise Barnsley, also recognised by Ashden Awards. 100 homes also had batteries installed, and residents saved 30% on electricity costs. The Community Energy Society has since raised £3.3m through a bond offer, to install solar on 1,000 more homes, providing free electricity to householders to tackle fuel poverty³¹⁶. The scheme also provides support to residents to make sure they understand and can benefit from using renewable energy and storage effectively.

Case Study: Brighton Energy Coop and Ardur & Worthing Council and Brighton City Council

Established in 2010 and now with a portfolio of 6MW solar, Brighton Energy Coop is a strong example of how a local community energy organisation benefits the council. It has installed solar on several local schools, engaged with Brighton and Hove City Council on its energy strategy, provided schools outreach and education on energy saving and forged a partnership between the council and EnergySparks charity. Its community fund, surplus from its many solar schemes on the port, industry and local businesses, has funded other local community energy organisations to provide further support for solar schools and energy advice provision to people in fuel poverty. It is also supporting the EV transition with solar-linked EV charging across Sussex, and is using old EV batteries on a grid-storage project with a wine estate.

³¹⁵ [Energy Learning Network - Ashden](#)

³¹⁶ [Solar Bond III – Energise Barnsley](#)

Case Study: Plymouth Energy Coop (PEC) and Plymouth City Council

PEC started up in 2013 with support and hosting from Plymouth City Council. It has since developed PEC Renewables and PEC Homes³¹⁷ – moving from renewable energy generation into building new Net Zero homes. It also provides energy advice. More agile than services that can be provided by the council, it raised funds through community share offers, and recycled income through its community energy fund.

Other local authorities that supported community energy organisations at the start up phase, through loans or administrative support include **Oldham Council** and **Oxford City Council**³¹⁸.

5.3.1.2.4 Procuring community wide collective purchase

Running solar together schemes and solar for business schemes are ways combined and local authorities can use their procurement powers to make renewable electricity generation available on local roofs. Increasingly, these schemes combine solar with battery storage.

Collective purchasing schemes are a relatively low-effort, relatively low-risk way for local authorities to secure local generation close to demand, and provide a way for householders and building owners in the able/willing-to-pay category to benefit from renewables and participate in the energy transition.

Case Study: Collective Switch and Solar Together

The iChoosr scheme has worked with 210 councils since 2012 on collective switch and solar schemes⁴². In 2024 they installed 7,500 PV and 7,000 storage installs helping households, together with their councils, generate their own energy.

See also Sections 3.1 Residential buildings - existing homes , and 3.3 Non-residential buildings (West Suffolk's Solar for Business).

5.3.1.3 Place shaping

As outlined in the introduction to this section, energy and grid infrastructure planning, development and investment - previously done very separately to local authorities' spatial planning role - is converging through the RESP process. There is an increasingly important local aspect to planning and delivering energy systems.

³¹⁷ [Plymouth Energy Community - PEC](#)

³¹⁸ [What is the Grid Edge? - Hub](#)

5.3.1.3.1 Energy Planning - Local Area Energy Plans (LAEP) and Regional Energy Systems Planning (RESP)

Local Area Energy Plans (LAEP) are energy action plans created by local authorities to help their area establish a cost-effective and coordinated pathway to decarbonise energy systems. They include energy generation, transmission and distribution networks, buildings and retrofit, heat including heat networks, transport, and industry. In Scotland, Local Heat and Energy Efficiency Strategies were mandated for all local authorities, which focus on heat networks and building retrofit, but not wider energy systems.

The first LAEPs were developed by Energy Systems Catapult a decade ago, for Bury, Bridgend and Newcastle. All Welsh councils had a LAEP in place by 2024, and in 2025, nearly 100 authorities either had a LAEP or were in the process of developing one. The methodology has evolved, with updatable or digital twin LAEPs being developed to avoid plans falling out of date too quickly.

LAEPs tend towards the technical energy modelling and often miss opportunities to develop extensive ownership and knowledge within the local authority. Some LAEP processes have lacked meaningful community engagement and tended towards light-touch consultation or events, which means communities remain unaware of the plans. Other areas have taken longer, and incorporated deeper engagement and conversations with communities, such as the case in Cornwall³¹⁹. This element is increasingly being filled by even more 'bottom up' methods like community energy planning (see engagement section). LAEPs do not have a statutory role in the planning system outside of Wales, but are increasingly used in the evidence base in Local Plan development³²⁰ and to inform energy-related planning policies as well as input into tRESPs.

The downside is that they can be very expensive to develop. Critically, energy plans and LAEPs have not delivered to their potential in large part due to their informal role in the town planning process, local authority resource constraints and a lack of expertise in planning departments, which makes it difficult to engage with energy planning processes³¹⁹ due to wider issues of finance and internal skills to act on the plans and deliver schemes. Work is underway in Wales to consider how to support activate delivery of LAEPs.

³¹⁹ [Lack of integration between energy and spatial planning risks hampering the transition - Regen](#)

³²⁰ [Local area energy planning in London - London City Hall](#)

Case study: Dorset Council – Grid Inquiry

In 2023-24 Dorset Council held a Grid Inquiry – a series of five workshops across several weeks to investigate the issues around grid constraint and how it was affecting the council, organisations and businesses across the county. Requiring only staff time and invited stakeholders, this was a relatively resource-light way to increase knowledge, capacity and understanding across the council and build relationships with key stakeholders.

“While local authorities currently play a more peripheral strategic role in the energy system, the discussions with network operators helped emphasise the opportunity for them to play a more active role in local and regional energy planning.” learning from the Dorset Grid Inquiry, Case Study, Regen³²¹

5.3.1.3.2 Planning policy and processes for renewable energy generation, energy transmission and energy storage

Local planning authorities have a statutory role in determining planning applications for developments which increase energy demand, and for renewable energy generation and energy storage schemes. This role includes preparing the Local Plan (see Section 2.3 *A brief introduction to the role of Local Planning Authorities*), which influences where residential and commercial development and transport routes are focused, which in turn influences where energy demand will be. It may also identify locations for renewable energy generation and storage, and heat networks. Aspects of this planning range from wider spatial strategies (a role increasingly filled by Combined Authorities) and master planning of regeneration and development areas and new towns, through to setting energy standards above building regulations and requiring on-site generation (see Section 3.2 *Residential buildings - new homes on new homes*).

In terms of renewable generation, under the Planning Act 2008 and Town and Country Planning Act 1990, local planning authorities set planning policy and consent for most renewable energy schemes apart from very large or very small.

5.3.1.3.2.1 Microgeneration

Microgeneration (domestic solar and small-scale wind turbines) is typically treated as permitted development^{322, 323}, so there is no role for local planning authorities other than on sites where exclusions apply such as listed buildings and conservation areas. Small

³²¹ [Case study: Dorset Council's grid enquiry](#)

³²² [The Town and Country Planning \(General Permitted Development\) \(England\) Order 2015](#)

³²³ [Installing Microgeneration Equipment - Planning circular 1/2024: householder permitted development rights – Scottish Government](#)

wind turbines have now been returned to English permitted development³²⁴, with some interest returning to the sector.

existing buildings section).

5.3.1.3.2.2 Onshore wind and ground mounted solar

The National Planning Policy Framework³²⁵ (NPPF) was amended in 2024 to lift additional tests (requiring community support or specific planning orders) that were required for **onshore wind**.

The NPPF states that in determining planning applications for renewable and low-carbon development local planning authorities should: *“not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal’s contribution to a net zero future”* and *“recognise that small-scale and community-led projects provide a valuable contribution to cutting greenhouse gas emissions.”* The NPPF also states that if impacts are, or can be made acceptable, then applications should be approved, and that once a planning authority has identified areas suitable for renewable and low-carbon energy, it should expect commercial developers to put forward applications on sites outside those areas that meet the same criteria. Repowering and reuse of existing sites are also encouraged. This should make it easier for local planning authorities to consent developments, however, they still need to consider cumulative landscape and environmental impacts.

Large scale renewable generation schemes are determined by the Secretary of State under the Nationally Significant Infrastructure Projects (NSIP) regulations (see introduction to 5.3). The scale for a project to qualify as a NSIP has recently been increased from 50MW for **solar** to 100MW from December 2025 and is also 100MW for onshore wind projects. This will enable developers to take larger schemes through the local planning process, which is less costly than the NSIP process.

In Scotland, local planning authorities take planning decisions on generation schemes up to 50MW above which the government takes such decisions under the Electricity Act 1989. Under this system, local planning authorities can object to developments, and if changes are not made, can force a public inquiry. Work is underway to update the current system to introduce earlier pre-application discussions, improved community and stakeholder consultation and to streamline the process to speed up infrastructure expansion to deliver a low-carbon electricity system³²⁶.

³²⁴ Permitted development rights are a set of rules that allow some types of building work or changes to be made without needing to get planning permission from the local council.

³²⁵ [National Planning Policy Framework - 14. Meeting the challenge of climate change, flooding and coastal change – Guidance - MHCLG](#)

³²⁶ [Electricity infrastructure consenting in Scotland - DESNZ](#)

Alongside the weight local authorities should give to the contribution of renewable energy and clean power in meeting climate goals, National Planning Policy mandates that councils and developers must address local people's concerns regarding landscape, cultural, heritage and nature impacts of such developments, and concerns about the disruption of the construction process for solar and wind developments. Balancing community views, biodiversity and habitat impacts, archaeology, ecology and hydrology interrelationships, zones of influence and climate change and clean energy imperatives are all key elements of the planning process, whether determined at the local or national level.

Nationally Significant Infrastructure Project processes provide few powers for local authorities to directly shape schemes, and create heavy workloads and specialist skills for council officers, including planners, ecologists and highways. Local authorities can draw on lessons learnt from areas that have a lot of experience with these processes³²⁷.

Case study: Somerset Council – Development Consent Order (DCO) experiences with roads, Hinkley Point C and T-pylons

Somerset Council benefited from MHCLG's Innovation and Capacity Fund which formed an element of the Nationally Significant Infrastructure Process (NSIP) Reform Programme, which supported local authorities to find new and innovative ways for councils to engage in the NSIP process. The council (in its pre-unitary form) was one of the first to engage in the DCO process (the formal approval process of an NSIP) on a road dualling scheme, has been working on the Hinkley Point C nuclear power station DCO and more recently the T-pylons scheme (see below), so has built up significant experience and knowledge regarding getting the best from the DCO process from start to implementation.

In 2009, for Hinkley Point C, a Planning Performance Agreement (PPA) was put in place with the local councils³²⁸. A PPA (not to be confused with a Power Purchase Agreement) is a project management agreement between the local planning authorities and NSIP promoter to enable engagement and collaboration covering all stages of the process from pre-examination to post-examination. This provides resources to the council to handle the process, and provides an overarching vision for the development.

The council had to handle tensions between national policy and local policy and communities outcomes. It had to engage in the process of negotiation and examination, yet maintain good working relationships with the NSIP promoter/developer to take forward the implementation (assuming consent is granted), monitoring and enforcing parts of the DCO constructively. In Somerset,

³²⁷ [NSIP Innovation and Capacity Fund Round 2 Outcomes Report 2025 – Planning Advisory Service](#)

³²⁸ [Hinkley Point C](#)

prior to Hinkley Point C, the council developed a clear position – The Dillington Vision, on what it wanted to achieve from the Nationally Significant Development. This included economic development, developing a low-carbon future, securing education, employment and skills, community wellbeing and providing workers' housing. It also developed supplementary planning guidance for related aspects of the project which are not handled by the DCO process, and Section 106 agreements.

Lessons learned during the long-duration of building a nuclear power station included:

- being ready to manage and facilitate change, which can be supported through local planning policy
- being ready for different types of DCOs: e.g. publicly funded developers like National Highways do not want local authorities to discharge the planning conditions and Section 106, whereas other types of schemes may be more open to the local authority playing a greater role in this
- being ready to take the process through political change in the council, and through local government reorganisation while retaining key officers;
- being able to form a strong team ideally with negotiated dedicated resource.

The process is resource intensive and testing. Establishing ways of working, through 'provision led planning' for collaborative behaviours to support delivery and implementation has also been key – moving from adversarial to compliance and collaboration.

Balancing when and how to engage communities and affected landowners and householders is also a very important aspect of an NSIP scheme. Keeping communities updated without overwhelming them is challenging, particularly regarding clarity on the opportunities to shape what is happening, and what cannot be influenced. The council plays an active role in the PAS NSIP Network and has even shared knowledge with councils from the Netherlands.

Case study: Suffolk County Council – Expectations for Planning Performance Agreements (PPAs) for NSIPs – guidance for project promoters³²⁹.

With over 19 schemes recently approved, submitted, or proposed, Suffolk County Council has overseen a very large volume of Nationally Significant Infrastructure Projects (NSIPs) across its area. These schemes include major infrastructure like the

³²⁹ [suffolk-county-councils-expectations-for-planning-performance-agreements-for-nsips – Suffolk County Council](#)

Sizewell C nuclear power station, renewable energy developments (offshore wind and solar), and new transmission networks.

Suffolk County Council produced a supplementary guidance document to support its Energy and Climate Adaptive Infrastructure Policy in 2023. This outlines that NSIPs are resource intensive for a local authority as a statutory consultee and that most of the involvement by a local authority in the NSIP consenting process is discretionary, not generating planning fees for local authorities, but costing a lot.

Its policy is to negotiate PPAs with NSIP promoters to ensure it can provide a professional and timely service, and to carry out post-consent requirements. It explains that an effective PPA will help improve NSIP proposals, so they become ‘more acceptable to local communities’ and ‘reduce friction and controversy in later phases of the project’ and to help provide council local and technical knowledge to refine modelling, assumption and design and reduce areas of disagreement during the examination.

The policy looks to secure full cost recovery, provide service level agreements and ‘without prejudice’ engagement across all stages. It provides a template agreement.

The council hosts the NSIP Centre of Excellence, providing resources and advice to local authorities³³⁰.

The UK government has issued updated guidance³³¹ on **community benefits**, which states that £5,000 per MW of installed onshore wind capacity a year should be paid into community funds by developers while the scheme is operational, this aligns with Scottish government guidance. Local authorities should be considering a strategy for the establishment and governance of community funds from both renewable generation sites, sub-station and transmission grid and pylon hosting, since these can be considerable amounts over significant periods and could be used both hyper locally for impacted communities and more strategically.

5.3.1.3.2.3 Battery Energy Storage Systems

Battery Energy Storage Systems (BESS) are vital to the energy system to store surplus electricity and avoid wasting renewable energy generation.

In England and Wales, decisions on **battery energy storage systems (BESS)**, regardless of their capacity, are made by local planning authorities. In Scotland and

³³⁰ [NSIPs Centre of Excellence 2023/24 - Suffolk County Council](#)

³³¹ [Community Benefits and Shared Ownership for Low Carbon Energy Infrastructure: working paper - DESNZ](#)

Northern Ireland, BESS require consent from either ministers or the planning authority, depending on their storage capacity.

There has been a rapid roll-out of BESS installations across the UK in recent years, with over 17GW due to connect to the grid during 2025. Over 43GWh was approved in 2024, an increase of 35% from 2023 and 2025 has already seen over 8.9GWh of approvals, including one of the largest consented projects in the UK so far. Planning decisions in 2023 took on average nine months, which is reported to be reducing during 2024-5³³².

5.3.1.3.3 Planning role in the electricity grid

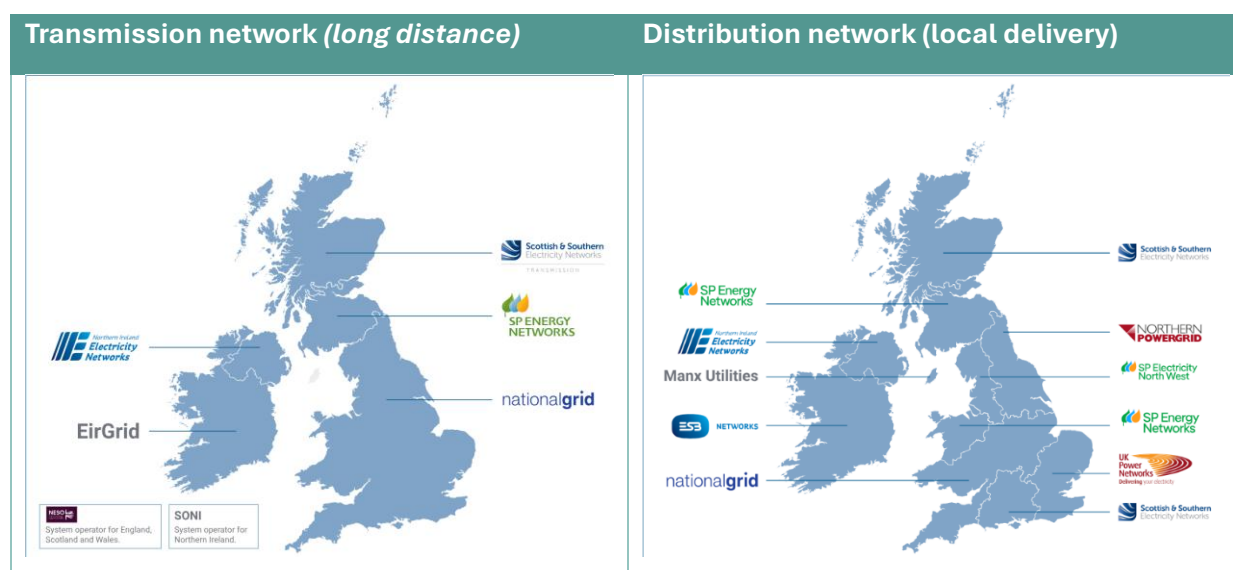
Local Planning Authorities have a role in supporting the development of the electricity grid, particularly within the distribution network. While the transmission network is managed at a national level, it is within the distribution grid, where electricity is delivered at lower voltages to homes and businesses, that local authorities have the most touchpoints. They link up the Local Plan and proposed sites and opportunities with the grid investment processes.

In Great Britain, transmission and distribution are separated across multiple companies (see table below), whereas in Northern Ireland the network infrastructure is largely owned by one company (NIE Networks), with a separate system operator. (SONI)

Table 3: Transmission and Distribution network comparison in the UK

Transmission network (<i>long distance</i>)	Distribution network (<i>local delivery</i>)
• Moves electricity across the country. • Carries electricity at very high voltage. • Includes large pylons, overhead lines, and major substations. • Owned and maintained by four network companies. • The system as a whole is operated and balanced by the National Energy System Operator (NESO)	• Delivers electricity to homes and businesses • Gradually reduces voltage so it is safe to use locally. • Includes local substations, underground cables, and street level infrastructure. • Owned and operated by six main distribution company groups (covering different regions) – called Distribution Network Operators (DNOs)

³³² [UK: over 17GWh of BESS due to connect to grid in 2025, 9GWh consented so far - Energy-Storage.News](#)



The role of Distribution Network Operators (DNOs) is further evolving to not only build and maintain the local transmission system, but to actively manage a smart, flexible local energy system – the additional Distribution System Operators (DSOs) role. These DSOs will liaise with the local authority to support local energy plans or Local Area Energy Plans and may work with them on innovation projects, and data provision. They are increasingly providing data tools for local authorities to support climate change plan and energy plan delivery. One DNO has termed this ‘social DSO’³³³: aiming to support the local Net Zero transition, deliver social benefits and an inclusive grid transformation, and support clean energy investments and climate change projects in vulnerable communities. This provides an additional way for local authorities to partner with DSOs.

Local planning authorities have various duties and powers in the planning and development of new and expanded transmission and distribution infrastructure. Much of this focuses on planning processes at the national level (NSIP process), with the local authority role being one of consultee rather than decision maker. In July 2025, the government consulted on measures to streamline and accelerate the consents process for electricity infrastructure^{334, 335}.

Aspects of this cover:

- **Protecting the existing grid** - National Grid is a consultee for local planning policies and planning applications which may affect existing grid infrastructure.

³³³ [Social DSO](#)

³³⁴ [Electricity network infrastructure: consents, land access and rights - DESNZ](#)

³³⁵ [Electricity Network Infrastructure: Consents, land access and rights – government response – UK Government](#)

- **New overhead lines and pipes** - development consent is required for all but the most minor lines (repairs/emergency works including in National Parks and AONB/National Landscapes) in England and Wales under the Overhead Lines (Exemption) Regulations.³³⁶
 - Overhead lines that are high voltage, at or above 132kV and more than 15km long are determined under the NSIP process (Planning Act 2008) 132kv lines on wooden or other poles are exempt from NSIP). In England and Wales, the transmission network operates on 400kV or 275kV, so National Grid transmission developments will be a NSIP process.
 - Works below the NSIP thresholds (typically below 132 kV and shorter lengths) are normally progressed under section 37 of the Electricity Act 1989, administered by DESNZ in England & Wales. These applications are subject to local planning authority involvement, Environmental Impact Assessment screening where required and may involve compulsory purchase/wayleave procedures. Scotland uses separate consenting arrangements and guidance.
- **Supporting infrastructure** - needs Planning Permission from the local planning authority including:
 - Sub-stations or changes to sub-stations with new overhead lines or above a certain size/height^{337, 338}
 - New or modified access onto classified roads, temporary or permanent culverts, outfalls and other drainage works.

“Planning teams will need to carefully balance the national urgency for clean energy with local community concerns about where and how infrastructure is delivered.” APSE Energy briefing May 2025³³⁹

- **Maintenance and permitted development** – National Grid and the DNOs are Statutory Undertakers, meaning they have Permitted Development Rights under the Town and Country Planning Act 1990 to carry out certain works without applying for planning permission. This includes extending buildings, installing plant and renewing underground pipes.

To support acceptance of electricity transmission developments, government policy is to provide electricity bill discounts along with community funds, collectively known as community benefits. It has developed guidance³⁴⁰ for England, Scotland and Wales on

³³⁶ [Overhead lines: applying for consent – DESNZ and DBEIS](#)

³³⁷ [The Town and Country Planning \(General Permitted Development\) \(England\) Order 2015](#)

³³⁸ [Electricity Network Infrastructure: Consents, land access and rights – government response - DESNZ](#)

³³⁹ [Energy Briefings 2025 - apse](#)

³⁴⁰ [Community Funds for Transmission Infrastructure: Guidance - DESNZ](#)

these funds and related engagement with communities. Local authorities are expected to play an important role in facilitating engagement and identifying local priorities but should not be involved in decision-making (see Engagement below). The recommended levels of funding are significant and are shown as total value, mainly to be spent during the construction period with all of it delivered within 15 years.

Table 4: Estimated value of different electricity asset types

Asset type	Unit	Value
Overhead line	Per KM	£200,000
Substation	Per substation	£530,000
Converter station	Per converter station	£530,000
Switching station	Per switching station	£530,000

5.3.1.4 Innovation and showcasing

5.3.1.4.1 Energy system innovation schemes including Smart Local Energy Systems

Combined and local authorities have been at the heart of partnerships with network operators, energy companies, universities and the private and community sectors in multiple energy system innovation projects. These programmes have built capacity within local authorities while also creating trusted partnerships and innovation ecosystems across the UK, enabling experimentation that has informed policy and regulation—most notably the development of Local Area Energy Plans (LAEPs). While these schemes have sometimes been uneven and challenging to scale, they have played an important role in bringing funding and capability into local authorities and readiness for future market and regulatory changes. These innovation projects also serve to identify both technical and non-technical barriers to the Net Zero challenge and inform subsequent funding and policy development. Ongoing and recent government funded innovation programmes included **Ofgem** Network Innovation Competition and Network Innovation Allowance (NIA)³⁴¹ and Strategic Innovation Fund (SIF) and UKRI's Net Zero Living programme.

Case study:

East Ayrshire Council – Equiflex is investigating the design of flexibility options targeted at specific groups, such as less engaged and more vulnerable consumers and a related toolkit to help local authorities³⁴².

³⁴¹ [RIIO-3 Network Innovation Allowance \(NIA\) governance | Ofgem](#)

³⁴² [Ofgem Strategic Innovation Fund announces £5.8 million of funding – UKRI](#)

- **Net Zero Living**, UKRI funded a three year £60m programme for places to tackle the non-technical barriers (such as finance, grid-capacity and local regulation along with community engagement) to delivering Net Zero . This has supported 52 local authorities and partners including DNOs, technology companies, community energy organisations and financial and legal organisations. The funding supports a whole-systems approach, considering power, heat and mobility and the majority of projects supported directly tackle energy systems, smart grids or renewables.

Case study: Rossendale Borough Council and Rossendale Valley Energy- Net Zero Terrace Streets

Rossendale Borough Council is a partner in this community energy led project³⁴³ which takes a whole-systems approach to the challenge of decarbonising its housing stock, 40% of which are terraces. The whole-system approach includes testing of a Smart Local Energy System, which would enable the substantial electrification of many homes without causing problems for the grid. Part of this is exploring how demand-led flexibility can work for households, especially in deprived areas. The energy system testing element is funded by the Distribution Network Operator and Ofgem. Three of Rossendale Borough Council's homes have been retrofitted with insulation, air tightness, new doors and windows, borehole ground source heat pumps and solar PV with batteries and monitors to assess performance. The next stage of the project with local DNO, SPENW is an application to Ofgem's Strategic Innovation Fund Beta, to further develop the Smart Local Energy System element of the scheme, alongside scaling the physical works and community engagement in more areas.

- **Prospering from the Energy Revolution** was a UKRI challenge fund supporting 80 projects from 2018 to 2023, to accelerate innovation in smart local energy systems. It played a key role in funding and accelerating the use of LAEPs.

Case study: Oxford City Council - Energy Super-Hub Oxford³⁴⁴

The hub is a transmission-connected network of rapid electric vehicle charging, hybrid battery energy storage, low-carbon heating and smart energy management technologies that reduces stress on local grids. The Park and Ride hub opened in 2022.

Other examples include:

³⁴³ [Terraced Streets - Rossendale Valley Energy](#)

³⁴⁴ [Energy Superhub Oxford - Oxford City Council](#)

- **ReFlex Orkney** which developed an integrated virtual energy system including local electricity and transport. Projects are ongoing³⁴⁵ and **Orkney Island Council** is a partner.
- **Project LEO (Local Energy Oxfordshire)** a local energy marketplace that actively balances generation with demand for power, heat and transport, enabled by an intelligent local grid with **Oxfordshire County Council and Oxford City Council**.

5.3.1.4.2 Microgrids and solar on residential blocks

Councils are looking at innovative approaches to using micro-grids on council owned blocks to enable residents to purchase solar power or electricity from a combined heat and power plant. Previously, it has been difficult to ensure that people living in tower blocks could benefit from local renewable generation.

Case study: Hackney Light and Power with Emergent Energy³⁴⁶

Hackney Council has procured Ashden-award winning Emergent Energy³⁴⁷ under a 10-year concession to pilot an Ofgem-approved private wire microgrid with 1MW solar power across three tower blocks and 400 homes so that people living in blocks can benefit from cheaper solar power. The £1.96m project is fully owned by Hackney Council which will sell electricity to residents with surplus sold onto the grid, any profits will be reinvested into council services. Emergent Energy was able to develop its solution through an Ofgem regulatory sandbox³⁴⁸ – a derogation from the usual rules. It is also working with Gateshead Council and providing feasibility studies to other local authorities.

5.3.1.5 Partnerships

5.3.1.5.1 Companies, joint ventures and energy organisations

Under the Localism Act 2011, local authorities can set up companies or co-operatives, which can include energy companies. These have proven risky to date, with Bristol Energy and Robin Hood Energy failing, albeit as did several other privately owned energy companies. Instead of owning and operating an energy company outright and therefore taking on the full commercial risk, a local authority can establish arms-length companies or community benefit societies (run for community benefit rather than

³⁴⁵ [Developing the Energy Systems of the Future - ReFLEX Orkney](#)

³⁴⁶ [Hackney Light and Power and Emergent Energy: Pioneering solar PV for council homes with microgrid innovation - LGA](#)

³⁴⁷ [Emergent Energy - Ashden](#)

³⁴⁸ [Press release about Ofgem's Sandbox award for Emergent - Emergent Energy](#)

profit) and lend start-up funds, lease land or provide administrative support to these arms-length or community benefit companies as seen in Plymouth, Oxfordshire, Bristol and Oldham.

5.3.1.5.2 Energy Partnerships

Energy-related partnerships beyond formally procured delivery partnerships are a way local authorities can act as a convenor to bring key partners together to foster an ecosystem in their area that supports a range of activities across the energy sector and encourage growth and investment.

Case study: West Midlands Combined Authority – Energy Capital

WMCA has been growing its energy system capabilities since 2017 through its devolution deal, formation of the Energy Capital Partnership and several regional policy commissions. It aims to take advantage of the economic opportunities of a smarter energy system, producing a Regional Energy Strategy and securing innovation funding to trial Energy Innovation Zones, explore options for regional energy systems governance, and retrofit homes via a regional consortium. Energy Capital is currently working on local area energy planning using the LAEP+ digital twin, developing a project pipeline and leveraging finance through DESNZ's Local Net Zero Accelerator programme, and empowering residents to co-design seven demonstrator Net Zero Neighbourhoods.

The WMCA Regional Energy Strategy covers five themes:

- Smart spatial planning
- Local energy system flexibility
- Co-located clean generation
- Skilled workforce and supply chain
- Commercial and financial innovation

5.3.1.5.3 Supporting and partnering with Community Energy Organisations

The formation of GB Energy and the Local Power Plan, provide renewed opportunities for community energy schemes in England. These have been continuously supported in Scotland and Wales to date. Combined and local authorities can work with community energy organisations to help them start up, deliver and expand. Examples of this are also provided earlier in this section.

Case Study: CREW Energy and Wandsworth Council – community buildings³⁴⁹

CREW Energy is a London-based community energy organisation that Wandsworth Council has funded through its Neighbourhood Community Infrastructure Levy to

³⁴⁹ [CREW's new projects in Wandsworth – Community Energy London](#)

decarbonise local community buildings. CREW is supporting feasibility studies, planning and surveys, capital projects and funding bids that go beyond solar schemes. Current projects include a skate park, church, a charity and community centre in a listed building and a business centre and enterprise hub.

Case study: Community Energy Pathways³⁵⁰ - Social value and support

Using the Social Value Portal, an online tool widely used by councils and businesses to measure social value in procurement, Community Energy Pathways is leveraging the UK's National TOMs (Themes, Outcomes and Measures) methodology to translate community energy outcomes into monetary social value terms. This effectively puts community energy on the same playing field as other projects when councils or investors assess “value for money” and social return.

Community Energy Pathways is also working with developers on seven shared ownership solar farms across England. The developers are making 10% of the scheme available for community ownership. In future shared ownership may enable swifter access to grid connections.

Case study: Community Energy Pathways – Shared ownership offer for Caker Stream Solar Farm with community energy engagement

Caker Stream³⁵¹ is a 50MW ground mounted solar farm with 2 MW Battery Energy Storage System in East Hampshire currently in the planning process with determination likely to be in early 2026. The developer Quintas Cleantech approached Community Energy Pathways in 2024 to help develop a shared ownership offer to the local community.

Community Energy Pathways contacted two local groups that they had helped to establish, Energise South Downs and Energy Alton.

These community energy groups and Community Energy Pathways partnered with the developer at the public consultation and achieved a remarkable 75% support level for the project. The presence of the local community energy groups and their supporters on this large project changed the conversation around acceptability.

Beyond planning, Community Energy Pathways are now looking at a joint venture structure in which the community share would be up to 10%.

³⁵⁰ [Community Energy Pathways working to accelerate the growth of the community energy sector - Community Energy Pathways](#)

³⁵¹ [Community - Caker Stream](#)

5.3.1.6 Engagement and communications

5.3.1.6.1 Energy system – the context for two-way engagement

Local authorities can play a key role in the required as essential parts of our energy transition, and wider climate and nature goals. Engagement and communications in this sector covers a very wide range of activities and requirements at different stages from strategy- and policy-making, local planning, project development and delivery and operations. The types of engagement and communications themselves range from meeting the minimum legal requirements for consultation (including such as the Gunning Principles, below) and establishing and managing community benefit funds, through to more participatory methods approaches.

In 2025 the Government published its public participation plan (**Energising Britain**)³⁵² which outlines how the Government is working across a wide range of people and organisations to make sure the benefits of the energy transition can be accessed by all. At a national level this includes communicating the action being taken to improve people's lives, from installing clean energy, lowering bills and protecting nature to increasing resilience and securing good jobs.

The plan highlights the important role of local engagement so that communities feel they have been consulted and listened to. This also aims to provide data and insights from local and community-led engagement to inform local and national government policies. Local authorities need to be ready to feedback information to government on local views and opinions.

Consultation Principles

The Gunning Principles:

The Gunning Principles form a legal foundation against which public consultation legitimacy is assessed and can be the legal basis for judicial review decisions:

- consultation must be at a time when proposals are still at a formative stage
- there is sufficient information to give 'intelligent consideration' and that it is accessible and easily interpretable
- there is sufficient time for consideration and response
- 'conscientious consideration' must be given to the consultation responses before a decision is made.

Engagement Principles:

³⁵² [Energising Britain: Your voice in our Clean Energy Superpower mission – UK Government](#)

The Government Office for Science has set up a community of practice for people working on and researching the grid and published a set of principles for navigating the social aspects of grid transformation³⁵³. These highlight the need for early and transparent two-way engagement that recognises place specific knowledge and context. Following these principles offers a way to build consent, trust, and legitimacy and unlock the changes needed to the grid to achieve the Clean Energy mission.

IAP2 Spectrum of Public Participation

This is an important reference tool³⁵⁴ used internationally to guide organisations in defining the level of public involvement in any public participation process and has been referenced in council policies³⁵⁵.

5.3.1.6.2 Formal and informal engagement and communications on energy schemes

Despite widespread public support for renewable energy, local opposition to schemes can arise when news of developments comes to local areas, particularly large developments and those decided at the national level. Local authorities have a critical role in engaging with their communities to help them understand the drivers for projects, their benefits and trade-offs and ensuring that they are designed and delivered in ways that work for their communities.

As part of early engagement in energy conversations, local authorities can lead or commission methods including participatory budgeting, citizens' juries, citizen visioning and much deeper engagement through listening to people, understanding their concerns, and involving them, as far as possible, in decisions about changes that will affect their homes, businesses, and local areas and landscapes. These discussions take a community development approach, and can align with building community energy capacity, sit alongside larger projects such as heat network or Local Area Energy Plan developments and help link up the ground-up projects with larger strategic ones.

For projects where local planning consent is required, **developer-led informal engagement** is encouraged by local authorities in the pre-planning stages, when it can inform project design. However, under the Planning and Infrastructure Act there will no longer be a statutory requirement to consult at the pre-application stage. In their planning role the local authority may advise developers on opportunities for

³⁵³ [Principles for navigating the social aspects of grid transformation – Government Office for Science](#)

³⁵⁴ [SpectrumEvolution - International Association for Public Participation](#)

³⁵⁵ [Community Benefits for Electricity Transmission Network Infrastructure consultation SCC response – Suffolk County Council](#)

engagement, facilitate contact with local groups and highlight potentially sensitive local issues.

Local-authority-led formal consultation happens once a planning application is submitted to the planning authority. It has a statutory duty to publicise the planning application through site notices and its online portal and letters to neighbours. Local authorities can go beyond these statutory duties and for example inform the wider community about the application. The planning authority collects and manages public comments. Elected local councillors represent community views (they can do so as part of the consultation process). This is a separate process to community development type engagement processes.

For **NSIPs**, community engagement is led by the developer at the pre-application stage, where they are legally required to consult local communities, stakeholders, and local authorities before submitting an application. Local authorities play a key advisory and influencing role early on, highlighting local issues, and representing community concerns, but they do not run the process. Some local authorities have developed guidance for developers in this process, including Suffolk County Council. Once the application is submitted, engagement becomes formalised and led by the Planning Inspectorate, with the local authority acting as a principal participant and advocate for local views during examination.

The Government Office for Science has summarised expert evidence on effective public engagement on grid infrastructure. It highlights that public engagement which is early, transparent and perceived as fair is essential to building legitimacy and enabling successful delivery of grid infrastructure. The evidence also highlights that opportunities for communities to engage in deliberative processes and co-design or co-development, where residents are treated as collaborators, carried out within a clear scope, are considered best practice^{356, 357}. This can entail communities commenting on the best approaches developers could take on siting, public rights of way, nature, transport routes and so on, while not giving up their right to object to developments.

As outlined above, local authorities also play a key role in engaging the community on how community benefit funds, that are created once a scheme is consented. Community Energy Pathways assist local authorities in navigating community benefit funds and shared ownership models as a means of working out how to get community benefit locally. The role of an independent organisation in navigating such engagement can be very useful. The government has updated guidance on community funds for transmission infrastructure³⁵⁸ which provides governance and funding approaches with

³⁵⁶ [Principles for navigating the social aspects of grid transformation – Government Office for Science](#)

³⁵⁷ [Public engagement on grid infrastructure - Government Office for Science](#)

³⁵⁸ [Community Funds for Transmission Infrastructure: Guidance - DESNZ](#)

case studies. This also clearly sets out the local authority and town and parish council roles in engagement.

Case studies: When different forms of communications and engagement happen

In addition to their role in relation to engagement on energy infrastructure planning applications, councils can also play a role in wider engagement with the energy transition.

General awareness-raising activities aim to improve public understanding of energy by providing education, building capacity, and supporting national campaigns. (Energising Britain and Moving the Grid Forward). This can also align to campaigns to raise awareness of skills and careers in the energy sector in schools and colleges. E.g. Trafford Council holds an annual Green Skills Job Fair hosting employers to showcase green careers across a range of sectors including the energy sector.

Community-led strategic engagement builds shared understanding of the energy transition through open dialogue, helping define local priorities, roles, and future opportunities.

This type of engagement focuses on:

- Creating two-way conversations with communities, often without a fixed outcome.
- Building local knowledge, trust, and capacity.
- Exploring how future energy changes will be experienced at a local level.
- Identifying community ambitions, projects, and volunteer action.

It is commonly used when developing strategies (e.g. climate, economic, or Local Area Energy Plans), helping ensure strategies and plans reflect local needs.

Examples include initiatives like Dorset's Grid Inquiry (to understand local grid issues) or Oldham's Community Led Energy Plan³⁵⁹, Tool kits like Future Energy Landscapes³⁶⁰ (CSE) or Starting Local Energy Conversations (Carbon Coop) are designed to help start such wider conversations.

5.3.1.6.3 Community engagement in developing energy plans

Engagement should be carried out as early as possible in any development process, and ideally far ahead of specific developments being proposed. An ideal time is when LAEPs or other strategic plans are being developed so it is not seen as a largely symbolic engagement to a particular development which is already in progress. These

³⁵⁹ [The Community-led Energy Planning Approach – Energy Futures Toolkit](#)

³⁶⁰ [Future Energy Landscapes - Centre for Sustainable Energy](#)

strategies and plans can also discuss and develop approaches to managing community benefit funds that accrue from hosting infrastructure.

Case study: Oldham Council: Oldham Energy Futures Community-led Energy Planning (CLEP)³⁶¹

In 2020 Oldham Council adopted a Green New Deal Strategy, setting challenging carbon targets for the council and wider area. As part of this the council aimed to engage residents in shaping what that low-carbon transition meant for them and their neighbourhoods. From 2021-22 community energy organisation, Carbon Coop worked with people in two neighbourhoods, Westwood and Sholver, to develop two local energy plans through their new design methodology community-led energy planning³⁶².

This approach meets the top-down Local Area Energy Plan (LAEP), providing more local detail and aspirations. A key part of embedding the approach in long-term governance is setting up a Community Forum, which brings together residents, local groups, and partners. By involving the community in market engagement and the process to choose a Strategic Energy Partner, Oldham aims to make sure local needs and ideas are included from the start.

South West Local Authorities - Centre for Sustainable Energy – Future Energy Landscapes³⁶³

CSE has designed workshops that support communities in considering renewable energy in their local area and landscape, providing impartial information and allowing them to explore options. After running 13 workshops in 2022 CSE found that communities were not just accepting of renewables they were enthusiastic about them, with 85% of participating communities supporting renewable energy projects that could meet or exceed their annual electricity needs and 62% expressing support for onshore wind. CSE is currently running Future Energy Landscape processes for five local authorities in the South West.

Cornwall Council – Residents Energy Panel for Local Area Energy Plan Development

As part of the development of their LAEP, Cornwall Council included a Residents Energy Panel. This followed a citizens assembly model, made up of randomly

³⁶¹ [The Community-led Energy Planning Approach – Energy Futures Toolkit](#)

³⁶² [Westwood Community Led Energy Plan - Oldham Energy Futures](#)

³⁶³ [Future Energy Landscapes - Centre for Sustainable Energy](#)

selected people, representative of the wider community. Participants learned about the topic through input from experts and stakeholders, engaged in guided discussions to explore different perspectives and worked collaboratively to develop recommendations or actions.

Suffolk County Council – resources to support Parish Councils and Communities in NSIP process

Suffolk has seen over 19 NSIP processes in its area, and gained valuable insights into these. As a result it developed policy and guidance with the Suffolk Association of Local Councils to support Parish Councils³⁶⁴ and communities through the process to achieve the best possible outcomes, given that 95% of NSIPs are consented. It developed **Guidance on Community Engagement and Wellbeing**³⁶⁵.

This guidance focuses on procedural fairness that must be created through effective dialogue with the affected communities, and states that this sits alongside discussions of community benefits (funds) or shared community ownership. The approach expects developers to not only inform and consult, but **involve and collaborate** with communities. It suggests developers create a panel of people from the affected communities to discuss the project, without prejudice to any objections they may have. It expects developers to produce an assessment of the impact on mental health and community wellbeing and to have a duty to protect community wellbeing through collaborating with other developers in the area.

These policies have been used to support the eight parishes affected by the EcoPower Suffolk³⁶⁶ solar farm and BESS. This led to the developer setting up a community liaison group with parish councils and providing regular reports on progress.

5.4 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to decarbonise electricity supply. These are priorities set for decarbonisation (local authorities will also consider other objectives).

³⁶⁴ [getting-to-grips-with-nsips](#)

³⁶⁵ [Community Engagement and Wellbeing SPD – Suffolk County Council](#)

³⁶⁶ [EcoPower Suffolk - Suffolk County Council](#)

- **Develop a Local Area Energy Plan (LAEP) and support its delivery.** A LAEP is a council led, long-term, data-driven plan that sets out a cost-effective and practical plan for local energy demand and supply. It maps how heat, power, transport and energy infrastructure need to change over time, and identifies where upgrades, new technologies or network reinforcements will be needed to meet the local area’s future energy needs. Turning the plan into action may involve establishing a cross-council and wider partnership delivery group which includes community representatives, identifying early project opportunities, and drawing on external expertise or training where internal capacity is limited.
- **Prepare for NESO strategic plans and Regional Energy System Planning.** Local authorities should familiarise themselves with the forthcoming NESO strategic plans and the Regional Energy System Planning (RESP) process. These national and regional plans will map where future transmission lines, substations, storage and generation are likely to be needed, and how the wider energy system is expected to evolve. Input from local authorities into the strategic plans will be vital to coordinate local and central planning.
- **Become NSIP ready.** Most large-scale renewable generation and the associated transmission and distribution infrastructure are classified as Nationally Significant Infrastructure Projects (NSIPs). In England, NSIPs are examined by the Planning Inspectorate and the final decision is taken by the Secretary of State, so local authorities have influence but not decision-making power. Councils should become familiar with the NSIP process, improve the council’s ability to provide clear and timely input during examinations, and learn from authorities with previous NSIP experience. With many large electricity projects decided nationally rather than locally, being “NSIP ready” helps councils engage more confidently with communities, coordinate across departments, and ensure local priorities and evidence are represented effectively.
- **Build planning capacity** to assess smaller low-carbon energy generation, energy storage and infrastructure applications (that are not subject to the NSIP regime) and feed into processes for Nationally Significant Infrastructure Projects. Ensure planning policies actively support, in line with other land-use and nature considerations, renewable energy, storage, energy network, EV infrastructure and the wider energy transition.
- **Consider renewable energy generation on council owned assets** (for example, land, landfill sites or council-owned roofs).
- **Explore opportunities to support or catalyse local and community energy projects:** The newly published Local Power Plan sets out how the Government and Great British Energy will expand community and locally-owned clean energy across the UK by providing up to £1 billion in funding, practical support and policy reform so that communities directly benefit from the energy they produce.

Councils are highlighted as an important delivery partner in the plan and can engage with the opportunities offered through this funding and support.

- **Where appropriate, participate in the innovation space around smart local grids, flexibility and load shifting.** Energy demand flexibility and management means shifting energy use to avoid times when electricity is in high demand and expensive and therefore reduce pressure on the grid. Local authorities can get ready to deliver flexibility on their own estates (e.g. through battery storage), support community and commercial participation through partnerships with network operators, and use planning, procurement, and local programmes to help unlock local flexible demand and storage services.

5.4.1 Challenges, gaps and barriers

Local authorities face multiple challenges in supporting the energy transition ranging from policies and regulation to capacity and knowledge:

5.4.1.1 Governance, roles and market structure

- **Fragmentation between local and energy planning systems³⁶⁷:** Local planning and energy planning usually happen separately and are carried out by separate departments. This makes it harder to join up decisions, identify opportunities and deliver projects smoothly. It is hoped that the RESP process and Local Power Plan support may alleviate this challenge.
- **Centralisation versus local decision-making:** Many important decisions and investments are made at the national level. This can limit the ability of local councils to shape projects to fit local needs and priorities. The Regional Strategic Energy Planning and other NESO strategic plans in train should begin to address this challenge.

5.4.1.2 Public engagement, behaviour and awareness

- Public understanding of the scale, pace, and system-wide nature of new electricity infrastructure needs is mixed and limited^{368, 369}. Early, place-based engagement (for example through Local Area Energy Plans and community-led initiatives) can help build awareness, trust, and local ownership. In this context, local authorities can facilitate informed dialogue and play a constructive role in strengthening public confidence in energy system transformation. Alongside this, even with public understanding there is a trade-off and compromises

³⁶⁷ [Part four: Analysis and recommendations - how to integrate local energy planning and town planning across the UK - RTPi](#)

³⁶⁸ [DESNZ Public Attitudes Tracker: Energy Infrastructure and energy security, Winter 2024, UK - DESNZ](#)

³⁶⁹ [Electric dreams: how the planning system can help deliver the UK's low-carbon energy – Renewable UK](#)

needed for support in terms of energy costs, landscape, nature and community impacts and benefits.

5.4.2 Skills, workforce and local authority capacity

- **Perception of the sector as highly technical:** Energy is often seen as a very technical and heavily regulated area, with a lot of actors, complex structures and technical terminology and can feel inaccessible to staff. Training and clear information can help make the sector more accessible.
- **Staff pressures and limited funding:** Council staff are under pressure, and there is often not enough funding to support the extra work needed to plan for, localise and deliver big changes.
- **Skills and capacity gaps:** Planning departments, in particular, may lack the specialist skills and capacity needed to deal with new energy projects and policies³⁷⁰.

5.4.2.1 Infrastructure and energy system constraints

- **Delays in securing grid connections** and high costs due to required reinforcement on the transmission and distribution networks hold back developments across the country, with some areas particularly constrained.

³⁷⁰ [Local planning authority skills and resourcing policy brief - Regen](#)



6 Agriculture and land use

Agriculture is the fourth highest-emitting sector in the UK, accounting in 2022 for 11% of UK GHG emissions, 47.7 MtCO₂e.

Nearly two-thirds (63%) of agricultural emissions were directly emitted from livestock, 24% emissions are from soils and 12% is from machinery.

Land use (land use, land use change and forestry) emissions are close to zero, at 0.8 MtCO₂e in 2022. However, land has recently stopped being a sink and become a source of emissions due to aging forestry and low levels of tree planting during the 2000s to now.

Croplands are the main source of land use emissions, driven by degraded organic soils (peatlands) under agriculture.

Sinks, absorbing and storing CO₂, include forestry (including woodlands, hedges and trees) and grasslands. Forestry is the bulk of this sink at -19.3 MtCO₂e while grasslands is a small net sink of -0.5 MtCO₂e.

6.1 What needs to happen in agriculture and land use?

What needs to happen for agriculture and land use to meet the Seventh Carbon Budget?

In the CCC's Balanced Pathway, there is a 39% reduction in agricultural emissions by 2040, relative to 2022 levels. By 2050, the combined agriculture and land use sectors can achieve Net Zero emissions. This is achieved through a combination of low-carbon farming, changes in land use to absorb CO₂, and a reduction in livestock numbers (supported by shifts in diets).

In the CCC's Balanced Pathway, a significant reduction in livestock numbers helps reduce emissions.

- A 27% decrease in cattle and sheep numbers between 2023 and 2040 helps reduce emissions.
- This is linked to a reduction in average meat consumption (25% reduction by 2040) and dairy consumption (a 20% reduction by 2035).
- To enable this, some farmers will need to be incentivised to diversify their income streams away from livestock agriculture, and associated industries also need support to adapt.

In the CCC's Balanced Pathway, widespread adoption of low-carbon farming practices will help reduce emissions further.

- These measures include using new feed additives to inhibit methane from cattle, improving livestock health and breeding to reduce emissions intensity, better management of manures, and improvements to soil health via cover crops, grass leys and more efficient use of nitrogen fertilisers.

In the CCC's Balanced Pathway, a transformation in land use will help turn the sector into a carbon sink.

- UK **woodland cover** will need to increase from 13% to 16% by 2040.
- By 2050, alongside woodland creation, agroforestry is applied to 10% of agricultural land and the extent of hedgerows increases by 40%. Both actions support the continued productive use of agricultural land.
- Ambitious **peatland restoration** is also required, with the goal of having 60% of upland peat and 31% of lowland peat in a natural or rewetted condition by 2040. Alongside this, water-level management and paludiculture actions (growing crops under a high water table on wet peatland) are applied to 4% of lowland agricultural peatlands by 2040, rising to 10% by 2050.
- A significant area of land (equating to 3% of UK land area by 2050) will be used to grow perennial energy crops such as miscanthus, short rotation coppice and short rotation forestry.

In the CCC's Balanced Pathway, emissions from agricultural mobile and stationary machinery will need to transition away from fossil fuels.

- This can be achieved through electrification for smaller machinery and a possible switch to hydrogen-based options for larger vehicles where battery power may be impractical. Stationary machinery is fully electrified by 2050.

6.2 Policies and plans

Agriculture and land use are largely devolved matters, which means that Scotland, Wales and Northern Ireland's administrations set policy.

The Environment Act 2021 applies to England, although elements of it are national, and the government will work closely with devolved administrations to take a consistent approach. Critically for local authorities in England, it includes a strengthened Biodiversity Duty and requirement for upper tier authorities to prepare and report on Local Nature Recovery Strategies, which will have implications for emissions reductions from agriculture and land use, and mandates Biodiversity Net Gain in the planning system. This will provide opportunities for payments for the creation of

biodiversity units, which can be layered with carbon credits and other schemes, to provide revenue for nature and carbon investments.

Each nation has its own post-EU agriculture and land use support schemes. In England, this is in a transitional period between 2021-2027, replacing basic payments through various funding initiatives under the Environmental Land Management Scheme (ELMS). This includes the Sustainable Farming Initiative (which closed in 2025^{371, 372} but is due to relaunch in 2026), Countryside Stewardship and Stewardship Plus and Landscape Recovery (currently covering two areas³⁷³). Wales has the Sustainable Farming Scheme,³⁷⁴ which pays farmers to farm in a more sustainable way and provides extra payments for measures like woodland creation or testing innovative sustainable farming methods. In Scotland, farmers continue to receive basic payments and a 'greening' payment,³⁷⁵ along with additional funds for less favoured areas which cover vast expanses of peatlands³⁷⁶. Northern Ireland is introducing a Sustainable Agriculture Programme³⁷⁷.

The Government's new Land Use Framework was published in March 2026³⁷⁸. It sets out a national, strategic vision for how England's land should be used to meet multiple goals at once, including building homes, restoring nature, maintaining food production, improving climate resilience and supporting clean energy infrastructure. It uses spatial analysis to show that the country has sufficient land to meet these objectives if it is used more efficiently and in a more integrated way.

³⁷¹ [An update on the Sustainable Farming Incentive – Farming](#)

³⁷² [SFI cuts leave 'thousands' of farmers facing losses says NFU - BBC News](#)

³⁷³ [Landscape Recovery: first projects move into delivery phase – Farming](#)

³⁷⁴ [Sustainable Farming Scheme 2026: scheme description Welsh Government](#)

³⁷⁵ [Support for farmers and crofters – Scottish Government](#)

³⁷⁶ [Less Favoured Areas – Delivering For Scotland](#)

³⁷⁷ [Sustainable Agriculture Programme - DEFRA](#)

³⁷⁸ [Land Use Framework - DEFRA](#)



Figure 15: Ashden/Andy Aitchison. Showing Ashden Award Winner for Future Farmers 2023, FarmED founder Ian Wilkinson³⁷⁹

6.3 Local authority powers and levers to reduce emissions in agriculture and land use

Since 2022 local authorities will have noticed that Agriculture, Forestry and Land Use emissions have been included in UK local authority and regional greenhouse gas emissions statistics³⁸⁰. This will have changed the emissions profiles for some areas, particularly those outside of dense city-centres and mainly urban authorities. In some areas the emissions from the Agriculture, Forestry and Landuse sector are as large as emissions from transport so require attention in climate strategies and plans.

Agriculture and land use policy that determines in how far low-carbon farming practice and land use is encouraged is mainly determined at national level. Local authorities have direct control and powers (and indeed, some duties) relating to their own land,

³⁷⁹ FarmED raises awareness of regenerative farming through its demonstration farm, micro-dairy, crop-rotation and agroforestry initiative and learning centre for network meetings and guided tours. Its conservation approach to food and farming aims to radically lower emissions, protect biodiversity and restore soil health and landscape

³⁸⁰ [UK local authority and regional greenhouse gas emissions statistics - DESNZ](#)

which gives them the ability to use their own land to reduce emissions and demonstrate how they have done this. Other levers are mainly concentrated in engaging with farmers and fostering partnerships to support the uptake of low-carbon farming practices and diversification from livestock production and the protection, restoration and creation of woodland and peatland.

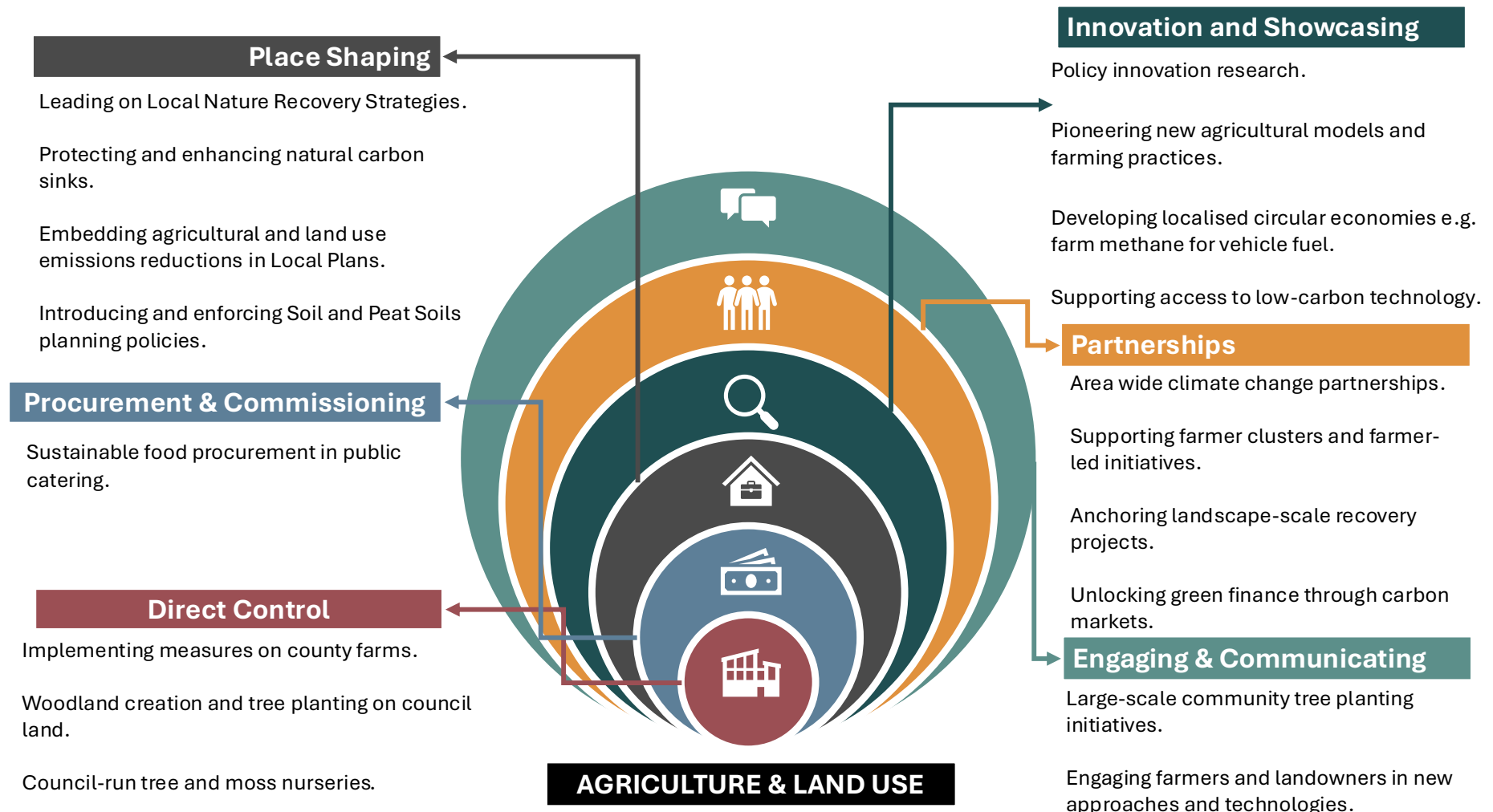


Figure 16: Onion diagram of local authority influence for agriculture and land use

6.3.1 Direct control

The land and assets owned directly by local authorities are a key opportunity to tackle agriculture and land use emissions. The council estate (including county farms, parks, public green spaces, and post-industrial sites like closed landfills) can serve as a real-world test site for the transitions required by the Seventh Carbon Budget. Creating and managing woodlands or forestry on their own land, including urban green infrastructure, helps meet tree-planting targets but also provide valuable health, climate resilience and amenity benefits. By acting as a champion on their own land, local authorities can de-risk innovation, demonstrate best practice, and build the credibility needed to lead the wider land management community.

6.3.1.1 County farms

For councils with rural estates, county farms are a good opportunity to pioneer climate-friendly agriculture. This is particularly true for peatland restoration and woodland creation. This also builds credibility across the farming community locally, whereby lessons can be shared with other farmers and landowners.

Case Study: Cambridgeshire County Council – Net Zero Roadmap for its Rural Estate

Cambridgeshire County Council owns a vast 33,000-acre rural estate, a significant portion of which lies on the carbon-rich peat soils of the Fens. These drained agricultural peatlands are a major source of emissions, making their management a priority³⁸¹. The council has proactively developed a Net Zero Roadmap for its estate, commissioning a detailed analysis that identified soil type and fertiliser use as the primary drivers of emissions from its tenant farms. The council is now able to target interventions more effectively, supporting its tenants to access new Environmental Land Management Schemes (ELMS) and aiming to position itself as a national example in sustainable peatland agriculture.

6.3.1.2 Woodland creation and tree planting on council land

Councils can use their own land or purchase land, including smaller landholdings, Highways land, Country Parks and through partnerships with Town and Parish Council owned land, to create woodlands and hedgerows. They can access grants to support this, for example through the England Woodland Creation Offer and Woodland Creation Planning Grant and Scotland's Woodland Grant.

³⁸¹ [Peatland - Cambridgeshire County Council](#)

Alongside this, all councils across the UK can declare and manage local nature reserves³⁸² on land they own or have an interest in.

Councils can also strategically manage their land to generate environmental credits, some use this on a temporary basis to compensate for their own residual emissions (also known as 'insetting') until all emissions are cut, or to create new revenue streams through habitat banking for biodiversity and carbon credits.

Reaching Net Zero will require growing carbon sinks along with direct decarbonisation measures such as decarbonising transport and heating. **Offsetting is only a temporary but valuable measure to invest in carbon reduction while longer term decarbonisation measures are put into place.** So, pending a shift of all vehicles away from fossil fuels, some organisations fund the equivalent of their remaining emissions through tree planting and peatland restoration through offsetting.

Case Study: Cheshire East Council - 'Insetting' Approach.

Cheshire East Council has made a strategic choice to focus on 'insetting' rather than traditional offsetting in its work to become carbon neutral in its own operations by 2030. This ensures that investment in carbon removal delivers direct benefits within the borough. The council has already offset almost 52% of its operational emissions through local projects³⁸³. A key part of this strategy is large-scale tree planting on council-owned land, such as a 7-hectare woodland creation project at Leighton Grange. This approach transforms a carbon accounting requirement into a tool for local environmental improvement, enhancing biodiversity and creating accessible green space for residents³⁸⁴.

6.3.1.3 Council-run tree and moss nurseries

Delivering the woodland creation coverage the Seventh Carbon Budget requires a considerable and reliable supply of tree saplings to ensure resilience and biosecurity. Some local authorities are taking direct control of this part of the supply chain.

Case Study: Leeds City Council - 'The Arium' Tree Sapling Nursery

Leeds City Council has established 'The Arium', which is the largest local authority-owned plant nursery in the country. It has the capacity to grow and supply up to 400,000 tree saplings annually, making it a cornerstone of the council's plan to plant 5.8 million trees and double the city's tree cover. It also runs a public seed collection

³⁸² [Local nature reserves: setting up and management – Natural England and DEFRA](#)

³⁸³ [Environment and Communities Committee - Wider Borough Carbon Action Plan Report](#)

³⁸⁴ [Draft Biodiversity Net Gain Supplementary Planning Document](#)

campaign, directly involving residents in building the pipeline of trees for future woodlands³⁸⁵.

Case Study: Calderdale Council - Sphagnum Moss Nursery

Degraded peat on Calderdale's blanket bog emits 29,871 tonnes³⁸⁶ of CO₂ e annually and rewetting and restoration are underway. Faced with the high cost of commercially grown sphagnum moss needed for peatland restoration, Calderdale Council established its own innovative, low-cost nursery. The project, largely run by volunteers and supported by National Lottery funding, developed a method for propagating eleven local species of the vital bog-forming moss in polytunnels. This initiative provides a replicable model that is now being shared with conservation organisations across the country and which has helped set up four more similar schemes³⁸⁷.

6.3.2 Procurement and commissioning

6.3.2.1 Sustainable food procurement in public catering

Public and school catering offers a significant opportunity to support and influence both the food economy and dietary habits³⁸⁸. Initiatives like the Soil Association's Food for Life programme provide a useful framework for local authorities for sustainable food procurement³⁸⁹. Schools in Scotland and Wales remain under local authority control, so councils have a strong opportunity to influence school food policy and help normalise plant based foods. In 2023/24, 43.5% of England's schools were academies, mainly secondary schools, with most primary schools still local authority maintained.

6.3.3 Place shaping

The planning system provides the primary mechanism for shaping long-term land use, protecting vital natural assets, implementing Local Nature Recovery Strategies (LNRS), and managing land use changes conflicts. This is particularly relevant to rural and rural-urban³⁹⁰ areas on city edges where multiple demands on the land are made, from housing developments, energy generation and infrastructure, transport infrastructure, food production, leisure, forestry and woodland expansion.

³⁸⁵ [Woodland creation | Leeds.gov.uk](https://www.leeds.gov.uk/woodland-creation)

³⁸⁶ [Calderdale Sphagnum Project – Calderdale Council](https://www.calderdale.gov.uk/news/2023/04/calderdale-sphagnum-project)

³⁸⁷ [Growing moss for peat's sake | News Centre - Official news site of Calderdale Council](https://www.calderdale.gov.uk/news/2023/04/growing-moss-for-peat-s-sake)

³⁸⁸ [From ground to table: The role of local government in local food and drink supply chains - LGA](https://www.localauthorities.gov.uk/food-for-life)

³⁸⁹ [Local Authorities - Food for Life](https://www.localauthorities.gov.uk/food-for-life)

³⁹⁰ [The role of rural local authorities in reaching Net Zero - UK100](https://www.localauthorities.gov.uk/net-zero)

6.3.3.1 *Embedding agricultural and land use emissions reductions in Local Plans*

Local Plans and planning documents can provide support for agricultural sector decarbonisation, supporting renewable energy generation on farms, and infrastructure or buildings required to accommodate low-carbon technologies or storage such as slurry stores.

Climate adaptation and nature recovery are important elements of the planning process, and there are opportunities in planning policy to align carbon reduction with nature recovery. Although Biodiversity Net Gain is not about carbon emissions, it will provide opportunities for also conserving soil carbon and enabling expansion of hedgerows and tree cover.

In cities and more urban areas, Green Infrastructure Plans, Woodland and Tree Strategies (Forestry and Woodland Strategies are mandatory in Scotland) can also support developments and planning decisions which support decarbonisation in land use.

Case Study: Cornwall Council - Climate Emergency Development Plan Document (DPD)

Formally adopted in February 2023, Cornwall's DPD is a pioneering statutory plan that sits alongside the main Local Plan to accelerate climate action. It provides the planning policy contribution to securing carbon reductions by introducing a suite of integrated policies. These policies promote nature-based solutions, encourage sustainable agricultural diversification, and set targets for increasing tree canopy cover on new developments. Crucially, Policy AL1 on 'Regenerative and Low Impact Development' and a wider ambition to protect soils from degradation create a clear policy hook for requiring development to enhance, rather than degrade, soil health and carbon storage³⁹¹.

Case study: Broads Authority - Soil and Peat Soil Planning Policies³⁹²

The Broads Authority (the National Park for the Norfolk and Suffolk Broads) has planning policies protecting soils from development to protect carbon in soils and to protect peat as an irreplaceable habitat. The Soils policy requires developers to “leave soils that are carbon sinks in situ”, drawing on National Planning Policy Guidance while the Peat Soils policy commits to protecting, enhancing and preserving peat and states that “development resulting in the loss or deterioration of peat (an irreplaceable habitat) will be refused, unless there are wholly exceptional reasons...”. Where peat does have to be extracted for exceptional reasons it must be

³⁹¹ [Climate Emergency Development Plan Document - Strategic Planning](#)

³⁹² [Soils – Broads Authority](#)

preserved and taken to somewhere it can remain wet so it does not release carbon. The Authority has produced a practical guide to understanding and addressing the impact of new developments on peat soil³⁹³.

6.3.3.2 Supporting farm diversification

Local authorities can use their place shaping powers to support farmers and landowners in diversifying from carbon-intensive livestock production (beef and lamb) to other income streams (including renewable energy production or tourism). Councils can use various funds to support this including Shared Prosperity Funds, and a specific fund – the Rural England Prosperity Fund which provides capital funding.

Wider council activities such as business support (see examples below), support for 4G and rural broadband connections, provision of rural public transport and EV charge points and planning policies can support farm diversification.

The National Planning Policy Framework³⁹⁴ supports rural diversification including policies that enable

- the sustainable growth and expansion of all types of business in rural areas, both through conversion of existing buildings and well-designed, new buildings,
- the development and diversification of agricultural and other land-based rural businesses,
- sustainable rural tourism and leisure developments which respect the character of the countryside.

Case study: Local Development Plans (LDPs) that support diversification include³⁹⁵

Northumberland County Council (2022) supports rural diversification where proposals relate directly to agricultural operations, leisure or tourism requiring countryside locations, or generate local employment, provided they do not impair the host farms' operations.

Cornwall's policy emphasises agricultural sector growth and diversification as a key to long-term prosperity.

Herefordshire's Policy RA6 backs employment-generating projects that diversify the rural economy, including knowledge-based and environmentally focused industries.

³⁹³ [Guide to understanding and addressing the impact of new developments on peat soil – Broads Authority](#)

³⁹⁴ Para 88 [National Planning Policy Framework - MHCLG](#)

³⁹⁵ Case studies from [Farm diversification: a smart move \(but not for everyone\) - HCR Law](#)

Braintree Local Plan promotes rural economic diversification alongside natural environment conservation.

Swansea Council's Rural Development Plan focuses on increasing productivity, diversity and efficiency of Welsh farming and forestry businesses to promote economic resilience and reduce businesses reliance upon subsidies.

6.3.3.3 *Protecting and enhancing natural carbon sinks*

Local planning authorities have direct regulatory powers to protect existing carbon stores and the natural infrastructure that underpins a resilient landscape. This is encompassed by the Biodiversity Duty under the Environment Act 2021 to the extent that much of the actions to recover nature also align with activities that preserve carbon sinks and increase carbon sequestration. Duties relating to flooding and catchment management also serve as a useful tool. As such, local authorities can use wider duties and powers to safeguard carbon sinks. Welsh Authorities can use the Wellbeing of Future Generations Act as a justification for such action; while Scottish and Northern Ireland's councils can use their Climate Change Acts, which place duties on local authorities.

More specifically, the Hedgerows Regulations 1997 grant local planning authorities in England and Wales the authority to issue Hedgerow Retention Notices, preventing the removal of hedgerows deemed 'important' for their historic, wildlife, or landscape value. This is reinforced by new 2024 regulations that establish a cutting ban during the bird nesting season (1 March to 31 August) and mandate a 2-metre buffer strip where cultivation and spraying are prohibited on agricultural land³⁹⁶.

Similarly, through the use of Tree Preservation Orders (TPOs) and robust policies within Local Plans, local planning authorities can protect valuable individual trees, groups of trees, and irreplaceable habitats like ancient woodland from damage or destruction due to development.

6.3.3.4 *Leading on Local Nature Recovery Strategies (LNRS)*

As noted above, the Environment Act 2021 established a statutory duty for upper tier authorities to lead the preparation of Local Nature Recovery Strategies in England. These strategies require authorities to map existing valuable habitats and identify the most strategic priority areas for nature recovery actions. Local Authorities can use the LNRS to strategically plan for landscape-scale peatland restoration, woodland creation, and habitat connectivity. The LNRS will become a key part of the evidence

³⁹⁶ [The Management of Hedgerows \(England\) Regulations 2024](#)

base for new Local Plans and a vital tool for directing investment from Biodiversity Net Gain (BNG).

6.3.4 Innovation and showcasing

Local Authorities can act as catalysts and anchors for innovation, using their assets, partnerships, and convening power to help test, de-risk, and showcase the next generation of farming and land management systems that will be essential for meeting long-term climate targets. This role is less about inventing new technology and more about removing the barriers to its adoption by creating a supportive local ecosystem, and about supporting wider partnerships to secure research and innovation funding and to roll out promising solutions.

6.3.4.1 Policy innovation research

Local authorities can join collaborations (e.g. with universities) to work out how to scale innovation in farming practices and farm diversification and make policy changes that enable take up.

Case study: Gloucestershire County Council and district councils - University of Gloucestershire - Gloucestershire Food and Farming for Net Zero (Integrating Local Climate Policies)³⁹⁷

This research project brought together public sector organisations, including Gloucestershire County Council and the district councils of Gloucester City, Cheltenham, Tewkesbury, Stroud, Forest of Dean, and Cotswold, with the Food and Farming Partnership. This collaboration aims to identify actions that councils and their partners can take to support positive changes in the food and farming industry, whilst ensuring the most efficient use of public money. The research is mapping and surveying activities across the county that currently support the transition, and will be running deliberative workshops with the partners to identify practical actions they can take across the short and longer term³⁹⁸.

Case study: Northumberland County Council – Future of Farming³⁹⁹

In 2022 - responding to changes in agricultural policy high local agricultural emissions, the council convened a Future of Farming review. This was chaired by University of Newcastle Professor Sally Shortall Duke with an independent panel and produced a report with key recommendations, including for the County Council with the National Park Authority:

³⁹⁷ [Integrating Local Authority Climate Policies - Countryside and Community Research Institute](#)

³⁹⁸ [Gloucestershire Food and Farming for Net Zero](#)

³⁹⁹ [Future of Farming Inquiry – Northumberland County Council](#)

- Mapping farmer clusters and groups and filling gaps to develop a coherent network for farmer engagement and collaboration.
- Surveying farm businesses (with NFU, TFA, CLA⁴⁰⁰) to identify required support and signpost to it (see case study below for the County's Farm Advisory Service and investment loans).
- Providing short online training modules covering farm carbon audits, soil health, sustainable land management, on-farm resource efficiency and woodland and hedgerow management for carbon capture. These training programmes are ongoing for sustainable land management.
- Reviewing the process of assessing planning applications for farm diversification initiatives.
- Tackling grid connection and 4G connectivity issues.

Since then, the council has adopted a three year **Food Strategy and Action Plan** and secured innovation funding for farmer engagement to design a support service.

It also set up the **Farming Officer Forum**⁴⁰¹ in 2023 to address the fact that there are at least 25 different organisations potentially providing advice to farmers and land managers. The group aims to join these up to provide a more integrated service to farmers, including signposting farmers to the right people for specialist advice.

6.3.4.2 *Pioneering new agricultural models and farming practices*

The Seventh Carbon Budget has identified agroforestry (integrating trees with crops) and silvopasture⁴⁰² (integrating trees with livestock) as important mitigation measures. Local authorities can trial these systems on their own county farms or, more commonly, act as facilitators for farmer-led research. The Devon Silvopasture Network, a collaboration of farmers and research bodies, provides a model that local authorities could support or help to replicate⁴⁰³. Similarly, paludiculture, or 'wet farming', is a key innovation for managing rewetted peatlands productively. While UK examples are still

⁴⁰⁰ NFU – National Farmers Union; TFA – Tenant Farmers Association, CLA – Country Land and Business Association

⁴⁰¹ [Farming Officer Forum - Northumberland County Council](#)

⁴⁰² The term “silvopasture” is not explicitly mentioned in the Seventh Carbon Budget, but the concept is implied, where trees are integrated with livestock and forage.

⁴⁰³ [Devon silvopasture network](#)

emerging, national funding streams like Natural England's Paludiculture Exploration Fund (PEF) are open to local authorities to support feasibility studies and trials⁴⁰⁴.

Case study: Huntingdonshire District Council – Great Fen⁴⁰⁵

Led by The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire, the Great Fen includes Huntingdonshire District Council (as planning authority which has developed a masterplan for the scheme), Environment Agency, Natural England, Middle Level Commissioners (water and drainage management). The scheme is reconnecting the wet peat fenland landscape and includes research into wet farming techniques in its Water Works project⁴⁰⁶.

Case study: Fenland Soil – Charity supported by Cambridgeshire & Peterborough Combined Authority and Cambridgeshire County Council⁴⁰⁷

40% of Cambridgeshire's emissions originated from agricultural land use on peat soils so Fenland SOIL was established in 2021 through the work of the Cambridgeshire and Peterborough Combined Authority's Independent Commission on Climate. It has a dedicated team that work with farmers at its core to tackle climate issues relating to agriculture and peat in the Fens. Since then, it has secured £1.1 million to advance peatland restoration and sustainable farming through large-scale opportunity mapping, conducted wet farming trials and research, and expanded farmer membership from eight to over 45. It continues its research on lowland peat in the Northwest and Somerset and into emissions profiles from different mitigation methods. This shows the importance and impact early support and ongoing interest from combined and local authorities can provide to start research and innovation.

6.3.4.3 *Developing localised circular economies*

A key role for local authorities is to act as a 'system integrator', connecting different parts of the local economy to create closed-loop systems that turn farm waste into a resource.

Case Study: Cornwall Council - Biomethane Pilot

This £1.58 million project is an example of a local authority catalysing a local circular bioeconomy. The council identified a problem (fugitive methane emissions from

⁴⁰⁴ [The Paludiculture Exploration Fund invites you to explore the future of wet farming on peat soils – Natural England](#)

⁴⁰⁵ [The Great Fen](#)

⁴⁰⁶ [Water Works - The Great Fen](#)

⁴⁰⁷ [Home - Fenland Soil](#)

slurry lagoons on its tenant farms), a technology provider (local company Bennamann), and an end-user (its own vehicle fleet, managed by Cormac). By investing in covering the lagoons on six tenant farms, the project captures biogas, which is then processed into biomethane and used to fuel up to 77 of the council's road maintenance trucks. This innovative model simultaneously reduces potent greenhouse gas emissions, provides a new, diversified income stream for tenant farmers, creates a renewable fuel source for council services, and produces a natural fertiliser (digestate) that reduces reliance on manufactured inputs⁴⁰⁸.

6.3.5 Partnerships

Effective and sustained partnerships are essential to landscape scale action, catchment area action and farming and food networks. Local authorities often act as the central conveners and anchor institutions, lead funding partner or as a key member of partnerships led by other organisations.

6.3.5.1 Area-wide climate change partnerships

Area-wide climate change partnerships support climate action and provide valuable support, expertise and feedback to combined and local authority climate plans. Ensuring these include the views and insights of key sectors is vital to tailoring interventions to the local area. For the agriculture and land use sector, this includes farmers and landowners, food producers and food purchasers.

Case Study: Herefordshire Council Partnerships - Herefordshire Food Alliance and Climate and Nature Partnership Board

Herefordshire Council established a Climate and Nature Partnership Board, comprising volunteer expert representatives from across the county. Its farming and land use sub-group developed three priority actions including providing Farm Carbon Audits⁴⁰⁹ for over 40 farms, a Farm Carbon Guide and a series of workshops. The council is also funding mentoring by a farming soil health expert on five farms⁴¹⁰.

Case study: Severn Treescapes⁴¹¹

This is a wider partnership scheme led by Gloucestershire, Herefordshire and Worcestershire Wildlife Trusts. It aims to create a 60-mile corridor of enhanced tree cover to connect two of England's largest semi-natural woodlands crossing

⁴⁰⁸ [UK100 | Knowledge Hub | Cornwall Council biomethane pilot - UK100](#)

⁴⁰⁹ [Greener Footprints for your Farm. Herefordshire Zero Carbon and Nature Rich – Herefordshire Council](#)

⁴¹⁰ [Post Greener Footprints Herefordshire LinkedIn post](#)

⁴¹¹ [Severn Treescapes - Gloucestershire Wildlife Trust](#)

Gloucestershire, Herefordshire and Worcestershire. It aims to demonstrate that woodlands, hedgerows, orchards, natural colonisation and other agroforestry systems can operate alongside and benefit productive agriculture, and to reverse a reduction in woodland coverage seen in recent years (exacerbated by orchard clearance and ash die-back). Severn Treescapes was originally funded by Trees Call to Action from Defra and the Heritage Fund with the Forestry Commission, and received match funding by Gloucestershire County Council, Herefordshire County Council, Worcestershire County Council. It is currently in receipt of funds from the National Lottery Heritage Fund (for the Dead Wood Society project) and the Environment Agency.

6.3.5.2 *Supporting farmer clusters and farmer-led initiatives*

Farmer clusters (groups of neighbouring farmers who collaborate on environmental projects across their landholdings)⁴¹² are an effective model for delivering landscape-scale benefits, they are particularly prevalent in National Parks and National Landscapes / Areas of Outstanding Natural Beauty whereby focus on conservation activities broadens out into wider issues. Local authorities and National Park Authorities can and should provide facilitation and support these initiatives which access funding and support local farmers.

Case study: Peak District National Park Authority (PDNPA) - Morridge Hill Country Landscape Recovery Project

The PDNPA is a key partner in numerous farmer-led initiatives. It actively supports a project in the White Peak area that helps farmers adopt herbal leys to improve soil health and biodiversity⁴¹³. The PDNPA is also leading the 'Morridge Hill Country' Landscape Recovery project. This Defra-funded initiative involves a two-year development phase where the PDNPA is working directly with 21 farmers and landowners to co-design a 20-year vision for 2,900 hectares of land. The project aims to integrate nature-friendly farming practices with new, diversified income streams for farm businesses. This demonstrates how local coordinating bodies can act as a trusted facilitator, secure national funding and provide the administrative backbone for farmer-led landscape-scale initiatives.

Case study: The Farming in Protected Landscapes (FiPL)

Farming In Protected Landscapes (FiPL) is a UK government programme that provides funding to National Parks and National Landscapes and supports schemes across four themes: climate impacts, nature recovery, people's access to the

⁴¹² [Farmer Clusters – working together to achieve more – Natural England](#)

⁴¹³ [Nature and farming friendly solutions drive agricultural transformation in the Peak District – DEFRA](#)

landscape and deepening their understanding and enjoyment of its heritage and improving the quality and character of a place. Since its inception in 2021, FiPL has engaged with over 7,000 farmers and land managers and delivered multiple benefits including 204,000 trees planted and 184 miles of new hedgerows planted⁴¹⁴. Funding is in place until March 2029⁴¹⁵.

6.3.5.3 *Anchoring landscape-scale recovery projects*

By leveraging their land, statutory role, and ability to secure long-term funding, local authorities can act as the stable anchor for ambitious, multi-decade regeneration projects, which can leverage in other parcels of land, funding and investment. Sometimes, partnership support can be as simple as providing hosting for staff roles.

Case study: Oldham Council and Northern Roots This project is creating the UK's largest urban farm and eco-park on 160 acres of council-owned land. Oldham Council has been the foundational partner, securing £12.9 million in capital funding from the Town Deal and Levelling Up Fund and granting a long-term lease to the independent Northern Roots charity⁴¹⁶. The project is a model of integrated land use, combining large-scale urban farming, a forestry skills centre, community allotments, habitat restoration, and on-site renewable energy generation. It directly links environmental goals with the creation of local jobs, skills, and business opportunities, demonstrating the local authority's role in catalysing transformative, community-focused green growth.

Case study: Inverclyde Council and Glasgow and Clyde Valley Green Network's Clyde Peatlands initiative – Duchal Moor Peatland Restoration

The Duchal Moor project will restore an area of 788 hectares of drained peatland in Inverclyde to cut carbon emissions and increase biodiversity. Inverclyde Council is one of the first local authorities in Scotland to carry out peatland restoration on this scale. This three-year project is funded through Nature Scot's Peatland ACTION in 2024.

Case study: The Great North Bog – multi-partnership scheme⁴¹⁷

⁴¹⁴ [Final FiPL Report 2025 - National Parks England, National Landscapes Association](#)

⁴¹⁵ [Farming in Protected Landscapes funding options: find out more – NFU](#)

⁴¹⁶ [Northern Roots Country Park, Northern Roots Country Park - Oldham Council](#)

⁴¹⁷ [The Great North Bog](#)

This brings together peat partnerships across the entire north, covering an area of 7000km² of peatland soils in the Protected Landscapes of northern England, storing 400million tonnes of carbon. The 10-year scheme is being developed by the North Pennines National Landscape team, the Yorkshire Peat Partnership and the Moors for the Future Partnership, together with the Northumberland Peat Partnership, Cumbria Peat Partnership and Lancashire Peat Partnership. Many partnerships are underpinned by funding coordination or support from their host local authorities, water utilities and private funders.

Case study: South Lanarkshire Council – host to peatland officers⁴¹⁸

Clyde Peatlands is supported by NatureScot through the Peatland ACTION fund and two new Clyde Peatland officers joined the Glasgow and Clyde Valley Green Network team to deliver a programme of peatland restoration across the eight Glasgow City Region authorities. Glasgow City Region has around 50,000 hectares of peatland. These posts are hosted by South Lanarkshire Council on behalf of Glasgow City Region partners. The officers will target public and private landowners in priority locations and support them in planning, designing and funding potential restoration projects.

6.3.5.4 *Unlocking green finance through carbon markets*

Emerging private markets for ecosystem services offer a new source of finance for planting and restoration. The UK's Woodland Carbon Code and Peatland Code provide government-backed standards for verifying the carbon savings from woodland creation and peatland restoration projects, which can then be sold to businesses seeking to compensate for their UK-based emissions⁴¹⁹. While these markets can be complex for individual landowners to navigate, local authorities can play a role as trusted intermediaries, aggregators, or simply information providers. They can help local landowners understand the opportunities and potentially bundle smaller projects together to achieve the scale needed to attract private investment.

While most funds are operated by private companies or by the Woodland Trust and other NGOs, some combined and local authorities are investigating the potential for carbon credit schemes to be blended into investment funds to then provide finance to subsequent schemes in their local areas. Other areas have investigated 'insetting' to drive investment into wider carbon reduction schemes within the local area to offset (or

⁴¹⁸ [Glasgow City Region's peatlands set to help fight climate change - NatureScot](#)

⁴¹⁹ [Selling woodland or peatland carbon: could it be right for you? – Forestry Commission](#)

inset) their remaining emissions, such as Devon⁴²⁰. **(see note above regarding offsetting not being an alternative to directly decarbonising all sectors).**

National funding streams like the Nature for Climate Peatland Grant Scheme⁴²¹ (which is now closed to applications) and can be blended with private finance, allowing councils to leverage public money to draw in corporate investment.

6.3.6 Engaging and communicating

6.3.6.1 Large-scale community tree planting initiatives

Mass tree planting campaigns are a highly visible, popular, and effective way to engage people directly in climate action, making a tangible contribution to delivering the scale of afforestation needed by the Seventh Carbon Budget's while building community ownership.

Case study: Surrey County Council - 1.2 Million Trees Initiative

Launched in 2019, this ambitious programme aims to facilitate the planting of a tree for every Surrey resident by 2030. The council acts as a central coordinator and enabler for a wide partnership of district and borough councils, schools, community groups, businesses, and individual residents. Its role involves providing expert advice on "right tree, right place," running free tree giveaway events at local libraries, coordinating a large network of volunteers, and signposting landowners to national funding streams. Since its launch, the partnership has planted over 768,000 trees, demonstrating the immense potential of a local authority acting as a facilitating hub for community-wide action⁴²².

Case study: City of Trees, Greater Manchester

City of Trees is the community forest charity for Greater Manchester, operating in a deep and mature partnership with the Greater Manchester Combined Authority (GMCA) and the ten constituent local authorities⁴²³. It acts as a key delivery partner for the region's strategic environmental goals, coordinating the Greater Manchester Forests Partnership to align the tree and woodland strategies of the ten local authorities. The initiative engages thousands of volunteers as 'Citizen Foresters' in planting and woodland management activities across the city-region, embedding tree planting into the fabric of the community.

⁴²⁰ [Offset options to achieve Net Zero by 2030 - Local Government Association](#)

⁴²¹ [Nature for Climate Peatland Grant Scheme – Natural England and DEFRA](#)

⁴²² [Working together to plant 1.2 million trees - Surrey County Council](#)

⁴²³ [Who we are - City of Trees](#)

6.3.6.2 *Engaging farmers and landowners in new approaches and technologies*

Through their networks and touch points, local authorities can engage farmers and landowners in these new approaches and technologies and signpost to funding and support. These include:

- Management approaches such as agroforestry (integrating trees with crops) and silvopasture⁴⁰² (integrating trees with livestock) and paludiculture, or 'wet farming'.
- Methane suppressing feed products and additives for livestock, which have promising emission reduction potential, but currently low levels of uptake, intention to trial and concern about costs among most farmers surveyed⁴²⁴.
- Low-carbon farm machinery that form an important part of decarbonising on farm operations.

Case Study: Northumberland Small Business Service, Northumberland County Council

The Rural Growth Programme provides tailored support to further development and growth in rural communities by supporting them to explore new ways to develop, grow, and address issues around sustainability and resilience. This includes a Farming Advisory Service which is delivered in partnership with the Northumberland National Park Authority. Since 2023 114 farming businesses have actively accessed dedicated and tailored business support. The service has introduced carbon audits tailored to farming businesses and around £178,895 of capital investment has been deployed in farm businesses⁴²⁵.

6.4 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to decarbonise agriculture and land use. These are priorities set for decarbonisation (local authorities will also consider other objectives).

- **Adopt low-carbon and diversified farming practices on county farms.** (e.g. on county farms, parks, woodlands, and local nature reserves). Councils already play an important role in managing landholdings and tree or plant nurseries, and can use these assets to demonstrate sustainable farming methods, support

⁴²⁴ [Summary of responses. exploring the potential opportunities and challenges associated with the use of methane suppressing feed products - DEFRA](#)

⁴²⁵ [Environment Rural and Farming Annual Report Sept 2025 – Northumberland County Council](#)

tenant farmers, protect carbon-rich soils, and contribute to wider habitat and climate goals. This may include adopting improved manure and nutrient management, exploring agroforestry and farm diversification.

- **Support woodland creation and peatland restoration on council-owned land.** Councils can support the management of existing woodland and creation of new woodland, and restoration of degraded peat on land they own or manage, and land that is part of landscape recovery or nature recovery scale schemes.
- **Embed land use emissions reductions in Local Plans and supplementary planning documents.** Local planning authorities can integrate policies that protect carbon-rich soils, guide development away from high-emission land uses, and support woodland creation, peatland restoration and nature-based solution
- **Support low-carbon farming and an average reduction in meat consumption through public procurement** (e.g. catering contracts, including for schools, care settings, and civic buildings). This can include supporting suppliers that use low-carbon practices, and incorporating healthier, lower-impact meal options (e.g. meal options with less meat).
- **Support farm diversification, woodland creation, peatland restoration and low-carbon farming through partnerships for business advice/ support, innovation and peer-to-peer learning opportunities.** Councils provide business support services, rural programmes and partnerships to connect farmers with funding, training and technical guidance, and to foster peer-to-peer learning through local farmer clusters or as anchors for funding and managing landscape-scale collaborations.

6.5 Challenges and barriers

There are challenges and barriers for local authorities in supporting the reduction of emissions from land use and agriculture which include:

6.5.1.1 Governance, roles and market structures

- Local authorities operate in a **complex landscape of powers and duties** relating to land use. Policies on agriculture are set nationally, but farming and land use happen locally where policies and programmes align with water catchments, counties or upper tier authorities (e.g. Local Nature Recovery Strategies), habitat designations or National Landscape areas, or farming types. This also means local authorities frequently need to address multiple issues governed by different policy frameworks and organisations and differing funding and subsidy schemes with landowners and farmers - including water quality, transport, renewable energy, markets and procurement, planning permissions, public health, nature recovery

6.5.1.2 Skills, workforce and local authority capacity

- **Planning officers may need support from specialist agricultural experts** to fully understand agricultural land uses and ensure developments have been built or installed as designed.
- **Time and resource are needed by councils to build up trusted relationships** and partnerships with farmers and landowners. Farmers and landowners often do not keep office hours and it takes effort to arrange in person meetings (for example, by visiting their farm or meeting them at the auction market). A lack of trust in national schemes and regulations⁴²⁶ can make local authority engagement around decarbonisation measures difficult. Local Nature Recovery Strategy engagement has developed some better and new relationships through outreach, and this may be leveraged in future.

6.5.1.3 National policy and regulatory frameworks

- Enabling the transition requires a clear and stable national policy landscape to give farmers and land managers the confidence to make long-term changes, that is not in local authorities' control. Financial incentives are essential to encourage farmers to adopt low-carbon practices and diversify their land use. Schemes like England's Environmental Land Management⁴²⁷ must provide sufficient rewards for activities like woodland creation, peatland restoration, and planting energy crops to make them viable business choices.

⁴²⁶ [Farmer Opinion Tracker for England: April 2025 - DEFRA](#)

⁴²⁷ [Future of farming in England - DEFRA](#)



7 Waste

The waste sector is the eighth highest-emitting sector in the UK, accounting in 2022 for 6% of UK emissions, 24.9 MtCO₂e.

7.1 What needs to happen for waste

What needs to happen for waste to meet the Seventh Carbon Budget?

In the CCC's Balanced Pathway there is a 67% reduction in waste sector emissions by 2040, relative to 2022 levels, falling to a 79% reduction by 2050. The largest share of this reduction will come from preventing waste, increasing recycling, and diverting biodegradable waste from landfill.

The CCC's Balanced Pathway includes significantly increasing recycling rates.

- The UK combined recycling rate for households and businesses will need to increase from 47% in 2021 to 68% by 2035.
- This will see the household recycling rate rise from 45% to 57% and the non-household rate to rise from 49% to 74%.

The CCC's Balanced Pathway includes a near elimination of all waste sent to landfill.

- The near elimination of biodegradable waste sent to landfill is assumed to be achieved by 2028 in line with a stated policy aspiration for England and committed policy in Scotland.
- This will be followed by a near elimination of all waste to landfill by 2045. Food waste per person must also be cut by 45% by 2040 (from 2021 levels).

The CCC's Balanced Pathway includes managing emissions from energy-from-waste.

- The roll-out of Carbon Capture and Storage (CCS) technology on EfW plants starts in 2028 reaching 80% of capacity by 2040 and 100% of EfW plants with CCS by 2050. New EfW plants should be licensed only if they can connect to CCS. Constructing EfW without the ability to connect CCS risks creating stranded assets.

The CCC's Balanced Pathway includes capturing emissions from landfill and improving composting.

- Even with decreasing use of landfill, historical waste will continue to decay. Methane capture rates at landfill sites increase to 80% by 2050.
- The CCC's Balanced Pathway includes addressing emissions from wastewater treatment.

The pathways in previous CCC advice required for 2038-2042 means that incremental improvements are no longer adequate. Long-term strategic planning for waste infrastructure can no longer assume that unabated EfW and landfill will be viable or affordable options. This requires re-evaluation of waste contracts, infrastructure investments, business models and service designs, forcing a strategic focus on the top of the waste hierarchy: prevention, reuse, repair, refurbishment and high-quality recycling.

The CCC says that local authorities, which manage around 40% of waste, will need funding and policy certainty to deliver improved recycling and manage additional costs from using CCS with EfW.



Figure 17: Powys County Council Recycling Truck⁴²⁸

⁴²⁸ Image Source: [Powys-recycling-credit-Powys-county-council-scaled](https://www.powys.gov.uk)

7.2 Policies and plans

Local authorities have legal duties and powers related to waste management, including collection, disposal, recycling, food waste collection, and reporting. These duties relate particularly to household waste but also include powers to provide collections of commercial and trade waste. They also enforce Environmental Protection regarding storage and transfer of waste and investigate and prosecute illegal dumping of commercial waste.

Waste collection and disposal operate on a range of in-house, local authority trading company or outsourced models. As a result some local authorities own depots, waste and recycling centres, waste transfer stations, collection vehicle fleets, and disused historic landfill sites. Active landfill sites are usually owned and operated by private companies. Energy from Waste (EfW) plant is rarely full owned by councils with the majority being operated through Private Finance Initiative or Public Private Partnership contracts (many of which are coming to the end) with the private sector, and operated by waste companies. New EfW plant tends to be entirely privately developed and owned.

Major waste policy changes are coming into force during 2025 - 26, which will change the way local authorities operate waste and recycling. The Environmental Targets (Residual Waste) (England) Regulations 2023⁴²⁹ set a statutory target to ensure that the total mass of all residual waste (excluding major mineral wastes) arising in England for 2042 does not exceed 287kg per person. This is the equivalent of a 50% reduction from 2019 levels.

The UK is moving toward **near elimination of biodegradable waste to landfill by 2028 for all nations**. The planned restrictions mean that five major biodegradable waste streams - paper and card, food waste, garden waste, textiles and wood - will no longer be allowed to go to landfill unless they have first been treated, with the intention that they are separately collected and sent to recycling, composting, anaerobic digestion, or other recovery routes.

The UK Government has established a Circular Economy Taskforce⁴³⁰ and will publish a **Circular Economy Growth Plan** in 2026. This is critical to addressing waste reduction and influencing product designers and manufacturers in producing goods that use recycled, not virgin, materials, growing the refurbishment and reuse sector. In February 2026 Defra published guidance on integrating circularity into local growth plans and spatial development strategies for mayoral strategic authorities⁴³¹.

⁴²⁹ [Residual waste infrastructure capacity note - DEFRA](#)

⁴³⁰ [Circular Economy Taskforce](#)

⁴³¹ [Circularity guidance for mayoral strategic authorities - DEFRA](#)

The waste policy shift is supported by a fundamental overhaul of the financial model for UK waste management, driven by two major schemes: Extended Producer Responsibility (EPR) for packaging and the expansion of the UK Emissions Trading Scheme (UK ETS).

Extended Producer Responsibility (EPR): The implementation of EPR aims to shift the full net cost of managing packaging waste from local authorities to the producers who place packaging on the market. This is intended to incentivise producers to reduce packaging, improve recyclability and increase reuse. Local authorities will receive producer-funded payments to offset their operational costs for collecting and managing household packaging. While this should support a move towards waste reduction and higher recycling rates, concerns remain among local authorities regarding whether these allocations will fully cover upfront implementation costs, and how core government funding might adjust alongside them.⁴³²

UK Emissions Trading Scheme (UK ETS) and EfW: The planned inclusion of Energy from Waste (EfW) facilities in the UK ETS from 2028 is expected to increase the cost of residual waste for local authorities. The policy will impose a direct carbon price on the incineration of fossil-derived waste, such as non-recycled plastics. While the exact extent to which these ETS costs will be passed through to local authorities via gate fees is still being finalised, it is expected to sharply increase the cost of residual black-bag waste treatment. Over time, these increases in costs associated with the ETS for local authorities may be mitigated by investments in Carbon Capture and Storage (CCS) at EfW plants. Because burning biogenic waste (like food and wood) combined with CCS generates negative emissions, these facilities could eventually generate new revenue streams through the sale of carbon credits. However, navigating the upfront capital costs, novel carbon markets, and long-term contract risks of CCS presents an immediate hurdle for councils. The planned inclusion of EfW facilities in the UK ETS will therefore likely present a strong financial incentive for local authorities to pursue waste prevention and diversion, as every tonne of high-carbon waste avoided or recycled will represent a significant and growing initial cost saving. This financial pressure will be a primary driver of local authority strategy in the coming years.

Regardless of ETS costs, Carbon Capture and Storage (CCS) investment on EfW plants is likely to represent additional costs to local authorities in the short term, also providing an imperative to divert waste from incineration at EfW, unless this is offset by income through carbon credits from burning bio-waste.

Local authorities are likely to see increasing costs for EfW in future due to ETS or CCS, so need to reduce residual waste and increase recycling rates.

⁴³² [Extended producer responsibility for packaging: who is affected and what to do – DEFRA and Environment Agency](#)

Simpler Recycling came into force in England in March 2025 – designed to make recycling easier through consistent, streamlined collections across households, businesses and non-domestic premises such as schools and hospitals. Waste collectors need to offer separate collection for:

- Residual non-recyclable waste (i.e. ‘black bin’)
- Food waste (sometimes with garden waste)
- Paper and card
- Dry recyclables, plastic, metal and glass
- Flexible plastics will be part of the scheme in 2027.

In some places, paper and card can be collected with dry recyclables where separate collection is technically or economically impractical or provides no significant environmental benefit.

Deposit Return Scheme (DRS) covering England, Scotland and Northern Ireland will launch in October 2027. Wales will launch a DRS at the same time, but will include glass⁴³³. This scheme aims to increase recycling rates and reduce litter by placing a small deposit on in-scope single-use drinks containers made of plastic and metal, but excluding glass. People will return containers to a collection point and get a deposit refunded.

Local authorities in Wales have had statutory recycling targets since 2010-11 and the nation has a statutory target for local authorities to recycle 70% of waste by 2024-25, a rate already being achieved in five of the 22 local authorities in Wales. Beyond Recycling⁴³⁴ is the 2021 Welsh strategy to develop a circular economy, aiming to become zero waste by 2050, with Net Zero emissions.

Wales also introduced **Workplace Recycling** in 2024, to improve the quality and quantity of collecting and separating waste. All businesses, charities and public sector organisations must sort their dry recycling and food waste for recycling. This includes waste collectors and processors who manage ‘household like’ waste from workplaces. NHS and private hospitals are exempt but must comply with the law from April 2026.

Scotland passed a **Circular Economy Act**⁴³⁵ in 2024 which includes a routemap of priority actions across four themes including:

- **Reduce and reuse**, including household food waste reduction behaviours in 2026/27, tackling single use items such as drinks cups, creation of regional hubs for the reuse of construction materials.

⁴³³ [Wales to launch DRS in 2027, in line with rest of UK - letsrecycle.com](https://letsrecycle.com)

⁴³⁴ Welsh Government Circular Economy Strategy – Beyond Recycling [Beyond recycling | GOV.WALES](https://gov.wales/beyond-recycling)

⁴³⁵ [Our Route Map to 2030 – Summary of actions - Scotland's circular economy and waste route map to 2030](https://gov.scot/circular-economy) – Scottish Government

- **Modernise recycling**, including statutory recycling and reuse local performance targets for household waste from 2030, exploring kerbside textile waste collection, more tools for local authorities to support recycling and a strong duty of care placed on householders regarding waste (ability for local authorities to monitor and enforce fines on households that do not comply with recycling and waste requirements).
- **Decarbonise disposal**, supporting the inclusion of EfW in the ETS, targeting materials currently going to landfill to drive alternatives, increase landfill gas capture and co-produce guidelines for community engagement.
- **Strengthen the circular economy**, setting circular economy targets by 2027.

Northern Ireland’s Climate Change Act 2022 sets a target to recycle at least 70% of all waste by 2030, and has a new Waste Management Strategy under development. Ahead of this, DAERA is publishing and updating a Waste Policy Tracker⁴³⁶.

7.3 Local authority powers and levers to reduce emissions from waste

Local authorities have legal duties and powers related to waste management, including collection, disposal, recycling, food waste collection, and reporting (set out in the policies and plans section). In English areas with two levels of local government, these responsibilities are split. District councils manage waste collection, while county councils are responsible for waste disposal.

Local authorities have minimal powers and levers to influence waste reduction further up the waste hierarchy.

Case study: Wales’ Recycling Transition⁴³⁷

Within 20 years, Wales and its local authorities have gone from less than 5% of municipal waste being recycled to achieving rates of 65% with five local authorities reaching 70%. This transition provides useful lessons in that largely consistent recycling collections under the ‘Collections Blueprint’ helped increase investment in reprocessing in Wales and improved the country’s resilience to global market impacts because of the high quality of collected materials. This has led to reductions in carbon emissions and significant financial savings for local authorities through improved collection regimes and supporting infrastructure.

⁴³⁶ [DAERA Waste Policy Tracker – April 2025 - DAREA](#)

⁴³⁷ [beyond recycling strategy document – Welsh Government](#)

Investment in recycling and reprocessing has changed tips to eco-business parks, processing waste into materials, adding value and reusing resources. Universal food waste collection from 2014 also gave rise to the growth of Anaerobic Digestion plant for processing food waste and generating renewable energy from its bio-gas and fertilizer from the remaining digestate.

New types of collection for mattresses, nappies and plastic film have been introduced, supporting new businesses to develop, often in partnership with the local authorities (see Innovation below). Social enterprises and partnerships with community organisations have also been key to promoting reuse, refurbishment and up-cycling, which provide opportunities for skills development.

Finally, Wales is achieving a 67% recycling rate for industrial and commercial recycling 87% for construction and demolition waste.

This shows that ambitious policy setting, working in partnership with local authorities, businesses and communities to design and innovate, and funding and investing can achieve the step-change required in tackling waste emissions and enabling emerging circular economic growth.

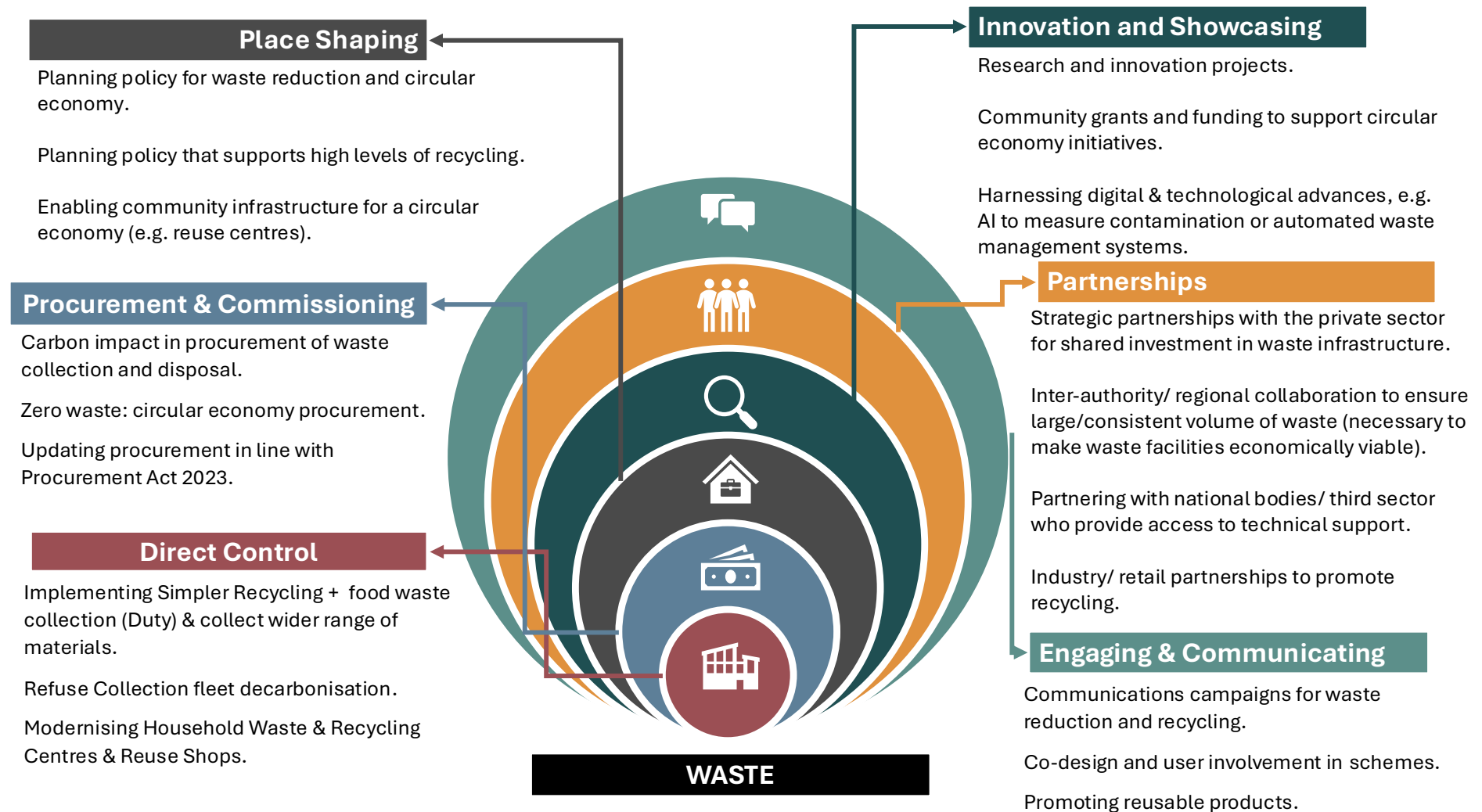


Figure 18: Onion diagram of local authority influence for waste

7.3.1 Direct control

7.3.1.1.1 Implementing Simpler Recycling, including food waste collection, and collect a wider range of materials

Local waste collection authorities will either already be, or will be planning to, collect waste and recycling as specified by new policies for consistent collection, including separate food waste collection, which is mandatory from the end of March 2026. This is both a direct control issue, and covers procurement and commissioning, place shaping, innovation and communications and engagement.

Beyond this basic requirement, local authorities can collect a wider range of materials to increase recycling rates. This can include collecting organic materials, like garden waste, separately so it can go for composting or Anaerobic Digestion and be kept out of landfill where it forms methane emissions. It can also include providing ways to collect textiles, batteries, small Waste Electrical and Electronic Equipment (WEEE) and nappies and soft plastics.

Plastic films and some plastic bags must be collected for households and businesses from March 2027.

Case study: Flexible Plastic Fund – FlexCollect Project with 10 local authorities⁴³⁸

A three year project carried out by SUEZ and partners funded by the Flexible Packaging Fund, Defra and UKRI investigated how flexible plastic packaging can be collected and recycled across the UK in advance of mandatory kerbside collections in 2027. It concluded that **“flexible plastic packaging can be effectively and practically incorporated into existing collection systems and infrastructure, with minimal disruption to authorities or operators”**. It also highlighted that UK recycling end markets that can achieve high rates of recovery exist, with more under development to meet expected demand.

In the trial, 10 local authorities covering a range of demographic and geographical profiles and collection service methods carried out flexible plastic packaging collections for around two years. They achieved high quality collections of nearly 90% of the target materials. The trials included insights into collections from flats and from areas where it’s hard for crews to access. Participation and consistency was highest in suburban, peri-urban and retired professional demographics, and lower in urban areas including problems with untied bags. Communications and re-supply of bags was key to maintaining participation. Communications insights have been written up separately by WRAP⁴³⁹.

⁴³⁸ [FPF FlexCollect Report 2025 - Flexible Plastic Fund](#)

⁴³⁹ [All wrapped up in terminology - The Waste and Resources Action Programme \(WRAP\)](#)

Some of the councils have continued to provide the service to their pilot areas, altered what can be collected and some have expanded the service. Others are waiting until funding is available to provide the full service in 2027.

7.3.1.2 Fleet decarbonisation

Decarbonisation of council fleets more generally is discussed in Chapter 3 under electric vehicle uptake. However, the decarbonisation of waste vehicles specifically is covered here as well, to provide a detailed discussion of the challenge to decarbonise the waste fleet.

A full transition to battery electric vehicles (BEVs) is the long-term goal and a number of councils have now trialled or moved to fully electric Refuse Collection Vehicles. High capital cost of electric Refuse Collection Vehicles (RCVs), which can be double the cost of traditional diesel vehicles, can be a barrier. However, the costs are expected to reduce as the market matures and electric RCVs can benefit from reduced running costs. There is also the need for major electrical upgrades at depots to support charging and associated high grid connection costs can be a challenge. In addition, electric RCVs currently still have some operational range limitations in rural areas (they are well established in urban areas), although range has been improving continuously⁴⁴⁰. Electric RCVs are also heavier and there is some emerging evidence on additional road wear of heavier vehicles (such as buses and trucks)⁴⁴¹.

Councils are creating fleet decarbonisation strategies, auditing fleets including running and maintenance costs of operating older vehicles, and collecting data on vehicle use. The Seventh Carbon Budget expects all small HGVs, which includes all refuse collection vehicles to be electric. As a stepping-stone, some are switching to Hydrotreated Vegetable Oil (HVO) fuel, which reduces Scope 1 emissions by 90% compared to diesel^{*442}, and over time, are investing in ultra-low emission vehicles when possible, along with the associated infrastructure, depots, and charging. In the longer term, HVO as a bio-resource will be better used in other areas of the economy, and as electric options improve and fall in cost, these are expected to be the preferred solution for waste collection vehicles. Some local authorities have switched to hydrogen powered vehicles, such as Aberdeen, Ste Helens and Cheshire East, although the majority are switching to Battery electric vehicles. (See case studies for fleet in Transport section and depots in Buildings and Electricity Generation Sections).

⁴⁴⁰ [Use of EV fleet and alternative fuels in refuse collection - apse](#)

⁴⁴¹ [Hidden cost of road maintenance due to the increased weight of battery and hydrogen trucks and buses – a perspective - University of Edinburgh Research Explorer](#)

⁴⁴² * not much lower if there is a shortage of HVO and palm oil or other sources are used: [HVO Positioning Paper- Balfour Beatty](#)

Case study: Manchester City Council (see also below partnerships section Westminster City Council)

Following an 18-month trial of an Electra electric refuse collection vehicle (RCV), in 2023, Manchester City Council invested £9.7m⁴⁴³ in 27 electric RCVs working with Biffa. Each has a 100 mile (9 hour) range covering a shift in this urban area. The decision aligned with the council's commitment to ending the purchase of fossil fuel powered vehicles by 2030. Alongside cleaner air, the vehicles are quieter, equally powerful and expected to be as cost-efficient as diesel. The vehicles were due for replacement so this investment sits within a planned replacement cycle, and costs were reduced through the plug-in vehicle grant.

In terms of charging infrastructure, 30 22kW chargers were installed across two depots, working with Engie. This took place at the same time as a major depot refurbishment but was the hardest part of the project. The expected cost of installing charger infrastructure was £150,000 but the actual cost was £800,000. One site required a new sub-station, switchgear and extensive ground works and the other a supply upgrade, load monitoring equipment and high voltage works. Multiple stakeholders and changes to charger specifications added complexity to the project.

The Local Government Association has also identified lower-cost interim measures, such as retrofitting existing diesel RCVs with electric bin-lifting devices. As the lifting mechanism accounts for a significant portion of fuel consumption, this can improve fuel efficiency by as much as 80%, offering a considerable reduction in emissions as a stopgap measure⁴⁴⁴.

7.3.1.3 Modernising Household Waste and Recycling Centres

While kerbside collection accounts for the majority of recycled materials, Household Waste Recycling Centres (HWRCs) handle larger items like Waste Electric and Electronic Equipment (WEEE), bulky residual waste, garden waste and wood.

HWRCs are places where the council and residents have very direct contact, and can be a key place to influence the transition to a circular economy. These sites have already evolved from being the 'tip' to becoming recycling facilities providing separate areas for different materials. In many places, the staff assist people in putting their waste into the correct containers.

Household Waste Recycling Centres can further shift from simply collecting waste materials to intercepting waste higher up the hierarchy, for reuse, refurbishment and

⁴⁴³ [Electric Refuse Collection Vehicles: Manchester's Journey – Manchester City Council](#)

⁴⁴⁴ [Replacement of council fleet vehicles with zero emission versions - Local Government Association](#)

repair, acting as integrated community resource hubs, as outlined by WRAP⁴⁴⁵. Councils are increasingly re-designing their HWRCs to make them accessible on foot and bike as well as car; to incorporate a better visitor experience and to have a reuse shop onsite. Reuse shops are self-funding and usually make profits. However, it can be difficult for local authorities to change HWRCs. Many have been closed or have had their opening hours reduced as part of budget savings.

The ability to upgrade HWRCs also depends on whether they are directly operated by the council, contracted out or operated as Local Authority Companies (LATCos). Some local authorities are in-sourcing HWRCs to give themselves more flexibility, savings and new service models.

Case study: Greater Manchester Combined Authority - Renew Hub

An illustrative example of the evolution from a traditional Household Waste Recycling Centre (HWRC) model to a community resource hub is the Greater Manchester Renew Hub⁴⁴⁶ which is a joint initiative between SUEZ UK and the Combined Authority's Recycle4GreaterManchester (R4GM). This large, centralised facility is intrinsically linked to the region's 20 local recycling centres, where residents can donate unwanted items, such as furniture and bikes, instead of consigning them to the waste stream. These goods are then transported to the Renew Hub for assessment, repair, and upcycling by a dedicated team of technicians and craftspeople. Once refurbished, the items are given a new life, being sold at affordable prices in 'Renew shops' located at several recycling centres, in a mobile shop and online.

All proceeds are reinvested back into the community through the Greater Manchester Mayor's Charity and a fund for local waste reduction projects. In its first year alone, this model diverted over 500 tonnes of material and resold more than 50,000 items, demonstrating a scalable and effective way to integrate reuse and community value directly into municipal waste infrastructure. The Hub also provides training and employment in green skills jobs working with local charities.

Case study: Leeds City Council and Kirklees Council – Revive Reuse⁴⁴⁷

Revive is a Community Interest Company established as a joint venture with Leeds City Council in 2011 to catch and divert waste back into use. Today it has five stores across Leeds and Kirklees and three online shops including eBay. In 2021 with Leeds City Council it introduced collection points for small working waste electricals in

⁴⁴⁵ [Household Waste Recycling Centre \(HWRC\) Guide - WRAP](#)

⁴⁴⁶ [Renew Hub - Recycle for Greater Manchester](#)

⁴⁴⁷ [News – Revive open third Leeds Reuse shop in Hunslet - Revive Reuse](#)

libraries, schools and sports centres and has clothing collection banks at Huddersfield University. It has a team of 67 staff and over 30 volunteers and recycles profits to two member charities.

Case study: Oxfordshire County Council - HWRC Strategy

Oxfordshire's 20-year strategy aims to create a HWRC network designed for reuse, upcycling, and the circular economy. Public consultation showed strong support for this vision. The council plans to introduce reuse facilities on-site as soon as space allows, creating dedicated areas where residents can donate items for repair and resale. This approach directly supports the higher levels of the waste hierarchy and helps achieve climate goals by reducing the need for carbon-intensive manufacturing of new goods⁴⁴⁸.

Hertfordshire County Council's new Welwyn Garden City Recycling Centre⁴⁴⁹ also has a Reuse Shop that diverted 113 tonnes of household items from residual waste streams in the first year of operation.

7.3.2 Procurement and commissioning

7.3.2.1 Carbon impact in the procurement of waste collection and disposal

Local authorities that procure waste collection and disposal services can set targets and conditions that align with anticipated policy changes and market developments, but this is dependent on a quite narrow market of private companies and sits within a complex wider market for waste disposal.

Waste collection is carried out in-house by around half (51%) of local collection authorities, and private contractors collect 41% with the remaining 8% collected by local authority companies⁴⁵⁰.

In invitations to tender, local authorities should look beyond traditional tonnage targets by specifying lifecycle carbon trajectories and outcome-linked milestones, or by requesting a Carbon Management Plan that reflects realistic capital investment cycles in fleets and facilities. In waste disposal, this may specify the treatment route or destination. For example, prioritising reuse, extracting recyclable metals and plastics before incineration, or alternative uses for waste products (e.g. using biogas from Anaerobic Digestion into powering a vehicle fleet). Ownership and operations for waste

⁴⁴⁸ [Household waste and recycling centre strategy 2023 - 2043 – Oxfordshire County Council](#)

⁴⁴⁹ [Hertfordshire County Council Case Study Welwyn Garden City Recycling Centre - WRAP](#)

⁴⁵⁰ [Who are the leading waste collection contractors? - Isonomia](#)

disposal facilities tends to be private sector dominated, especially for Energy from Waste (EfW) plants⁴⁵¹. **Any procurement or investment in EfW expansion should not be made unless there is a viable route for connection to Carbon Capture and Storage.**

The end of unabated waste infrastructure

For the waste sector, the main priority for many years was to stop sending biodegradable waste to landfill, because rotting organic matter releases methane. As a result, Energy from Waste (EfW) plants, which burn waste to create electricity, were seen as a much better alternative. Even though these plants release carbon dioxide (they were unabated – without any technology to reduce or remove emissions), this was considered a necessary and acceptable step away from the greater harm caused by landfill methane. They were a transitional solution.

However, as the UK gets closer to its Net Zero 2050 target, every source of emissions must be addressed. The transitional period is ending, and the focus is now on eliminating the CO₂ from EfW plants, meaning they must either be fitted with Carbon Capture and Storage (CCS) or be phased out.

Initially, CCS infrastructure will be developed at two of the UK's seven industrial clusters⁴⁵², the East Coast Cluster (ECC) in Teesside and HyNet in the North West of England and North Wales 'Track 1'. The next two clusters for CCS will be Acorn in North East Scotland and Viking in the Humber.

The new Protos Energy Recovery Facility is a priority in negotiations to receive DESNZ support⁴⁵³ to join the HyNet cluster while Viridor's Runcorn⁴⁵⁴ facility's carbon capture project is on standby in these negotiations. EfW plants with CCS readiness are also proposed for Teesside. In time, CCS infrastructure will extend to all the clusters.

Case study: Essex County Council – end of landfill in October 2025

Essex County Council's procurement⁴⁵⁵ for new medium-term residual waste contracts set a requirement that landfill could not be used from January 2028. The

⁴⁵¹ [Residual waste infrastructure capacity note - DEFRA](#)

⁴⁵² [UK carbon capture, usage and storage \(CCUS\) - DESNZ](#)

⁴⁵³ [HyNet expansion: project negotiation list - DESNZ](#)

⁴⁵⁴ [Viridor commits £20m to Runcorn CCS project as it signs partners - letsrecycle.com](#)

⁴⁵⁵ [Use of landfill in Essex to end ahead of schedule by October 2025 - Essex County Council](#)

council estimates that this will result in a reduction in greenhouse gas emissions of around 30% compared to current landfill disposal arrangements.

The winning bidder, Indaver Rivenhall, committed to a complete move away from landfill by October 2025, which has been achieved. The contractor will also remove metals and recycle ash produced by the process from October 2025. The Rivenhall Integrated Waste Management Facility with EfW has recently opened and started operations, it will be fully operational by March 2026.

Indaver has submitted a planning application for carbon capture and usage. This is with a view to piping CO₂ captured to proposed greenhouses to improve crop yield or to compress the gas and tank it for other uses or carbon sequestration⁴⁵⁶.

Case study: Greater Manchester Combined Authority – considerations about EfW, CCS and future strategy

Local authorities thinking ahead about applying guidance on EfW and CCS face complex challenges in taking decisions that relate to an embryonic market for EfW CCS.

GMCA is the waste disposal authority for nine of its ten districts with recycling rates of around 50%. It sends the remaining half to energy recovery – of this, about 80,000 tonnes is recovered at its EfW plant in Bolton. This is an aging facility in a small footprint. GMCA is currently investing in it to try to extend its lifespan but there is no space to accommodate any CCS equipment and the plant's longevity would put a question mark over the viability of any investment.

The other c. 420,000 tonnes of non-recyclable waste is sent by rail to the EfW plant in Runcorn operated by Viridor. GMCA has a longer-term contract to 2034 with an option to extend this. GMCA has been in discussions with Viridor about CCS, however, the government has favoured the newer EfW site nearby in its negotiations.

Where does this leave GMCA? CCS is still a developing technology, so GMCA must understand any risks CCS at Runcorn might present the authority. When contracts come up in the 2030s it will consider EfW options since it must balance the prospect of additional costs of CCS against the additional costs of ETS⁴⁵⁷. As a result, GMCA will focus on decarbonising waste higher up the waste hierarchy, driving up plastics recycling and lobbying for measures to drive out fossil plastics in other materials such as textiles and absorbent hygiene products⁴⁵⁸.

⁴⁵⁶ [Rivenhall enters operational phase as Indaver's largest Energy-from-Waste facility celebrates its official opening- Indaver](#)

⁴⁵⁷ Sources: interviews with GMCA officers 2025

⁴⁵⁸ [GMCA Interim Recycling and Waste Plan 2026-2030 - GMCA](#)

7.3.2.2 Zero Waste: Levering procurement for a circular economy

In terms of reducing waste emissions, procurement and commissioning can be a lever for e.g. reducing packaging waste and using recycled products. Procurement can also encourage suppliers to innovate in the first place, then help create bigger markets for innovators and help them scale up. For example, nappy recycling in Wales has become more common, following trials **by Rhondda Cynon Taf Council**⁴⁵⁹. This in turn helped produce materials for reuse (nappies recycled into road surface materials) which were procured in council trials.

Wales' Beyond Recycling strategy outlines how procurement will contribute to increased re-use and recycling (and zero waste by 2050) across the public sector by:

- prioritising goods and products which are made from remanufactured, refurbished and recycled materials or come from low-carbon and sustainable materials like wood.
- phasing out the procurement of non-sustainable alternatives.

The Welsh Local Government Association (WLGA) Sustainable Procurement Toolkit⁴⁶⁰ provides template questions for tenders, including questions on material specifications, waste treatment methods and specifying percentages of recycled materials, recyclability, product end of life strategies and take back. For procurement contracts across a wide range of products and services (including buildings and highways developments) local authorities can include clauses that prioritise reused, repaired, or remanufactured products and require suppliers to demonstrate circular business models, such as take-back schemes or leasing arrangements.

Case study: Rhondda Cynon Taf Council – nappy collection trials and roll-out

Natural UK began to work on a way to recycle nappy and absorbent hygiene product waste and as NappiCycle, carried out a trial nappy collection with Rhondda Cynon Taf Council collecting over a million nappies in two months, diverting this from landfill. The council has now been recycling nappies for a decade, for 10,000 registered local households and has recycled 82 million nappies. The scheme has since rolled out across Wales, with most local authorities offering free dedicated kerbside collection of nappies and absorbent hygiene products which has seen NappiCycle grow and now process 40 million nappies a year.

⁴⁵⁹ [RCT is a World Leader in NAPPY RECYCLING!!!! - Rhondda Cynon Taf Council](#)

⁴⁶⁰ [Local Authority Sustainable Procurement Toolkit - WLGA](#)

Case study: Carmarthenshire County Council – Circular Economy: nappy collection and reuse into highways

Alongside encouraging new parents to trial reusable nappies and washable wipes – including a Nappy Library, Carmarthenshire has joined other local authorities across Wales in providing a nappy waste collection service.

This is processed at NappiCycle’s facility at Capel Hendre in the same county, established in 2014, it recycles 40 million nappies a year. In 2024, the council partnered with NappiCycle and GD Harries to trial a project to surface roads using recycled nappies. The nappies were turned into fibrous pellets and incorporated into stone mastic asphalt laid on the B4336. The surface performance will be monitored and if successful, the Council will expand the scheme on further roads⁴⁶¹.

Carmarthenshire County Council has supported NappiCycle’s growth and innovation through Shared Prosperity Funding.

Case study: West London Alliance - Procurement Policy

The West London Alliance and their West London low-carbon procurement policy⁴⁶² demonstrates the potential of a collective approach to sustainable procurement. Eight local authorities and West London Waste have collaborated on a consistent set of low-carbon procurement standards which evaluates embodied carbon emissions using Life Cycle Analysis. This alliance creates a larger, more stable market for green technologies. This unified demand signal makes it more commercially attractive for suppliers to invest in low-carbon solutions, simplifying compliance and accelerating the transition at a regional scale.

Case study: Runnymede Borough Council - Sustainable Procurement and Carbon Reduction⁴⁶³

Runnymede applies PPPN 06/21 (described above). It states that it will adopt and promote circular economy principles considering making and using products made from non-virgin, repurposed and local materials where feasible and viable; avoid the use of scarce or at-risk-of scarcity materials and use natural, biodegradable and renewable materials. Examples of applying this include avoiding single-use plastics, level of recycled content in packaging, questions on reuse, repairability and recyclability of products supplied.

⁴⁶¹ [Carmarthenshire trials use of recycled nappies to surface roads - Cymru Quarry Group](#)

⁴⁶² [West London Low -carbon Procurement Policy](#)

⁴⁶³ [Procurement Policy - Sustainable Procurement and Carbon Reduction -Runnymede Council](#)

7.3.3 Place shaping

7.3.3.1 Planning for waste recycling, reprocessing and EfW

Waste Planning Authorities (England (county councils, unitaries and National Park Authorities) and Wales) are responsible for planning waste developments including landfill sites, waste transfer stations, material recovery and recycling facilities, anaerobic digestors, energy from waste and incineration plants. Larger waste facilities (e.g. EfW with a capacity of more than 50MW) are handled as Nationally Significant Infrastructure by the Planning Inspectorate. There is a similar process for the Devolved Administrations.

Defra's 2024 Residual waste infrastructure capacity note⁴⁶⁴ examines England's municipal residual waste arisings and infrastructure capacity from 2020 – 2035 and supports decision makers to plan for municipal residual waste treatment to support the transition to a circular economy. It finds that there is likely to be sufficient national capacity and warns against oversupply of EfW facilities. It concludes that *'there will therefore be sufficient residual waste infrastructure capacity to treat forecast municipal residual waste arisings at a national level'*. But it identifies the East of England and East Midlands as areas where alternative treatment options to landfill for municipal wastes are required. However, The National Association of Waste Disposal Officers (NAWDO) warns that restricting EfW capacity could lead to greater reliance on landfill or export of residual waste⁴⁶⁵. Alongside this 2025 Recycling Infrastructure Capacity Analysis⁴⁶⁶ for England outlines the end facility capacity against expected waste arising in light of upcoming policy impacts. It outlines where investment is needed in new capacity.

In terms of non-municipal waste, councils can develop **Joint Minerals and Waste Local Plans** to create integration between primary extraction and waste generation. These policies aim to maximise the use of secondary and recycled aggregates and reduce the need for sand and gravel extraction. This can set annual tonnage targets for recycled aggregates and identify or call for sites for minerals and waste management development.

In planning for EfW, CCS needs to be required (even though this is not yet viable), so space and connections for this to be retrofitted need to be provided within the development plans. Similarly, where EfW facilities are developed local planning policy should require heat utilisation as a condition, this may also feature in Local Area Energy Plans. The government urges EfW plant developers to discuss the potential for co-location or connection to a heat offtake customer with local planning authorities when

⁴⁶⁴ [Residual waste infrastructure capacity note - DEFRA](#)

⁴⁶⁵ [NAWDO press release – New waste incinerator standards - NAWDO](#)

⁴⁶⁶ [Recycling Infrastructure Capacity Analysis - WRAP](#)

developing their proposals for waste and non-waste development⁴⁶⁷. It should be noted that EfW is a transitional solution and the Seventh Carbon Budget Balanced Pathway includes an overall decrease in EfW capacity from current levels as the amount of waste disposed of in EfW plants falls due to improvements in recycling and reuse.

Burning biodegradable waste in an EfW plant fitted with CCS delivers CO₂ removals (BECCS), delivering around 5 MtCO₂e of removals by 2050 in the Seventh Carbon Budget Balanced Pathway.

Case study: Midlothian Council – EfW Millerhill & District Heat

EfW facility at Millerhill, developed by **Edinburgh and Midlothian Councils** to divert residual waste from landfill has become a heat source for Midlothian Energy Limited⁴⁶⁸, a joint venture between the council and Vattenfall providing a heat network to the new town of Shawfair before extending the network further to Edinburgh and East Lothian⁴⁶⁹.

Case study: Kent County Council – Joint Minerals and Waste Plan 2024 – 2039⁴⁷⁰

Adopted in 2025, this plan includes reference to the use of secondary and recycled aggregates being more sustainable than extracting primary land-won aggregates. It states that the council is keen to increase the amount of secondary and recycled aggregates being pre-processed especially to replace sharp sand and gravel in concrete production. As inert Construction, Demolition and Excavation waste (CDEW) is the main source of recycled aggregate its Policy CSW 4 includes ambitious targets for the recycling of such waste from 60% in 2020 to 80% by 2040.

In addition, its Policy CSW 3 expects CDEW arising from all types of new development to be recycled, as well as the use of recycled materials in construction. This policy also details how new developments should include detailed consideration of waste from occupation including how it will be stored, collected and managed.

The plan recognises that Kent is nearly at capacity for reprocessing facilities and aims to maintain capacity of 2.7 million tonnes per year throughout the plan period, which could include expanding existing facilities. It identifies and safeguards sites in Kent that screen and/or crush secondary and recycled aggregates for re-use, including on industrial estates, quarries, wharves and rail depots.

⁴⁶⁷ [Residual waste infrastructure capacity note - DEFRA](#)

⁴⁶⁸ [Midlothian Energy Ltd. Transforming how we work - Midlothian Council](#)

⁴⁶⁹ [Low-carbon heating for Midlothian homes to regenerate former mining area - Vattenfall](#)

⁴⁷⁰ [Kent Minerals and Waste Local Plan 2024-39 – Kent County Council](#)

Case study: Surrey County Council – Joint Minerals and Waste Plan Development⁴⁷¹

Surrey County Council is preparing a new Minerals and Waste Local Plan which will replace its current separate plans and which will reflect the growing overlap between minerals development and waste management from other development.

This has comprised a waste Capacity Needs Assessment to forecast all the different sources of waste, including commercial and industrial, and construction, demolition and excavation waste. It has also carried out a call for sites. This is a long process, started in 2021 and will go to examination in 2029 with adoption later the same year.

7.3.3.2 Planning policy that supports high levels of recycling

Local Planning Authorities should ensure that they use the National Planning Policy Framework to give sufficient consideration to recycling and reuse provision. This requires developers to consider storage capacity and collection accessibility for the full range of recycling and waste services provided. Ideally, this should be designed as future-proof to respond to changes in collections in light of new policy and practices.

This is especially important in designing recycling and waste collection and storage facilities in flats, which have much lower than average recycling rates and higher rates of contamination. See below in innovation for more on flats.

Case study: Bath and North East Somerset (BNES) Council – Waste and Recycling Planning Guidance⁴⁷²

BNES council has provided guidance for developers to design facilities for recycling and waste, including specifying how to design communal ‘mini recycling centres’ for flats, student accommodation, commercial developments and mixed-use developments. This sets out clear expectations and draws on the Council’s Zero Waste and Planning Policies. It clearly outlines requirements for developers in checklist form detailing collection vehicle sizes, turning circles and provides container dimensions. It also outlines how developers can support ongoing recycling and waste collection during the course of the development, including within the Construction Development Plan for developments of 50+ properties.

7.3.3.3 Enabling community infrastructure

Local authorities can use their local assets and planning decisions to support the physical infrastructure of a circular economy. This could include allocating land for

⁴⁷¹ [Minerals and Waste Local Plan - Surrey County Council](#)

⁴⁷² [Waste Planning Guidance for Developers - Bath and North East Somerset](#)

facilities that support circularity, from advanced recycling plants to paint reuse and composting centres. This can also include providing free space or low-cost venue hire (including in temporarily empty buildings) to local repair cafes, libraries of things, Men in Sheds and clothes swaps⁴⁷³.

Case study: North Kensington Library of Things & Royal Borough of Kensington & Chelsea⁴⁷⁴

The council's Kensington Leisure Centre plays host to the Library of Things where residents can rent a wide range of items that are used only occasionally each year like drills, carpet cleaners and projectors. It even provides a delivery service by cargo bike. This is a great example of promoting the sharing economy from within a council building, working in partnership with the community and voluntary sector.

The Library of Things⁴⁷⁵ is a one-stop-shop platform that makes it easy for local authorities and communities to launch and operate, with 17 sites across different councils in London.

7.3.4 Innovation and showcasing

7.3.4.1.1 Research and innovation projects

Local authorities can act as catalysts for innovation, both within their own operations and upstream. They can build partnerships through wider schemes (see e.g. Adept-led Live Labs in the box below); can work with local companies, innovators, universities and suppliers; they can become the funding lead or provide support to funding bids. Wider partnerships of local authorities can leverage their collective power to secure funding and carry out research and trials.

Local authorities can pose their innovation challenges, fostering and piloting new ideas, harnessing technology, and sharing best practices.

Case study: Adept – LiveLabs 2 – Greenprint: South Gloucestershire Council and West Sussex County Council⁴⁷⁶

The Greenprint project is funded by the Department for Transport Live Labs 2 funding. It explores transforming local council grass cuttings from waste to value, reducing carbon emissions, costs, and enhancing biodiversity. It seeks to explore whether processing the collected cuttings can be used to create clean energy, bio-fuels, and road surfacing materials. The councils have been measuring the carbon emissions of

⁴⁷³ [Sustainability Routemap - Waste Routemap - Local Government Association](#)

⁴⁷⁴ [North Kensington Library of Things - Why buy when you can borrow?](#)

⁴⁷⁵ [Transform your city. Make sharing & reuse the norm – Library of things](#)

⁴⁷⁶ [Live Labs 2 blog – update from South Gloucestershire: Greenprint - delivering innovation at the cutting edge - ADEPT](#)

the trials and have successfully processed biochar from the collected grass cuttings which have been both laboratory tested and applied in road trials within bitumen and aggregate applications. Following these trials, it is possible that the commercial-scale production of biochar could be further developed as a circular way to manage verges and sequester carbon in road surfacing.

Case study: ReLondon⁴⁷⁷ – Partnership of Mayor of London and London Boroughs

ReLondon aims to improve waste and resource management and transform the city into a leading low-carbon circular economy. It carries out research and follow-up testing and learning. Its 2020 study ‘Making recycling work for people in flats’⁴⁷⁸ carried out research over two years with Peabody and six London Boroughs to understand people’s attitudes and behaviours towards recycling in their homes. The research included trialling some physical and some behavioural changes across 12 diverse estates.

Following on from this, ReLondon worked in partnership with the **London Borough of Lambeth** and Peabody, with funding from the Ecosurety Exploration Fund, to carry out 13-month pilots on four estates of purpose-built flats in the London Borough of Lambeth. Across the four estates, the pilot was able to demonstrate an average 152% increase in the recycling rate, rising from a low baseline of 11% to a rate of 27%. ReLondon has updated its Toolkit Flats Recycling Package⁴⁷⁹ and Cost Benefit Analysis tool for wider use.

A range of physical and communications measures were used to create a ‘fresh start’. These included closing the waste chutes off, creating new bin stores, colourful signage and bins (which were kept clean and regularly collected to avoid overflows), introducing new waste services for electricals and clothing, providing a caddy in a paper bag that could be used to transport waste items to the bin area, and Fresh Start information about what could be recycled and ongoing communications to maintain interest.

7.3.4.2 Providing community grants and funding to support circular economy initiatives

Community development departments of local authorities can provide small amounts of seed funding to a diverse range of community-led projects, identify the most effective ideas, and help support roll-out if needed.

These initiatives support community-led ideas that reduce waste, and strengthen social connections. Because they are developed ‘bottom-up’ they are more widely embraced

⁴⁷⁷ [About us - ReLondon](#)

⁴⁷⁸ [Making recycling work for people in flats. Exec summary – Resource London](#)

⁴⁷⁹ [Report - Making recycling work for people in flats 2.0 - ReLondon](#)

and valued by residents. In many cases, these can become self-funding and help replicate through networks with relatively light support from councils.

Case study: Community Waste Funds

Several local authorities have established successful waste reduction funds. The Greater Manchester **Recycle for Greater Manchester Community Fund** has supported 66 projects, including repair cafes and community grocers that redistribute surplus food. The **Hampshire Waste Prevention Community Grant Fund** has enabled initiatives like reusable nappy libraries, swap events, and second-hand school uniform services⁴⁸⁰. Similarly, the **Somerset 'Waste Not Somerset Fund'** supports innovative projects that reduce waste and encourage resourcefulness⁴⁸¹.

Case study: Calderdale Council – Heptonstall Repair Cafe⁴⁸² leading to four more forming

In 2019, Calderdale Council's small grants scheme provided a grant of £2,000 to the newly formed Heptonstall Repair Cafe towards rent, printing, tables and a PAT tester. Equipped with some hints and the Repair Cafe Foundation manual, the scheme quickly became self-funding through donations and returned unspent grant to the council. Since then, Heptonstall Repair Cafe's 20 volunteers have repaired well over 3,000 items and have helped four other repair cafes in the area set up.

7.3.4.3 Harnessing digital and technological advances

The concept of "Waste Management 4.0" involves using digital technology to gather better data and improve efficiency. While current waste data is often high-level (e.g., total tonnage), emerging technologies will allow for more granular analysis. For example, research analysis shows that machine learning and AI can be used to identify and measure contamination in household recycling bins automatically⁴⁸³. This data may eventually enable local authorities to move from generic, city-wide awareness campaigns to hyper-targeted interventions aimed at specific streets or material types, increasing the effectiveness of education efforts. To date, smart waste management systems are being used in vehicle routing and booking systems for Household Waste and Recycling Centres, and Internet of Things (IoT) big-belly bins which send an email when bins are full. Local authorities can also trial and promote the use of innovations in

⁴⁸⁰ [Waste Prevention Community Grant Fund - Hampshire County Council](#)

⁴⁸¹ [Grant open for applications to support ideas that reduce or reuse waste – Somerset Council](#)

⁴⁸² [Heptonstall Repair Café](#)

⁴⁸³ [Smart waste management 4.0: The transition from a systematic review to an integrated framework; Devika Kannan, Shakiba Khademolqorani, Nassibeh Janatyan, Somaieh Alavi - ScienceDirect](#)

resident-facing apps like Wokingham Borough Council's partnership with 'Too Good to Go' to help reduce commercial food waste⁴⁸⁴.

Case study: Bristol City Council – Smart City Bins⁴⁸⁵

As part of its 2011 Smart City Programme, installed 110 Big Belly bins powered by solar, they compact rubbish by eight times the unsquashed volume, and email the waste team when they are full, reducing unnecessary collection truck trips by 80% and reducing litter and overflow. Manchester City Council's contractor Biffa also uses Big Belly compacting bins. These can produce waste bags that are very heavy to lift. As such, all these ideas need testing throughout the whole service journey to ensure they are practically applicable.

Case study: Copenhagen – AI driven waste sorting⁴⁸⁶

RGS Nordic, which processes a third of Denmark's construction waste has invested in robotic AI driven plant which can pick and sort waste that cannot be sorted on site, aiming to push valuable waste resources higher up the waste hierarchy. This approach aims to upgrade waste, rather than downgrade it, for example, by crushing construction waste for use in aggregate.

7.3.5 Partnerships

7.3.5.1 Strategic partnerships with the private sector

The nature of waste contracts has evolved from transactional service delivery to long-term, strategic co-investments in technology, new services and new materials, and decarbonisation. To secure the multi-million-pound investments needed for new technologies, local authorities and their private sector partners must share the risks and rewards. The Waste Infrastructure Delivery Programme has been in place since 2006 to support local authorities in building waste facilities to treat biodegradable municipal waste, minimise waste to landfill and increase recycling, mainly through EfW investments. This includes a Private Finance Initiative grant across 27 local authority projects, 24 of which are still operational, with many now or soon reaching their 25-year term. This means local authorities must consider handback, repurchase or bringing facilities in house and must balance risks and value for money.

Case study: Veolia and Westminster City Council

⁴⁸⁴ [Too Good To Go – Earley Town Council](#)

⁴⁸⁵ [Six Years On: How Bristol's 'Super Hungry Bins' Are Still Cleaning Up the City – Future Street](#)

⁴⁸⁶ [RGS Nordic invest in new AI-driven waste sorting plant - Agg-Net](#)

This partnership typifies an integrated approach. It includes a £20 million investment in a new depot linked by private wire to the EfW plant that powers its 53 strong electric fleet, creating a "local loop of energy" and cutting vehicle emissions by up to 89%. The partnership also extends to delivering innovative, high-recycling-rate services for major public events in the capital⁴⁸⁷.

Case study: SUEZ and Greater Manchester Combined Authority

This long-term contract, managing 1.1 million tonnes of waste annually, has been extended to 2034. It goes beyond simple disposal to include significant investment in circular economy infrastructure, such as the "Renew Hub" for repairing and reselling donated items. This has helped increase HWRC recycling rates from 35% to 60%. The contract is pioneering in its inclusion of 54 mandatory "social value commitments" directly linking waste management performance to wider community and environmental benefits⁴⁸⁸.

7.3.5.2 Inter-authority and regional collaboration

Advanced waste treatment facilities require a large and consistent volume of waste to be economically viable. Regional collaboration is long-established, and allows local waste disposal authorities to aggregate their waste streams, creating the scale necessary to attract major private investment in required infrastructure.

Case studies: The Leicestershire Waste Partnership⁴⁸⁹, which unites seven district councils and the county council under a joint strategy to achieve Net Zero by 2050, is an example of the regional approach needed to plan for these large-scale facilities effectively.

An earlier example was **Merseyside Waste Disposal Authority and Halton's 30 year public private partnership** investment from the Green Investment Bank in 2013, to build the Wilton 11 EfW plant in Teeside along with rail interchanges and power generation (steam and electricity) for industrial uses. At the time, this included guaranteed tonnage, calorific value and composition, which is now avoided in new contracts. Wilton 11 is sited in the Teeside industrial cluster and developing plans for CCS (see Industry Section of this report).

⁴⁸⁷ [Westminster City Council and Veolia win the EVIE Fleet Electrification Strategy of the Year award – City of Westminster Commercial Waste](#)

⁴⁸⁸ [GMCA extends largest waste and recycling contracts in UK and Europe worth £800m - Greater Manchester Combined Authority](#)

⁴⁸⁹ [Leicestershire's Resource and Waste Strategy 2022-2050 – Leicester Waste Partnership](#)

7.3.5.3 Partnering with national bodies and the third sector

Partnerships with expert third-sector organisations like the WRAP provide councils with access to technical support, data analysis and benchmarking, and best-practice guidance on issues from service design to communications.

Partnering with national and regional charities and social enterprises can also assist in bringing together expertise, funding, partners and volunteers to test and scale new schemes, while the support and endorsement from the local authority role adds credibility.

Case study: Hubbub⁴⁹⁰ partnerships with local authorities

Environmental charity Hubbub convenes businesses, organisations, local authorities and community groups together to create campaigns for sustainable choices. Campaigns with local authorities include Neat Streets with 10 councils to tackle littering and promote on-the go recycling. Several councils including **Leicestershire** and **Oldham** joined in partnership with the Co-op, which provided 700 community fridges across the UK saving over 10,200 tonnes of food going to waste and supporting 793,000 visitors. This has since become a national movement – the Community Fridge Network⁴⁹¹. Between 2022 and 2024 Hubbub worked with **Manchester City Council** and other partners through a scheme called It's In Our Nature⁴⁹² which has supported 42 projects from bike libraries and clothing swap shops to community gardens, working with 74 community groups and nearly 900 people.

Case study: Hey Girls – sustainable period products

Over 80 local authorities⁴⁹³ including South Cambridgeshire District Council have partnered with social enterprise Hey Girls to eradicate period poverty and provide sustainable products, and aiming to reduce some of the UK's 26,903 tonnes of waste per year from disposable period products⁴⁹⁴.

⁴⁹⁰ [Hubbub](#)

⁴⁹¹ [Community Fridge Network - Hubbub](#)

⁴⁹² [It's In Our Nature – Progress Report 2022-2024](#)

⁴⁹³ [Tackling period poverty with environmentally-friendly menstrual products - South Cambridgeshire District Council](#)

⁴⁹⁴ [An exploratory study of the impact and potential of menstrual hygiene management waste in the UK; L.A.G. Blair, Y. Bajón -Fernández, R. Villa - ScienceDirect](#)

7.3.5.4 *Industry or retail partnerships*

Local authorities can work with retailers or health services to augment kerbside recycling facilities to promote which materials can be recycled locally. They can also ensure that residents are aware that local retailers take plastic films and bags, blister packs and more.

Case studies: Role of private sector supporting recycling habits

Dentists and toothpaste tube recycling

By the end of March 2026, under Simpler Recycling, all local authorities will have to collect toothpaste tubes. WRAP has been working with local authorities, dentists and manufacturers to raise awareness that all toothpaste tubes are now 100% recyclable and to encourage people to recycle them. By September 2025, 61 local authorities were collecting toothpaste tubes at the kerbside.

Boots Recycling Schemes

Larger branches of Boots stores take back blister packs for recycling, in partnership with various medicine brands, with collection boxes available in stores. They also provide battery recycling, and Waste Electrical and Electronic Equipment take back services as exchanges when new small items like electric toothbrushes or hairdryers etc are purchased.

Boots provides recycling schemes for toothpaste tubes and other items in council areas where kerbside collection is not yet available, and offers extra Advantage Card points in return. It also has an inhaler recycling scheme for asthma inhalers which contain aluminium and plastics as well as the propellants which are powerful greenhouse gases⁴⁹⁵, an insulin pens (with manufacturer Novo Nordisk), and a mobile phone recycling scheme.

7.3.6 *Engaging and communicating*

Investment in new infrastructure and services will only deliver their intended carbon savings if the public is engaged and using them correctly. Conversely, communications or behaviour change campaigns without the supporting infrastructure and services that make sense and are easy to use will not work on their own.

7.3.6.1 *Delivering effective communications campaigns*

WRAP provides a Recycling Tracker which has tracked attitudes, knowledge and behaviour of citizens in the UK for 21 years. This provides a useful overview of

⁴⁹⁵ [Can You Recycle Inhalers at Boots? – Boots Recycling](#)

behaviours and trends, for example, its 2025 survey⁴⁹⁶ has shown that although people are recycling, their confidence in knowing what can and can't be recycled is falling.

- The research highlights the importance of the local authority role in communicating simple recycling rules and critically in strengthening 'motivational knowledge', providing feedback on the outcomes of people's actions, reinforcing that recycling is worth it. Local authorities can do this by sharing stories of how local recycling is turned into new products, offering virtual or in-person tours of material recycling facilities and reprocessing facilities to build trust, and of communicating local impacts like jobs supported, costs savings and energy saved.

Research from Keep Britain Tidy's Waste Prevention Tracker Survey⁴⁹⁷ found that while recycling is an established social norm, waste prevention is not. However, it also noted that the public is more motivated to reduce waste to save money than for environmental reasons, and many feel "overwhelmed by the amount of stuff they own". This gives an opportunity to frame waste prevention as a solution to personal pressures, saving money and reducing clutter, to achieve mass adoption.

Local authorities can maximise the impact of their campaigns by using the professionally designed, evidence-based, resources from national campaigns like WRAP's 'Recycle Now' or 'Love Food Hate Waste'⁴⁹⁸.

Case Study: Recycle Week 2024 WRAP

In its 21st year, Recycle Week 2024⁴⁹⁹ delivered a national and regional PR campaign focusing on the fact that households waste one billion recyclable items every year. It created characters depicting different recyclable items and reached 33 million citizens through PR and a further 25 million digital media impressions. Its 'Workshop in a Box' community engagement initiative brought recycling education to schools, youth groups and engaged around 8,000 young people. With local authorities, retailers and brands joining, the week's post-campaign research found that 2.9 million people said they had changed their recycling habits and the rates of missed capture for the five key recyclables dropped from 70% to 64%.

Case study: Devon County Council – The Big Fix

⁴⁹⁶ [Recycling Tracker survey in the UK: Spring 2025 - WRAP](#)

⁴⁹⁷ [Waste Prevention Tracker Report 2024 - Keep Britain Tidy](#)

⁴⁹⁸ [Waste Campaign Assets - WRAP](#)

⁴⁹⁹ [The success of Recycle Week 2024: Why NGOs, local authorities and businesses must work together to change recycling behaviours - WRAP](#)

Devon's waste disposal authority for its eight districts, Devon County Council has employed a Re-use Project Officer since 2015 who coordinates the Big Fix initiative.

In 2019, a call to action was put out for residents of Devon to counter throwaway culture. Over 40 volunteers from Repair Cafés across Devon joined forces for the 'BIG FIX', helping Devon's residents fix their broken household items in just one day. In 2025, 45 repair cafes from around the UK joined in, repairing 2,358 items⁵⁰⁰.

Case study: re3 – Bracknell Forest, Reading Borough and Wokingham Borough Councils – virtual tours

This waste partnership offers a virtual tour⁵⁰¹ that shows visitors what to expect and how to prepare to visit, but also shows behind-the-scenes information on what happens to the waste and recycling.

Case study: Highland Community Waste Partnership and Keep Scotland Beautiful

Carried out a campaign for **Conscious Consumption**⁵⁰² between 2023 – 2025 focusing on packaging waste by promoting Chose to Reuse for water bottles, cups and lunchboxes, and by promoting businesses offering packaging free options across the Highlands. In its second phase of work it engaged businesses to reduce the amount of single-use packaging offered and to encourage the use of reusable alternatives. It also covered a reuse, repair and recycling theme, and a focus on reducing food waste and composting.

7.3.6.2 Applying behavioural insights

To tackle persistent issues like contamination, local authorities can move from simple awareness-raising to applying insights from behavioural research and more whole-systems social practice theories. WRAP has conducted randomised control trials to test low-cost "nudge" interventions. These have proven that simple actions (like placing a reminder sticker on a shampoo bottle or using a targeted bin hanger on the bins of non-participating households) can produce statistically significant improvements in recycling behaviour⁵⁰³. However, communications should be accompanied with

⁵⁰⁰ [The BIG FIX Repair Café Report 2025](#)

⁵⁰¹ [re3 Recycling Centre virtual tour – re3](#)

⁵⁰² [People encouraged to Choose To Reuse and Try Refill across the Highlands - Keep Scotland Beautiful](#)

⁵⁰³ [Increasing recycling rates with social norms - Behaviour Change](#)

addressing structural barriers (see for example recycling rates in flats) to increase impact.

7.3.6.3 Co-design and involvement in schemes

Engaging users in designing waste and recycling services and communications can be effective in making sure that they are going to work.

Case study: ReLondon – Unlocking Zero Waste in High Street Businesses

In 2023, ReLondon launched the High Streets Beyond Waste⁵⁰⁴ programme funded by the UK Shared Prosperity Fund (UKSPF) and supplementary funding from Southwark Council’s Pioneer Fund.

The programme delivered financial support and upskilling to over 100 food & drink, retail and high-street businesses across 22 boroughs. ReLondon delivered training workshops to equip them with the knowledge and confidence to explore zero-waste ideas that benefit their business, with each participant receiving a tailored action plan highlighting quick-wins and potential partners.

Businesses were also invited to apply for small grants of £2,500-£10,000 to trial reuse, rental, and repair initiatives. 38 businesses were selected to receive grants, and a third of these recouped their grant in cost-savings in the first year.

7.4 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to decarbonise waste. These are priorities set for decarbonisation (local authorities will also consider other objectives).

Priority actions for local authorities:

- **Implement Simpler Recycling reforms and extend collections to a wider range of materials.** English councils need to implement separate collection for a standard set of materials from all households (residual waste, food waste, paper and card, and other dry recyclable material (plastic metal, glass)) to improve recycling rates. When redesigning services, they should consider further expanding the range of materials collected, such as garden waste, textiles, small electronics, nappies or soft plastics. Planning policy should

⁵⁰⁴ [Case study - High Streets Beyond Waste: Unlocking zero waste innovation in high street businesses - ReLondon](#)

require new developments to provide adequate bin storage and good access for collection vehicles.

- **Strengthen resident engagement and schemes to increase re-use, repair and recycling.** Councils can use tailored engagement, clear communication and people-centred, co-designed and tested approaches to boost participation in reuse, repair and recycling. Councils can also work with reuse and repair networks such as repair cafes, sharing schemes and run re-new shops to make it easier for residents to choose low-waste options.
- **Decarbonise the Refuse Collection Vehicle (RCV) fleet by shifting to electric vehicles** across both council-owned fleets and contracted services. Electric RCVs can significantly reduce emissions, but require upfront investment, depot upgrades, and careful route planning to account for charging needs. This will require working closely with contractors, DNOs for grid connections, and using procurement to specify low-carbon vehicles in future contracts.
- **Carefully consider future Energy from Waste needs, ensuring any new facilities can integrate CCS and make use of waste heat.** As residual waste is expected to decline under national targets and policy reforms, councils need to carefully assess whether future Energy from Waste (EfW) capacity is required. Where new EfW infrastructure is explored, it will be important to ensure there is a credible route to Carbon Capture and Storage (CCS). Councils can also consider how any EfW proposals might support local heat utilisation, for example by supplying heat networks, to maximise efficiency.

7.5 Challenges and barriers

Local authorities face a range of challenges and barriers in reducing emissions from waste including:

7.5.1.1 Governance, roles and market structures

- Local authorities are responsible for waste collection and disposal, but **have little control over what waste and how much enters the waste stream**, as they have limited ability to influence upstream waste prevention. Weak national levers over product design and materials – with limited incentives for repairability or recyclability - also mean councils receive waste they cannot recycle or manage sustainably.
- Contracts for EfW plants reaching end of life create uncertainty around future treatment capacity and investment decisions.
- A small supplier market for waste services and **vehicles creates procurement challenges and supply-chain bottlenecks**. Long-term contracts can lock councils into inflexible services and tonnage-based metrics that do not align with carbon-reduction goals

- **Data limitations:** Lack of comprehensive data on commercial waste limits planning for treatment capacity and market development.

7.5.1.2 Public engagement, behaviour and awareness

- Household recycling participation has plateaued and confidence has fallen, requiring renewed engagement and service redesign.
 - Recycling rates are lower in flats and more deprived urban areas, indicating the need for tailored collection systems and targeted support.
 - Contamination of recycling streams remains high, driven by food residues, mixed materials and unclear packaging design.
 - Product design continues to contaminate recycling (e.g. glitter, laminates, mixed material packaging) and undermines recycling quality.

7.5.1.3 Funding, investment and cost barriers

- **Cost and Resourcing pressures:** Upfront costs of service changes, new containers and fleet upgrades create financial pressure, especially without long term certainty on funding. Enabling the transition in the waste sector requires significant, front-loaded investment during the 2020s. This is essential to build the necessary infrastructure (including new vehicles, bins, and transfer, sorting and recycling facilities).

7.5.1.4 Skills, workforce and local authority capacity

- Limited staff capacity, particularly in community facing teams, reduces the ability to support behaviour change and waste reduction.



8 Industry

8.1 What are the emissions and where do they come from?

Industry is currently the third highest-emitting sector in the UK, accounting for 12% of emissions, 51.8 MtCO₂e in 2023.

In 2023, UK industry energy use consisted of 48% gas, 43% electricity, and 9% oil and coal⁵⁰⁵.

Emissions come from the energy used such as burning gas for heat and power and from process emissions produced by the chemical reactions of manufacturing such as CO₂ released in chemical reactions during the production of cement, ammonia, hydrogen and synthetic fuels and during glass and ceramic production.

The subsectors with the largest contributions to industrial emissions are from chemicals, iron and steel and cement and lime which are often in or near industrial clusters. However, around half of industrial emissions come from thousands of typically smaller industrial sites dispersed across the country⁵⁰⁶.

For local authorities, it is important to note that the industry sector includes emissions associated with construction, covering buildings and roads.

8.2 What needs to happen for industry?

What needs to happen for industry to meet the Seventh Carbon Budget?

In the CCC's Balanced Pathway there needs to be a **78% reduction in industrial emissions by 2040**, relative to 2023 levels. The sector is expected to be almost completely decarbonised by 2050.

In the CCC's Balanced Pathway, electrification is the main route to decarbonising industry.

- Electrification delivers 57% of the required emissions reductions by 2040.
- This will involve a large-scale shift from fossil-fuel heating equipment to electrical alternatives, such as using electric heat pumps for low-temperature heat, alongside electric boilers and furnaces.
- The iron and steel subsector is expected to decarbonise significantly during the 2020s by moving to electric arc furnaces.

⁵⁰⁵ [Energy consumption in the UK 2023 - DESNZ](#)

⁵⁰⁶ [Decarbonisation of Dispersed Industrial Sites - UKERC](#)

In the CCC's Balanced Pathway, Carbon Capture and Storage (CCS) is required to decarbonise chemical and cement and lime industries.

- Carbon Capture and Storage (CCS) accounts for 17% of the emissions reductions by 2040.
- It will be targeted at the chemicals, and cement and lime industries to tackle 'process emissions' that cannot be avoided by switching fuels.
- This will require the rapid construction of CO₂ transport and storage infrastructure to connect sites.

In the CCC's Balanced Pathway, low-carbon hydrogen will play a targeted but important role.

- This will deliver 7% of the required emissions reductions by 2040.
- Hydrogen will be used for high-temperature processes where electrification is impractical or not cost-effective.
- This is expected to feature in chemicals, glass and other minerals (including high volume ceramics like bricks), iron and steel and some non-road mobile machinery.

In the CCC's Balanced Pathway the remaining emissions reductions will come from a combination of other measures.

- Resource efficiency will contribute 7% of the emissions reductions. This involves using high-carbon materials more efficiently, particularly in the cement and construction sectors.
- Improving energy efficiency will provide a further 6%.
- Finally, a limited and reallocated use of bioenergy, particularly when combined with CCS, will deliver 5% of the emissions reductions by 2040.

8.3 Policies and plans

The Modern Industrial Strategy 2025⁵⁰⁷ sets the context for the UK's industrial decarbonisation and outlines policies and interventions in place or planned:

- It identifies eight key growth sectors, including Advanced Manufacturing, Clean Energy Industries, Defence, Life Sciences and Creative Industries.
- It aligns the economic opportunities of delivering Net Zero as a priority across all government interventions, boosting green manufacturing, services, innovation, exports and the circular economy to secure energy security and environmental goals.

⁵⁰⁷ [The UK's Modern Industrial Strategy](#)

- It identifies the barrier that UK electricity prices are double the EU average, and that UK industry faces challenges in securing grid connections.

Scotland has a 2024 Green Industrial Strategy⁵⁰⁸ which contains five opportunity areas, including:

- Maximising Scotland's wind economy including infrastructure and manufacturing opportunities and positioning Scotland as a leader in material circulatory of wind turbines and components.
- Developing a self-sustaining carbon capture, utilisation and storage sector.
- Supporting green economy professional and financial services.
- Growing the hydrogen sector – using renewable electricity generation to lead production and export of reliable sustainable hydrogen and hydrogen products.
- Establishing Scotland as a centre for clean Energy Intensive Industries of the Future – benefitting from growing capacity in renewable electricity production.

The Clean Energy Jobs Plan⁵⁰⁹ sets out how the UK will build the workforce needed to deliver its clean energy ambitions, working with industry and trade unions to train, reskill and recruit workers at the scale required for the transition.

Various carbon pricing and fiscal instruments incentivise decarbonisation, including:

- The Climate Change Levy, which applies to industrial, commercial, agricultural and public services energy bills, with reductions for energy intensive businesses.
- Capital allowances can be claimed for energy efficient equipment and vehicles.
- The UK Emissions Trading Scheme⁵¹⁰ covers industry, power and (parts of) aviation sectors across 25% of UK territorial emissions.
- Lastly, the UK Carbon Border Adjustment Mechanism will come into effect from January 2027 to ensure certain carbon intense goods imported to the UK face a carbon price to ensure UK produced goods are not displaced. This should give industry confidence to invest in decarbonisation in the UK, knowing they will not be undercut by imports. Initially, this will cover goods from the aluminium, cement, fertilisers, hydrogen and iron and steel sectors.⁵¹¹

Various **support schemes** have been in place to support industry and decarbonisation including:

⁵⁰⁸ [Green industrial strategy – Scottish Government](#)

⁵⁰⁹ [Clean energy jobs - DESNZ](#)

⁵¹⁰ [Participating in the UK ETS - DESNZ](#)

⁵¹¹ [Carbon border adjustment mechanism \(CBAM\): Policy summary - HMRC](#)

- **The Net Zero Innovation Portfolio**⁵¹² – funding for low-carbon technologies including advanced carbon capture, usage and storage (CCUS) and industrial fuel switching and disruptive technologies.
- **Industrial Decarbonisation Challenge** (UKRI) to 2024 and Industrial Energy Transformation Fund to 2025.
- **CCUS Infrastructure Fund** – aiming to develop four cluster hubs.
- **Innovate UK** funding for various themes covering advanced manufacturing and clean growth.

Industrial decarbonisation responsibilities are dispersed across several government departments. Policy affecting or driving industrial decarbonisation is led by the following:

- Department for Business and Trade (Industrial Strategy)
- Department for Energy Security and Net Zero
- Department for Science, Innovation and Technology (Research & Development, AI, digital, skills)
- Department for Education (Higher education, further education, skills training and careers for people aged 19 and under)
- Department for Work and Pensions (Jobs and skills, responsibility for apprenticeships, adult further education, skills, training and careers, and Skills England).

8.4 Local authority powers and levers to reduce emissions from Industry

While national incentives, regulations and policies are set for industrial decarbonisation, there is a role for local authorities in ensuring that emissions from industry are tackled at the local level. Local authorities are also important in translating local ambitions, opportunities and needs ‘upwards’ to government. In addition, their strategic roles (developing high level regional strategies or economic growth plans) set overall direction for industries, businesses, transport, housing, health and communities.

The spectrum of roles is shown below.

⁵¹² [Net Zero Innovation Portfolio – DESNZ and DBEIS](#)

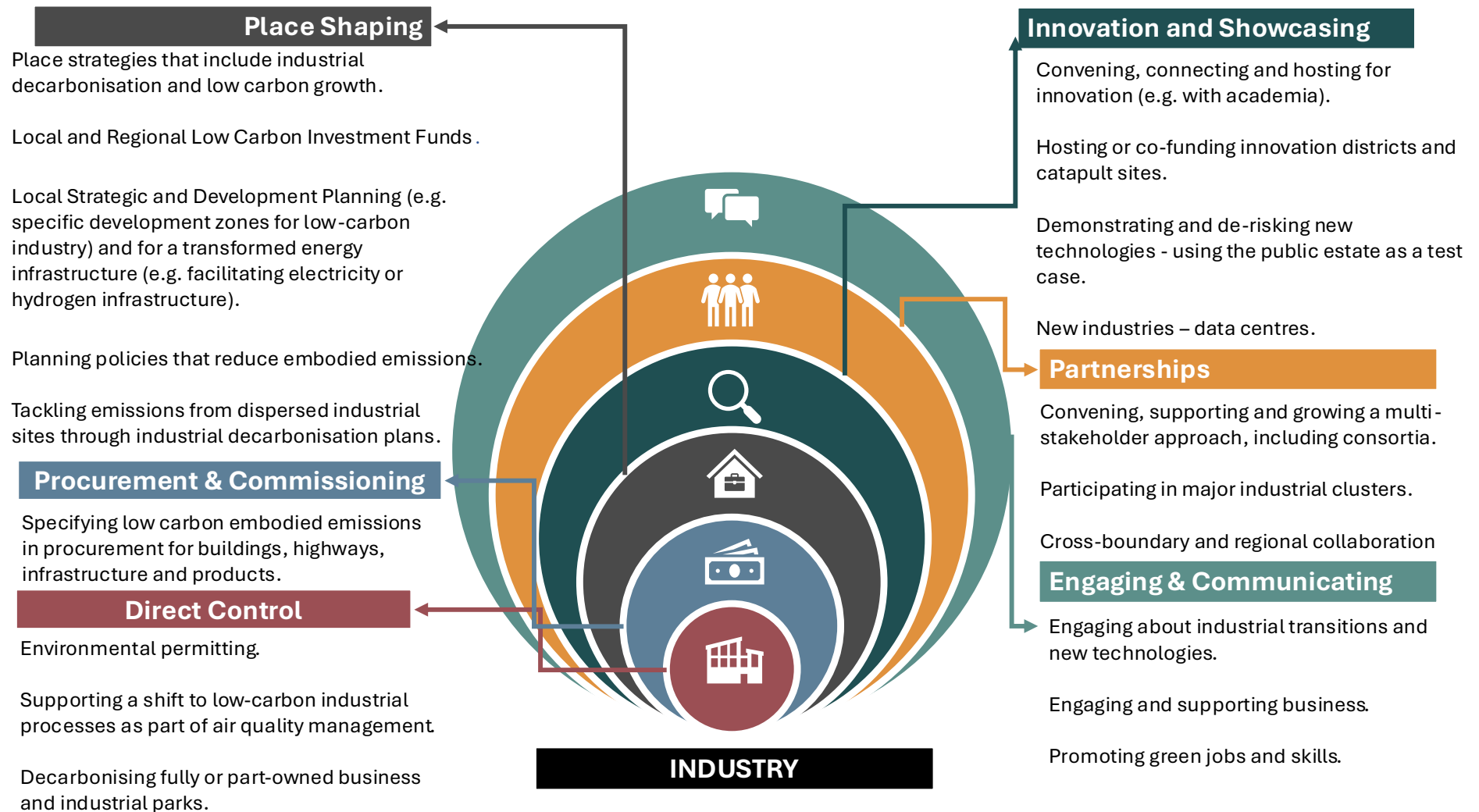


Figure 19: Onion diagram of local authority influence for industry

8.4.1 Direct control

8.4.1.1 Environmental permitting

Local authorities (district councils and unitary councils) have duties as a regulator under the **Environmental Permitting (England and Wales) Regulations 2016**⁵¹³.

Businesses have to apply to local authorities for a permit for medium risk industrial processes such as ceramics manufacturing (Part A2 Installations) and lower risk processes such as vehicle re-spraying (Part B Installations).

The power of the permitting regime lies in the requirement for operators to use the **Best Available Techniques (BAT)** to prevent or minimise pollution.

Local authorities are responsible for setting permit conditions that reflect BAT. While BAT are primarily about air quality and land and water pollution, local authorities can interpret BAT *dynamically, pushing operators towards the adoption of low-carbon technologies like electrification and enhanced energy efficiency where they are technically and economically viable*. The regular cycle of inspections and permit reviews provides a formal mechanism for local authorities to monitor performance and drive continuous improvement, providing an adjacent lever to help ensure that permitted industries evolve in line with the UK's decarbonisation trajectory.

Environmental health officers can also signpost interested companies to support schemes and provide advice, as is the case in Salford Council, where the team signpost industries looking to bring in sustainability schemes to the Growth Hub⁵¹⁴ for information and support.

This is likely to become a stronger lever as the Environmental Permitting regime is modernised and streamlined, with proportionate regulation on emerging technologies which are vital to decarbonising industry⁵¹⁵.

8.4.1.2 Air quality management

The statutory duty on local authorities to manage local air quality provides another route to supporting the process of industrial decarbonisation. Under the Environment Act 1995, as amended by the Environment Act 2021⁵¹⁶, responsible local authorities (district councils and unitary councils, with air quality partners, county councils, neighbouring councils and combined authorities) must regularly review and assess air quality in their areas. Where national air quality objectives for pollutants such as nitrogen dioxide (NO₂) or fine particulate matter (PM_{2.5}) are being exceeded, the authority must declare an Air Quality Management Area (AQMA)⁵¹⁷.

⁵¹³ [The Environmental Permitting \(England and Wales\) Regulations 2016](#)

⁵¹⁴ [Supporting your journey to Net Zero - GM BGH](#)

⁵¹⁵ [Consultation on modernising environmental permitting for industry August 2025 - DEFRA](#)

⁵¹⁶ [Unlocking local action on clean air- technical report - IPPR](#)

⁵¹⁷ [Local government air quality responsibilities - House of Commons Library](#)

Within 18 months of an AQMA being declared, the local authority is required to produce an Air Quality Action Plan (AQAP), detailing the measures it will take to improve air quality. Many of the actions required to reduce harmful air pollutants have a direct co-benefit for carbon reduction. This allows local authorities to use their air quality duties as a lever to accelerate the adoption of cleaner, often electrified, technologies within local industry, contributing to both public health and climate goals.

However, industrial sources are a small component of AQMAs compared to roadside emissions, but they include waste transfer stations, metal recycling, small manufacturing sites with particulates and traffic emissions, fuel combustion on smaller industrial sites, emissions from gas and solid-fuel combustion in restaurants and food production in dense urban areas. This particularly affects denser urban areas, including many of London's boroughs. Associated actions in the AQAP can form the basis for more stringent local policies which provide a stronger legal basis for imposing tougher conditions on both new developments and the permits for existing industrial operators within the zone.

Case study: Construction Low Emission Zones – London Boroughs of Merton, Richmond and Wandsworth^{518, 519}

London Borough of Merton's Air Quality team's Cleaning up Construction project in 2019 has evolved from air quality monitoring through to influencing council contracts and delivering the Low Emissions Zone from Construction underpinning the London Code of Practice for Construction and Demolition. Working across three boroughs, the project has developed standardised planning rules, construction site audits and produced guidance materials and education packages to construction firms and engaged with the machine manufacturing and supply chain to speed up delivery of cleaner technologies.

Collaboration with industry has led to further trials, for example, a trial to manage on site energy was carried out in 2024 on a hospital site redevelopment, to test the use of on-site batteries with reduced generator running-time. This suggests that sites can, where this is practical, be electrified before any work starts. The tests also showed that over-sizing generators can be avoided by using them more efficiently to charge batteries, with batteries monitored through telematics. Battery storage system reduced generator run time by 85%, and reduced fuel consumption by 57%.

⁵¹⁸ [Our mission, to tackle air quality-London Borough of Merton - Local Government Association](#)

⁵¹⁹ [Case Study: Managing Site Energy - RSP](#)

8.4.1.3 Decarbonisation of fully or part-owned business and industrial parks

Many local authorities list industrial parks amongst their assets, as owners, through council-owned companies or as joint ventures⁵²⁰. This gives them the power and opportunity to decarbonise the business park or industrial site energy infrastructure and to engage with the businesses on site to support the introduction of low-carbon technologies and business models. This can also include tackling emissions from buildings, transport (including commuting), waste and process emissions (discussed elsewhere).

Councils can use various methods to carry out these improvements, including Business Improvement Districts, Mayoral Development Corporations, Growth or Investment Zones and joint ventures. The Local Industrial Decarbonisation Plans (LIDP) Initiative (see Place Shaping below), include council-owned estates like Stakehill in Rochdale, which has a Business Improvement District and Atom Valley⁵²¹.

A large number of business parks connected with local authorities do not appear to be tackling site or industrial emissions on their industrial and business parks, outside of their landlord obligations to meet minimum energy efficiency standards, so this may be an under-used opportunity.

Case study: Trafford Council – Trafford Park⁵²²

Trafford Park is the largest industrial park in Europe and an important contributor to the city-region's economy, but is also the largest single carbon emitter across Greater Manchester. Home to 1,300 businesses and over 35,000 employees across various commercial and industrial sectors, it makes up nearly half of Trafford Council's carbon emissions.

In 2022, Trafford Council commissioned Siemens to produce Low Carbon Trafford Park 2038⁵²³, a strategic document aimed at transforming Trafford Park into a low-carbon hub by 2038 (Greater Manchester's carbon neutrality target date). This provides a route-map for decarbonisation covering energy reduction and low-carbon technologies including heat networks, use of waste heat and hydrogen. Alongside this Arup and Groundwork developed a Green Infrastructure Framework⁵²⁴ to develop sustainable transport and green infrastructure networks and enable climate resilience. This is currently being developed as a Business Improvement District feasibility study⁵²⁵ by Groundwork for the council. Trafford Park hosts the Green Skills Academy with heat pump courses, retrofit, EV charging equipment installation and

⁵²⁰ [Strategic Asset Management: a must for local authorities - Savills UK](#)

⁵²¹ [Mayoral Development Zone - Atom Valley Manchester](#)

⁵²² [Trafford Park | Invest in Trafford](#)

⁵²³ [Studies & Resources | Trafford Park](#)

⁵²⁴ [Greening Trafford Park Study – Trafford Council](#)

⁵²⁵ [Help Shape the Future of Trafford Park – Groundwork Greater Manchester](#)

construction and retrofit courses. It also links up with the North West's industrial decarbonisation cluster through Hynet. Trafford Park's Green Energy Park⁵²⁶ is under development, including a now operational 15MW capacity green hydrogen production facility (developed by Carlton Power with the support of GMCA, Trafford Council, Manchester Metropolitan University, Cadent Gas and Electricity North West), a 1GW battery energy storage scheme and a liquid air storage plant along with a solar park. See also case study **Bee Net Zero Trafford Park**¹⁷²: **Trafford Council, Greater Manchester Combined Authority and the Growth Company** which is a partnership formed to support businesses on the park to reduce their emissions and improve efficiency.

Case study: Dundee City Council - founder member of Michelin Scotland Innovation Parc

The former Michelin tyre factory site in Dundee was redeveloped in 2020 as a sustainable innovation site to support economic growth and a fair and just transition to Net Zero by partners Michelin, Dundee City Council and Scottish Enterprise. This initiative took the site off gas, installed renewable energy including wind turbines, and established new sites for businesses, including a low-carbon build Innovation Hub as a centre for early-stage innovation, incubation and entrepreneurship, with a focus on sustainable innovation. The site is now owned by textile manufacturers Wilkie and Scottish Enterprise⁵²⁷. Wilkie has moved its manufacturing centre to the site, bringing £50m investment in new infrastructure, technology and development. It will be able to develop sustainable products, processes and materials using the wind power generation and connection to the MVV's Waste to Energy plant, reducing its carbon footprint.

This shows the importance of the council and government role in developing sites after legacy production companies close, and how embedding low-carbon on-site generation, training and business support can attract further investment and models of low-carbon industrial processes.

8.4.2 Procurement and commissioning

8.4.2.1 Specifying low-carbon embodied emissions in procurement for buildings, highways, infrastructure and products

Local authority spending through procurement and commissioning can support the growth of lower carbon industrial and manufacturing in the UK and abroad. This can be

⁵²⁶ [Working Towards a net zero Greater Manchester. Trafford Green Hydrogen – Carlton Power](#)

⁵²⁷ [MSIP Dundee | A Place Built For Innovation](#)

achieved by procuring sustainably produced products and specifying lifecycle analysis of materials and products. Quantities of recycled materials can also be specified. More on this has been outlined in the Buildings, Transport and Waste sections of this report, including making use of PPN 06, Public Procurement Act and Social Value Act. Councils can further leverage low-carbon procurement through procurement consortia, frameworks and more recently, dynamic purchasing frameworks to allow for innovation, enabling new suppliers to join later.

The Government consulted in September 2025 on a framework to grow the market for low-carbon industrial products⁵²⁸, and deliver the guidance, tools, and levers to help buyers identify and compare lower carbon industrial products, with an initial focus on the steel, cement, and concrete sectors. These policies will enable buyers (including public bodies who have substantial purchasing power) to make informed choices through better information on the carbon content of industrial goods.

Case study: Transport for London (TfL) – Procurement of 99% recycled plastic railway sleepers replacing timber and concrete⁵²⁹

TfL has been procuring recycled plastic sleepers for above-ground use on a trial basis since 2019 to reduce embodied emissions, reduce waste and replace timber and concrete sleepers. This saves 200 tonnes CO₂ per kilometre of track and requires fewer deliveries due to the lighter weight, and requires less maintenance and replacement than the previous materials. This aligns with TfL's corporate plan to consider the carbon cost of a material throughout its life cycle, increase the purchase of recycled products and reduce carbon emissions across both assets and infrastructure.

See also Section 7 Waste case studies on Joint Low-carbon Procurement Policy and toolkit – London Boroughs of Brent, Ealing, Hammersmith & Fulham, Harrow, Hillingdon, Hounslow, Richmond upon Thames, and Wandsworth and West London Waste⁴⁶².

Wales – Welsh Local Government Association Local Authority Sustainable Procurement Toolkit⁴⁶⁰.

City of London procurement guide includes comprehensive guide with specified standards⁵³⁰.

⁵²⁸ [Growing the market for low carbon industrial products: policy framework - DESNZ](#)

⁵²⁹ [Responsible Procurement Case Studies 2022/23 - GLA](#)

⁵³⁰ [Low-carbon procurement guide - City of London](#)

Case study: South West Procurement Alliance – Low Carbon Offside Housing Construction Dynamic Purchasing System⁵³¹

This procurement system allows any local authorities (and public sector organisations) in the South West to procure suppliers capable of providing low-carbon solutions to housing construction. Wiltshire Council used the system to procure Agile Homes to build seven affordable homes as part of the council's wider house-building programme.

Case study: Lanarkshire Council - Adept Live Labs 2 – Innovation Log for low-carbon materials⁵³²

The three-year UK wide Department for Transport funded programme with the Centre of Excellence for Decarbonising Roads, including Lanarkshire Council and Transport for the West Midlands has included discovery, trialling, and adoption of low-carbon materials for use in the roads sector. This consists of a wide range of materials from road and pavement bases, surfaces, treatments, recycled concrete, concrete alternatives, binders, drainage and signage including steel replacement. It includes an overview of each material, categorisation by material type and alignment with the Design Manual for Roads and Bridges (DMRB). The log enables suppliers and councils to add to the list, and in the coming three-year period the tool will be improved into a smart, interactive digital tool to support collaboration between local authorities and industry partners, supporting procurement and innovation. By bringing highways authorities together, demand can be driven and supported and scaled.

8.4.3 Place shaping

8.4.3.1 Place strategies that include industrial decarbonisation and low-carbon growth

Local place strategies and economic strategies – which outline the main principles and objectives for the area's economy, transport, housing, energy, skills and culture - form an important part of setting out the vision for industrial decarbonisation and future growth.

The audience for these strategies is wide, they enable combined and local authorities to send clear messages to government, investors, developers, the wider public sector, private and community sectors.

⁵³¹ [Low Carbon Offsite Housing Construction \(LCH\) Dynamic Purchasing System \(DPS\) - WSPA](#)

⁵³² [Innovation Log - Centre of Excellence for Decarbonising Roads](#)

Research in 2022 for the Inclusive Growth Network showed that a number of combined and local authorities were integrating strategies and delivery to tackle multiple challenges, including inclusive growth, alongside climate and health considerations, with a view to achieving better value for money and delivering a wider range of benefits for their areas⁵³³.

Case study: Glasgow City Region – Economic Strategy 2022-2030

Developed in 2021, the city region lists “addressing the climate emergency” as one of three Grand Challenges woven throughout the strategy. Innovatively, the City Region employed a Green Economy Manager (who sits within the economic development team, emphasising net zero as an economic challenge as much as an environmental one) to lead the development of the strategy. Its priorities include “A Just Labour Market Transition to Net Zero, Support Businesses to Decarbonise and Adapt, Build a Green Supply Chain.” As part of the strategy, the City Region is committed to facilitating innovative funding mechanisms, including steering broader inward investment and seeking private sector partners.

8.4.3.2 Local and Regional Low-carbon Investment Funds

Local and regional authorities play an important role in driving industrial decarbonisation by attracting and organising investment in their areas. They do this by:

- Developing local decarbonisation plans to identify priority projects.
- Helping projects become “investment-ready”, so private investors are more willing to fund them.
- Offering grants, loans, or blended finance to reduce financial risk and unlock private capital.
- Aggregating smaller projects to make them more attractive to investors.

Many Mayoral Combined Authorities already run investment funds. These often focus on infrastructure and clean energy projects (such as low-carbon power or industrial upgrades), but could be extended to low-carbon investment funds that also support industrial decarbonisation. They also work with national bodies (like the National Wealth Fund or British Business Bank) to connect investors with local industries and build confidence in low-carbon investment. Overall, these funds help turn decarbonisation plans into real projects, accelerating emissions reductions while supporting local economic growth.

⁵³³ [Doing it all: Integrating Net Zero, Climate Resilience, Public Health and Inclusive Growth into Mainstream Economic Development - Quantum](#)

8.4.3.3 Local strategic and development planning

Local planning authorities (district councils and unitary councils) have particular powers to support the transition to a decarbonised industrial landscape across their areas, while Mayoral Combined Authorities have strategic planning powers to influence this across the wider region. In two-tier authorities county councils have a supporting role through their highways and transport functions, which are critical to providing the infrastructure needed to support the transition, for example through enabling changes to the roads network to accommodate changes in industrial needs.

National policy provides a clear mandate for this action. The **National Planning Policy Framework (NPPF)** explicitly states that the planning system should support the transition to a low-carbon future.

Local Plans: Local Planning Authorities can embed decarbonisation policies within their plans that set a high bar for new industrial development. This can include policies that designate specific zones for low-carbon industries, require new industrial estates to be designed for connection to future district heat or hydrogen networks, mandate inclusion of Carbon Capture and Storage (or Carbon Capture Usage and Storage) infrastructure, or mandate the installation of on-site renewable energy generation.

Case study: East Riding of Yorkshire Council – Local Plan Policy⁵³⁴

This local planning authority strategy item 'Supporting the Renewable and Low-carbon Energy Sector' recognises opportunities for economic growth in the Humber Renewable Energy Super Cluster Enterprise Zone and Humber Green Port Corridor Enterprise Zone. It also notes that Yorkshire and Humber is one of the most carbon intensive regions in the UK. The policy draws on the Humber Local Energy Strategy that seeks to secure value through efficiency improvements, new technologies and shifting to low-carbon and renewable sources alongside developing the hydrogen economy and applying CCUS. Its Policy EC5 is supportive of the renewable and low-carbon energy sector. This includes renewable and low-carbon development, and infrastructure for hydrogen and CO₂ transportation.

Development Management: Through the day-to-day process of determining planning applications, Local Planning Authorities can impose specific planning conditions on new industrial developments or extensions, requiring measures such as the use of low-carbon construction materials. Through the planning process they can also encourage

⁵³⁴ [Supporting the renewable and low-carbon energy sector. Local Plan Strategy – East Riding of Yorkshire Council](#)

industrial decarbonisation (e.g. by giving support and signposting) that goes beyond local planning policies.

Case study: Swale Borough Council – DS Smith Kemsley Paper Mill Sittingbourne new production line and Kemsley Industrial Cluster

In 2024, Swale Borough Council consented the demolition of two preparation lines at the UK's largest paper recycling and production mill, and their replacement by a £48 million preparation line. This enables DS Smith to install new technologies to pulp and screen recycled paper from contaminants, such as plastics. The new facility will have lower carbon emissions, reduced energy demand, less waste and lower chemical and water use.

DS Smith is located in the Kemsley Industrial Cluster. In 2025, the Cluster benefited from the Local Industrial Decarbonisation Plans funding (LIDP)⁵³⁵ for a study which identified further opportunities for industrial symbiosis and for installation of CCS, increased electrification through private wire, hydrogen production through electrolysis and Combined Heat and Power. The study raised several important issues:

- Stakeholders raised concerns that presenting the entire cluster decarbonisation scheme as a single planning application might hinder planning consent and that submitting a NSIP application could be more effective, especially if there is common infrastructure involved.
- Local planning officers suggested that public support for the cluster is needed to support planning applications and involving the public in the cluster and its benefits at an early stage is important. This can be done through tours and visitors' centres.
- Planners also highlighted that outline planning applications can be useful for cluster decarbonisation and should allow for flexibility because changes and adjustments in technologies are inevitable.

This case study shows that planners have a role in both individual planning applications, but more strategic input to helping an industrial cluster start to plan new infrastructure alongside advising on public education and readying them to be supportive of changes.

A 2025 Review of Strategic Spatial Planning for Low-carbon Industrial Clusters⁵³⁶ (Teesside, Humberside and North West of England (Hynet) areas) looked at the extent to which local plans and other planning tools have been used to support the delivery of

⁵³⁵ [Local Industrial Decarbonisation Project - Kemsley Industrial Cluster](#)

⁵³⁶ [Strategic Spatial Planning for Low Carbon Industrial Clusters: - enzygo, Ricardo](#)

low-carbon clusters. It found that while local planning frameworks across the areas were broadly supportive of industrial decarbonisation and the transition to a low-carbon economy, they did not often reference hydrogen, CCUS, low-carbon industrial clusters and the associated environmental capacity constraints explicitly.

The study found that local authority stakeholders had a general awareness of, and support for, industrial cluster development, particularly in Teesside and Humber, which have a history of collaboration. Barriers identified included resource constraints within local authorities, and a lack of specific planning regulations for technologies like CCS. Additionally, there was a lack of understanding of the environmental impacts of low-carbon technologies such as amine-based carbon capture^{537, 538}.

The study showed that stakeholder and regulatory engagement between project developers (including regulatory bodies, Environment Agency, and local authorities) is vital and that using integrated planning tools like Supplementary Planning Documents (SPDs) and Area Action Plans, and even Development Corporations (which can hold planning powers) can be useful.

Local planning authorities with industrial areas could engage with local planning authorities already working on industrial decarbonisation in Teesside, Humber and the North West of England to learn from them.

Case study: Local Plans and Industrial Decarbonisation Clusters

Teesside

Redcar and Cleveland Borough Council developed a Supplementary Planning Document⁵³⁶ (SPD) for the South Tees Area in 2018 to provide certainty to developers, along with the South Tees Development Corporation, for the regeneration of the area. The policies include the port and logistics, promote renewable energy opportunities and put in place a wider plan for the coherent development of the South Tees Area through a Spatial Strategy, zoning different areas. It addresses employment opportunities in the advanced manufacturing and new technologies sectors. The Energy Innovation Development Principle promotes renewable and innovative energy projects. This has given rise to the Net Zero Teesside project, including the new gas fired power station with CCS, a critical proof-of-concept project that underpins investment in the future energy system.

Stockton-on-Tees' Local Plan⁵³⁹ recognises significant opportunities for economic growth in moving towards a low-carbon, high value economy in Stockton-on-Tees, in

⁵³⁷ [Response document: Environmental Assessment Levels for the amine-based carbon capture process – Environment Agency](#)

⁵³⁸ [Review of Amine Emissions from Carbon Capture Systems – Natural Scotland, SEPA](#)

⁵³⁹ [Stockton-on-Tees Borough Council Local Plan 2019](#)

areas such as district heat and power, onshore and offshore renewables, hydrogen and syngas, and carbon capture and storage. It identifies sites alongside the estuary for energy and chemicals industry, part of the East Coast Cluster.

Case study: North West of England

Cheshire West and Chester Council's Local Plan is due for renewal in the coming years, but its existing Local Plan (Part Two) Land Allocations and Detailed Policies⁵⁴⁰ identifies Ellesmere Port as having the potential to deliver substantial economic growth for industrial, manufacturing and distribution and sets out land allocations across Stanlow, Hooton Park, Ince Park and Thornton Science Park (Ince Park is home to the new EfW with CCS discussed in the Waste section of this report). Stanlow is identified with its own Special Policy Area, as the UK's largest oil refinery and the area is safeguarded for petrochemical and related industries uses and complementary or synergistic use alongside continued operation of this site. Residential development is not permitted and a 'green ring' surrounds the nearby Ellesmere Port area. Interestingly, in 2019, when this policy was adopted, there was no mention of industrial decarbonisation or moves to use existing pipelines for CO₂ or hydrogen. Analysis of planning applications relating to Hynet, hydrogen plants, CO₂ infrastructure and other low-carbon projects, shows that they have generally been consented⁵³⁶, albeit in a case-by-case manner.

8.4.3.4 Planning Policies that reduce embodied carbon emissions

Resource efficiency contributes 7% of the emissions reductions from industry in the Balanced Pathway in 2040 and reduces emissions in the cement subsector by 26% by 2035, through a combination of various measures, including clinker substitution⁵⁴¹ in cement production, refurbishing existing buildings to avoid new builds, reducing construction waste, reducing over-design, and reusing components.

Local planning authorities can introduce policies that reduce demand for materials and that require lower carbon or recycled materials through carbon intensity and waste reduction targets. This is particularly important for concrete and cement, because of the high emissions from the sector.

See case studies in Section 7 Waste, Place shaping.

⁵⁴⁰ [Cheshire West and Chester Local Plan \(Part Two\) Land Allocations and Detailed Policies - Keystone](#)

⁵⁴¹ [Clinker Substitution In The Cement Industry - BACI](#)

8.4.3.5 Strategic planning for a transformed energy infrastructure

Electricity infrastructure: The mass electrification of industrial processes and the potential introduction of a new hydrogen energy sector will place additional demands on the local electricity networks and require additional infrastructure. The local authority role in this transition is detailed in the Electricity Supply Chapter.

Facilitating Hydrogen and CCS Infrastructure: In areas designated as industrial decarbonisation clusters, local authorities are supporting or leading partners in the delivery of major new infrastructure, such as hydrogen production, storage and pipelines and CO₂ pipelines. Their statutory planning and consenting role, and permitting role combined with their detailed understanding of the local landscape and community, is essential for navigating the process of gaining approval for these schemes. Depending on size, capacity and pipeline lengths, hydrogen schemes and CO₂ pipelines can fall under Nationally Significant Infrastructure Projects (NSIP) determined at the national level, with a supporting role from the local authority. Meanwhile, other smaller schemes are determined at the local level under local planning policy.

(See also insights in the Electricity Supply Chapter 4 of this report for successful NSIP delivery).

Case study: Cement CCS projects

The **Peak Cluster**, led by **Progressive Energy**, is the world's largest cement and lime CCS project. It will pipe over 3 million tonnes of CO₂ each year to Morecambe Net Zero (MNZ) storage site in Liverpool Bay. It has plans to build a new high-pressure pipeline (similar to a gas or water pipeline) from five cement and lime plants across Derbyshire and Staffordshire, owned by Tarmac, Breedon, Holcim UK and SigmaRoc. This pipeline will be over 16km long so will be classified as a Nationally Significant Infrastructure Project and decided at the national level. The scheme has recently received an equity investment of £28.6m from the National Wealth Fund to support development of the pipeline. This is currently at the pre-application stage with the application expected in summer 2026⁵⁴². It will also require planning permission from the local planning authorities for associated infrastructure including the carbon capture plants at the industrial sites.

Case Study: North Wales – Padeswood CCS

The cement works at Padeswood⁵⁴³ in North Wales received national planning permission to start works on CCS from Planning and Environment Decisions Wales

⁵⁴² [Peak Cluster CCS Pipeline. Project information – Planning Inspectorate](#)

⁵⁴³ [Padeswood CCS – Heidelberg Materials](#)

(PEDW), which has involved non-statutory and statutory consultations in the local area. The intention is to link this to the North West Hynet Cluster. Owners Heidelberg Materials opened CCS on their Brevik works in Norway earlier in 2025, capturing 50% of the CO₂ from that site.

8.4.3.6 *Tackling emissions from dispersed industrial sites (including cement)*

Current national policy has a strong focus on the UK's six large coastal industrial clusters as the primary locations for deploying CCUS and hydrogen infrastructure. To address the policy-gap for more dispersed industrial sites, the government's 2023 Local Industrial Decarbonisation Plan competition⁵⁴⁴ provided grant funding to consortia of dispersed industrial manufacturers to develop credible place-based, collaborative decarbonisation plans and build capacity and enhance collaboration. Thirteen areas developed plans, five of which were led by councils, and two others included councils within the consortium. This highlights the important role local authorities play in supporting decarbonisation plans for dispersed industrial sites that receive less national policy focus. Follow up funding was not provided, so the momentum of these collaborations is at risk. It is likely that more support from government is needed to enable the delivery of decarbonisation plans for smaller industrial clusters.

One of the areas, the Kemsley Industrial Cluster, which was part of the Local Industrial Decarbonisation Plan competition identified several valuable lessons for smaller cluster decarbonisation which included:

- Build collaboration early: Successful clusters involve businesses, authorities, and other stakeholders from the beginning, building on existing relationships.
- Build on existing industrial links (symbiosis): Many industries already share materials, energy, or waste. Strengthening these connections can reduce emissions quickly and at lower cost than costly technologies.
- Look beyond the site boundary: Decarbonisation opportunities often extend beyond a single industrial site, so plans should consider wider regional connections.
- Create a clear coordinating body: Clusters work better when there is a formal organisation that government and investors can engage or contract with. This can be the local council.
- Use a “hub” organisation to enable flows: At Kemsley, a recycling business acts as a central hub for material and waste flows. This kind of hub can anchor and coordinate the whole cluster.⁵¹

⁵⁴⁴ [Competition overview - Industrial Decarbonisation: Local Industrial Decarbonisation Plans - Innovation Funding Service](#)

Case Study: Local Industrial Decarbonisation Plans (LIDP) City of Bradford Metropolitan District Council – Bradford Manufacturing Futures

Bradford City Council led the project to engage with businesses that collectively account for over half of the district's industrial CO₂ emissions. Project partners CR Plus surveyed the area to understand Bradford's manufacturing landscape and identify common challenges alongside detailed site audits finding the three largest sites were responsible for 30% of manufacturing emissions. This identified five geographic Clean Growth Clusters⁵⁴⁵, the project developed best-practice business plans, and created an overarching decarbonisation masterplan for the districts aiming to cut emissions by 90%. It produced an investment prospectus⁵⁴⁶ covering the five clusters, alongside a £4.3m tapered funding proposal to act on the plans.

Importantly, the study catalysed the formation in March 2025 of the industry-led group Bradford Manufacturing Futures⁵⁴⁷ to support the city's 1,200 manufacturing businesses and their 24,000 employees to decarbonise whilst maintaining competitiveness. It has recently launched its Sustainability Leaders of the Future (SLF) initiative⁵⁴⁸ to nurture emerging talent and leadership in manufacturing, represent the collective voice of young people in sustainability and business. It also explores collaborative opportunities through events like Bradford Manufacturing Weeks with local colleagues, University of Bradford and SkillsHouse⁵⁴⁹ to inspire careers in sustainability. The group aims to become an entity in its own right, continue engagement with energy network providers, deliver the next stages of the Clean Growth Hub plans, draw on university partnerships and expand membership and form industry groups for resource efficiency, fuel switching and clean growth. Critically it must raise funds and investment to achieve this.

Bradford Council's Climate Action Plan (draft) identifies Industrial Decarbonisation as a priority as it contributes 18% of the City's emissions and is a significant employer across the UK's highest emitting sectors, including chemicals, food, basic metals, mineral products and metal fabrication. The council has observer status on Bradford Manufacturing Futures, and provides administrative, communications and wider strategic support to the BMF Board. The council, with West Yorkshire Combined Authority are keen to support BMF and seek to replicate the approach across other areas of West Yorkshire.

⁵⁴⁵ [Bradford Manufacturing Futures Decarbonisation Pathway. Survey Approach - BMF](#)

⁵⁴⁶ [Bradford Manufacturing Futures Investment Prospectus - BMF](#)

⁵⁴⁷ [Bradford Manufacturing Futures - Bradford Cluster](#)

⁵⁴⁸ [Bradford Manufacturing Futures champions young Sustainability Leaders - Bradford Cluster](#)

⁵⁴⁹ [SkillsHouse Bradford – Bradford Metropolitan Borough Council](#)

8.4.4 Innovation and showcasing

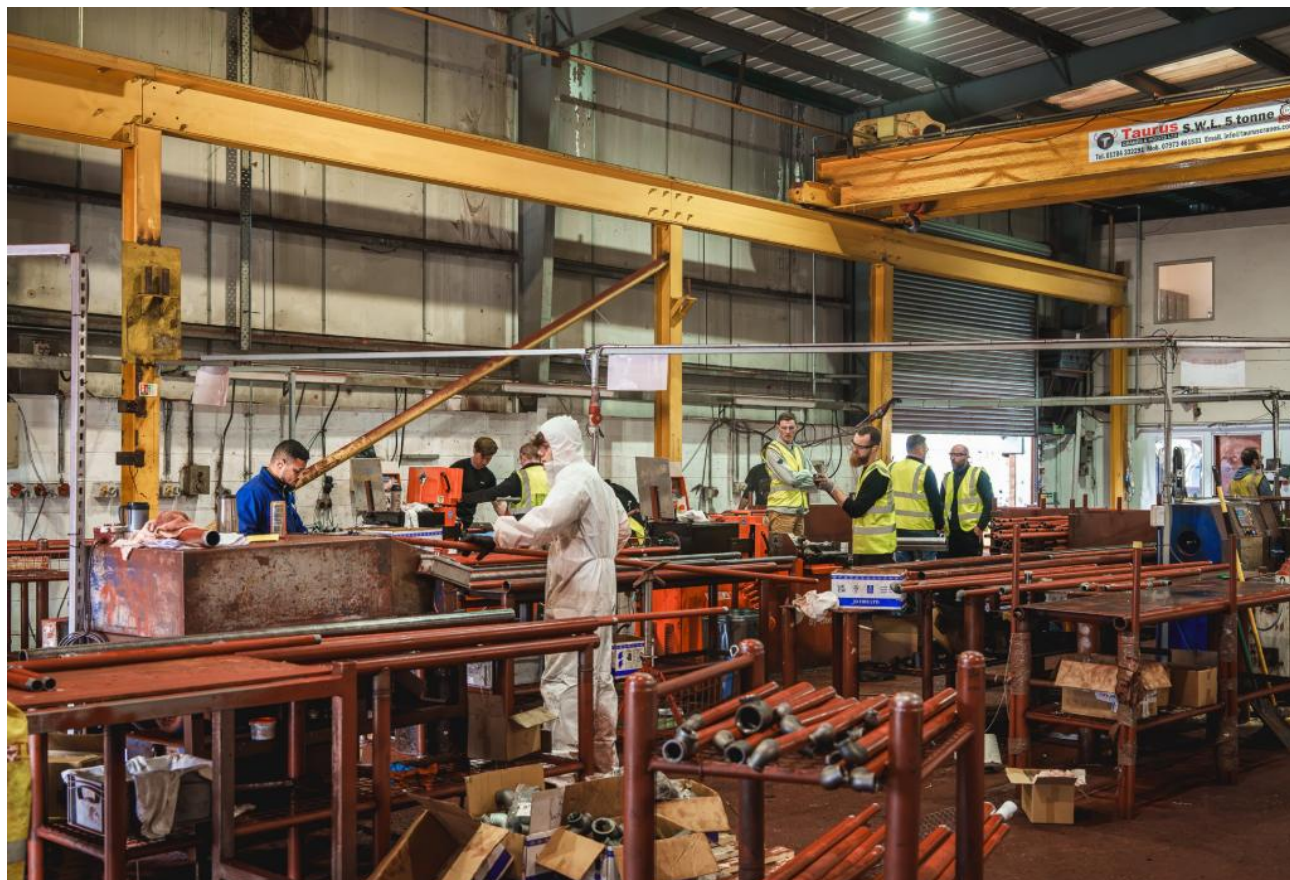


Figure 20: Green Economy at R Tindall Fabricators in Oldham who had a full on-site energy audit to identify ways to reduce carbon emissions and operating costs⁵⁵⁰

8.4.4.1 Convening, connecting and hosting for innovation

Local authorities can lead and support innovation to reduce industrial emissions and harness growth while safeguarding jobs. Their knowledge of the local economic landscape allows them to play a matchmaking role, connecting industrial businesses facing decarbonisation challenges with the sources of expertise that can help solve them. This includes:

- **Connecting to academia:** Local authorities can facilitate collaborations between local companies and the research departments of local universities and colleges. These partnerships can lead to collaborative R&D projects, knowledge transfer partnerships, and access to specialist testing facilities.
- **Accessing national innovation networks:** Local authorities can act as a bridge between local SMEs, larger businesses and national innovation bodies like Innovate UK and the Catapult Network. They can help raise awareness of funding

⁵⁵⁰ Image source: [Green Economy | business support to accelerate net zero](#)

opportunities and support the formation of local consortia to develop strong bids for competitive grants, such as the Industrial Decarbonisation Challenge and the LIDP competition, including acting as lead for funding bids.

Case study: Greater Manchester Combined Authority - Energy Innovation Agency

The Energy Innovation Agency is a partnership of Greater Manchester Combined Authority (GMCA), The Growth Company, SSE Energy Solutions, The University of Manchester, Manchester Metropolitan University, and the University of Salford⁵⁵¹. It aims to accelerate the introduction of energy-related innovations by leveraging the region's academic and governmental resources alongside the entrepreneurship and investment capabilities of the industry. This synergy shortens the journey from discovery to deployment and facilitates the rapid scaling of energy innovations, driving Greater Manchester towards its carbon-neutral goal of 2038.

The Agency's Innovation Navigator scheme links businesses with local innovation specialists, researchers and enablers. It also provides Innovator and Business Services to grow solutions and demand for decarbonisation across the city-regions' industries and businesses.

8.4.4.2 Hosting or co-funding innovation districts and catapult sites

Combined and local authorities are hosting or co-funding partners for innovation and incubator sites that bring together key partners throughout supply chains, universities, investors and innovation funders. The government's Modern Industrial Strategy encourages local authorities to work with national bodies to identify and develop investible projects on strategic industrial sites. This provides a formal mechanism for local authorities to champion specific locations as hubs for green innovation, attracting funding and partnerships to create flagship demonstration projects that can inspire wider adoption.

Case study: St Helens Council and Liverpool City Region Combined Authority - Glass Futures Centre of Excellence

The creation in St Helens of the Glass Futures global centre of excellence, which researches and develops low-carbon glassmaking processes, including the use of hydrogen fuel, shows how a Combined Authority and local authority can develop a world-leading innovation asset to decarbonise a traditional local industry.

Liverpool City Region Combined Authority provided £9 million toward a £54 million industry-backed pilot facility while St Helens Borough Council created the enabling conditions for the project. The council managed the planning and consenting

⁵⁵¹ [Energy Accelerator for Non-Domestic Buildings = Energy Innovation Agency](#)

process, assembled the land package, and championed the facility regionally and nationally to secure funding.

The facility has positioned the area as a leader in green technology. The building itself was used to develop Pilkington Mirai™, a newly launched glass product with 52% less embodied carbon than standard float glass, making it the lowest-carbon product of its kind currently available⁵⁵².

Case Study: Rotherham Metropolitan Borough Council and Sheffield City Council – Advanced Manufacturing Innovation District

Rotherham Metropolitan Borough Council and Sheffield City Council have transitioned the Advanced Manufacturing Park and Advanced Manufacturing Research Centre (AMRC) into a much wider regional ecosystem focused on industrial sustainability and energy efficiency, alongside ongoing expansion of Advanced Manufacturing. Under the umbrella of the South Yorkshire Investment Zone, the councils host the Translational Energy Research Centre (TERC), a world-leading facility dedicated to testing and developing green energy solutions with industry partners. Alongside this Sheffield City Council provides low-carbon grants to help local businesses fund direct carbon reduction measures. Regionally supported firms, such as Suiso in Rotherham, are also actively deploying decarbonised heat solutions to commercial operations across the district.

Through the *Innovation in Action* scheme, the council uses dedicated Business Innovation Advisors to help manufacturing firms tackle energy costs. By securing funding via the 'Made Smarter' programme, the council helps businesses implement process changes, monitor energy waste, and introduce highly efficient production technologies.

8.4.4.3 Demonstrating and de-risking new technologies

One of the most effective ways for a local authority to catalyse innovation is to lead by example. By acting as an early adopter of emerging technologies, councils can provide a real-world demonstration for the local market, thereby de-risking subsequent private sector investment.

Local authorities can use their own highways and buildings to pilot and showcase new technologies. For example, trialling recycled low-carbon road surfacing or highways materials, or providing a market for new low-carbon building materials can provide a

⁵⁵² [Glass Futures' Centre of Excellence, St Helens - Pilkington](#)

visible, operational case study for local industrial businesses to learn from and prove product performance.

Case study: Durham County Council and Low Carbon Materials – reducing emissions in road resurfacing

Low Carbon Materials (LCA)⁵⁵³ is a climate technology scale-up based in County Durham which tackles construction's embodied CO₂ by developing and producing a range of carbon-sequestering aggregate-like additives for concrete and asphalt. These solutions integrate seamlessly into existing supply chains. They have delivered proven carbon reduction impact through commercial-scale projects using flagship products, OSTO and ACLA. ACLA was developed with support from National Highways Low-carbon Innovations Accelerator and used in trials on the strategic roads network including the M11.

The first commercial resurfacing scheme using carbon-negative⁵⁵⁴ aggregate, ACLA, which absorbs carbon dioxide, in Net Zero asphalt was for Durham County Council in March 2024. Since then Durham-based company, Low Carbon Materials have delivered ACLA in multiple further schemes for Durham County Council and for a number of other local authorities including Redbridge London Borough Council, Redcar and Cleveland, Central Bedfordshire Council and East Riding of Yorkshire.

“Our relationship with local authorities has been (and continues to be) crucial to us. By conducting a trial project, the local authority provides us with case studies, product validation and credibility. Going beyond that initial trial, to work with us on a second, third and fourth project amplifies the credibility of the initial trial and de-risks the decision-making process for others. Vital, since construction is a very risk-averse sector.” Dr Lian Hutchings Head of Growth, Low Carbon Materials

8.4.4.4 Industrial decarbonisation and energy in the context of new industries – data centres

The development of new industries and technologies, like AI and our increasing digitalisation of services, requires data centres for large-scale data processing and storage capacity. The demand for data centres is expected to triple globally by 2030⁵⁵⁵.

In 2024, the Government designated data centres as critical national infrastructure⁵⁵⁶.

⁵⁵³ [ABOUT | Low Carbon Materials](#)

⁵⁵⁴ [ACLA - Asphalt aggregate - EPD International](#)

⁵⁵⁵ [Data Centres: planning policy, sustainability, and resilience – House of Commons Library](#)

⁵⁵⁶ [Data centres to be given massive boost and protections from cyber criminals and IT blackouts - DSIT](#)

UK had approximately 1.6 GW of data capacity in 2024 most of which is based in London, with growth in Manchester and South Wales. The Government expects data centre capacity to increase to between 3.3GW and 6.3GW by 2030.

In 2023-24, two planning authorities, Buckinghamshire Council and Three Rivers District Council, which had refused permission for hyperscale data centres on green belt land, had their decisions overturned at appeal by the Secretary of State for Housing, Communities and Local Government.

Subsequently, the Government included data centres as part of its proposed AI Growth Zones and required, under the National Planning Policy Framework, English local planning authorities, to consider the need for data centres when setting local policies and determining planning applications. AI Growth Zones will have fast-track planning and infrastructure support for AI data centres. Their developers will also be able to opt into the NSIP process where applications are decided nationally, the criteria for this have not yet been decided and will be outlined in a National Policy Statement for data centres. Scottish planning policy is supportive of data centres that use the nation's renewable energy, and they are not mentioned in Welsh or Northern Ireland's planning policies. The Scottish policy shows that there is an opportunity to require data centres to use low-carbon and renewable energy sources.

Data centres currently consume around 2.5% of the UK's electricity, and their electricity use is expected to increase four-fold by 2030. This may give rise to issues with grid connections and considerations regarding power generation including Power Purchase Agreements with renewable energy generators, the use of onsite renewables or even small modular nuclear reactors.

There may be opportunities for local authorities to access surplus heat from data centres to heat networks, siting them near to demand.

In all cases, local planning authorities will need to examine the actual resource use and carbon impact of data centres to inform their planning policies and rapidly learn more about what a Net Zero compliant data centre for their area would look like. Some data centres are members of the Climate Neutral Data Centre Pact⁵⁵⁷ which sets out indicators and targets for energy efficiency, clean energy, water, circular economy, circular energy (heat recovery and use) and communications. This Pact is likely to be referred to in planning applications.

⁵⁵⁷ [Climate Neutral Data Center Pact. The Green Deal need Green Infrastructure Climate Neutral Data Center](#)

Case study: Buckinghamshire Council – Part B Development Management Policy Draft Local Plan (Reg 18) Data Centres Policy EC4⁵⁵⁸

As recommended in the NPPF, the council has set out its policy and site allocations for new data centres.

The draft policy sets out criteria under which data centres will be permitted including that the use of sustainable technologies for heating and cooling is maximised and the use of renewable and low-carbon energy sources for their operation is maximised.

It does not specify low-carbon criteria for back-up power supply systems, apart from mentioning impacts on source protection zones for water supply and air quality if diesel storage is required.

Case study: Blackpool Council – Silicon Sands

Blackpool Council has formed a wider partnership, the Blackpool, Fylde and Wyre Economic Prosperity Board (EPB) with its neighbouring councils. This aims to position the Fylde Coast as a leading location for sustainable data centres and digital innovation, like those seen in Dublin and New York, and is one of the new Lancashire Combined County Authority's main strategic projects. Development to date has secured £2m through Lancashire's devolution deal and the council has submitted a bid to become an AI Growth Zone.

A planning application for a 6MW 'carbon friendly' data centre and 20,000sqft office and research space has been submitted. The site focused on its energy and digital connectivity offers, with a 32MW sub-station, 20 MW solar farm, 50MW battery storage and private wire links to offshore wind generation⁵⁵⁹.

Potentially the widest direct impact for Blackpool residents, businesses and council from the development of data centres is to provide heat into heat networks, and it has identified a heat network spine with potential to expand into some of the most deprived areas of the town, including areas of new housing development. This could provide heat to over 3,300 municipal and residential buildings and develop a national centre of excellence in heat network skills. More widely the council is working with private developers on larger data centres providing more heat potential.

⁵⁵⁸ [Part B Development Management Policy - Draft Local Plan for Buckinghamshire \(Reg 18\) - Buckinghamshire Council](#)

⁵⁵⁹ [Silicon Sands, Blackpool – Blackpool Council](#)

8.4.5 Partnerships

Partnership with industry is reflected at a national level through the Government's establishment of the Net Zero Council, which includes local government, and through sector industry groups that do not include local authorities. The Industrial Clusters, where much policy and innovation focus is concentrated, have their own associations representing their areas with government, combined and local authorities are represented as key partners in these usually industry-led groupings.

8.4.5.1 Convening, supporting and growing a multi-stakeholder approach

As shown above in various examples, effective industrial decarbonisation requires a broad and active coalition of partners and stakeholders. Combined and local authorities are at the heart of this network, engaging with a wide range of stakeholders and in different forms of partnership depending on their local industrial context and on the leadership roles taken by other partners in the area. The local authority role also varies during the development of strategies, routemaps and delivery projects, with different types of support being required from different local authority departments at different times.

8.4.5.2 Participation in major industrial clusters

In the UK's six designated industrial clusters, local authorities are core strategic partners alongside major industrial players and infrastructure developers. Their role is to provide democratic legitimacy, collaborate on local stakeholder and community engagement, back manifestos and investment prospectuses, and use their statutory planning powers to facilitate the development of shared infrastructure like CCS pipelines and hydrogen production hubs. The active involvement of local government is a core component of the strategies for clusters such as the **South Wales Industrial Cluster**, **Net Zero North West**, **Net Zero Teesside** and the **Humber Cluster**.

8.4.5.3 Leadership of local authority-led consortia

As demonstrated by the Local Industrial Decarbonisation Plans (LIDP) initiative, local authorities are increasingly taking the lead in forming and managing partnerships for dispersed industrial sites. In places like Bradford, North Yorkshire, and Oxford, the local authority has acted as the central coordinating body, using its existing relationships, economic development role and convening power to bring together local businesses that might not otherwise have collaborated, and securing funding to develop a shared decarbonisation roadmap.

8.4.5.4 Cross-boundary and regional collaboration

Energy systems and industrial supply chains do not adhere to council boundaries. Effective planning for grid reinforcement, hydrogen networks, or freight logistics requires cooperation at a regional level. Local authorities must work together through

combined authorities or informal alliances to develop strategies that are coherent and effective at a larger geographical scale.

Case study: Net Zero North West (NZNW)

Net Zero North West⁵⁶⁰ is an industry-led cluster body aiming to decarbonise the region's substantial industrial base, making it the UK's first net-zero cluster by 2040. Led by industry, working in partnership with government, academia and other key partners it focuses on a whole system approach to support delivery, identify and address barriers, and influence public policy, enabling investment across the region. The strategy supports a mixed energy system including renewables, nuclear, hydrogen and CCUS, and is anchored by major projects like HyNet, which is developing infrastructure for low-carbon hydrogen production and CCS across Merseyside, North Wales and the North West; Protos, a strategic cluster of energy generation and energy intensive industry in Cheshire; Morecambe Net Zero and Mersey Tidal Power Project.

Local authorities across the region, from county councils to combined authorities, are key supporters of Net Zero North West, with regional leaders playing a role in promoting the cluster at the regional and national level.

At a strategic level, City-region mayors for Greater Manchester and Liverpool City Region, co-chair a leadership forum with North West Business Leadership Team Chief Executive on which Net Zero North West is a standing item. This means its role is supported at the leadership level for the region across sectors and can be supported and advocated for by Mayors with government.

8.4.6 Engaging and communicating

Engaging stakeholders in the industrial decarbonisation transition early and meaningfully through forums, citizens' assemblies, and collaborative planning processes can ensure local buy-in and a place sensitive transition and reduce the risk of local opposition to industrial decarbonisation projects,

8.4.6.1 Conversations about industrial transitions with affected workers and communities

Combined and local authorities play an important role in discussions about the transitions that happen in regional and local industries. Various just transition

⁵⁶⁰ [Net Zero North West](#)

reports^{561, 562}, regional sector analysis⁵⁶³ and skills studies⁵⁶⁴ have been published that show which areas and sectors are most at risk of jobs being affected. Some areas, with concentrations of industrial activity, have greater ‘transition risk’ than others and need support to transition.

The CCC has recommended that Government works with communities, workers, and local businesses in areas of the economy that may be adversely impacted by the Net Zero transition to develop proactive transition plans that enable access to secure employment and business opportunities and that these efforts should feed into local or regional plans. Local authorities are well placed to advocate for such plans and to enable early engagement with communities and local businesses to inform transition plans.

Case study: Neath Port Talbot Council and Tata Steel – Blast Furnace transition

Port Talbot has long been shaped by Tata Steel, which for decades was one of Wales’ largest employers and its biggest industrial emitter. The town relied heavily on the steelworks, which once supported around 8,000 jobs directly and many more in the local supply chain. As the company moved to decarbonise and address major financial pressures, Tata closed its blast furnaces and other heavy-end operations in 2024, ending more than a century of primary steelmaking. This resulted in about 2,000 job losses, with further impacts felt across local businesses and families. A £1.25 billion transition to electric arc furnace steelmaking is now underway, supported by a £500 million UK Government grant, with production expected to resume around 2027–28. This modernised plant is projected to secure roughly 5,000 jobs but will employ fewer people than the former blast-furnace operation. In the interim, construction work has increased on site, and support programmes have helped some workers move into new roles or start businesses⁵⁶⁵.

The council is heavily involved in the transition through the Tata Transition Board, and it coordinates the support for people and businesses including the Employment and Skills Fund, business start-up support, health and wellbeing. A key engagement role has been to find out how workers and supply chain businesses have been affected by the changes, and the kind of support and skills they need to grow the local economy and provide a pipeline of high quality employment into the future.

⁵⁶¹ [Investing in a just transition in the UK How investors can integrate social impact and place-based financing into climate strategies 2019 - IJT](#)

⁵⁶² [15% of all jobs in Yorkshire and the Humber, and up to 30% in towns like Selby, are at risk from low carbon transition - New Economics Foundation](#)

⁵⁶³ [One in five workers in the Midlands in high-emissions industries - Office for National Statistics](#)

⁵⁶⁴ [Just Transition: Developing the Skills for a Net Zero Present and Future – University of Edinburgh](#)

⁵⁶⁵ [Closure of Blast Furnace 4 but green steel project will ensure next generation of steelmaking - Tata Steel UK](#)

There are important lessons to learn from the way in which the closure of the blast furnaces was managed. The challenges facing the UK steel sector have been clear for many years and, given the significance of this site to the local economy, a more proactive and decisive transition plan should have been developed for Port Talbot.

8.4.6.2 *Place sensitive engagement on new technologies*

As industry decarbonises, new technologies such as CCS and hydrogen manufacturing will be deployed. Local authorities have a supporting role to play in ensuring that early engagement and conversations are held to explore these new technologies with workers and host communities and to make sure engagement and communications go beyond just the technical and economic issues. People's attitudes to CCS or hydrogen are shaped by trust, perceptions of fairness, and historical experiences and debates, and have been explored in the North West and North East clusters⁵⁶⁶. Building public understanding and support, often referred to as a "social licence to operate", is essential to gain local support and build capacity and knowledge, which can help address potential local opposition. This requires open, honest, and early engagement about the need for these developments and the local benefits they can bring, such as cleaner air and new jobs and to give people a chance to voice their concerns, questions, opinions and ideas. Local authorities can contribute to and support engagement on new technologies, however researchers acknowledge that that local authorities "*often lack the resources to deliver this [community engagement] effectively*".

The role of local authorities in engagement in relation to planning consent for low-carbon developments (including new low-carbon industrial technologies) is described in section 8.4.3.3 *Local strategic and development planning*.

8.4.6.3 *Engagement and support for business*

Combined authorities and local authorities provide a range of support around decarbonisation, circular economy, resource efficiency and entering new markets for industries, businesses and supply chains through their economic development agencies or enterprise agencies, such as the network of 41 local Growth Hubs in England and Business Gateways in Scotland. Business support in Wales and Northern Ireland is provided more centrally. Aligned with this, local authorities should ensure their inward investment agencies are also prioritising and are measured on attracting low-carbon and circular businesses to the area.

⁵⁶⁶ [Social licence in principle and practice: industrial decarbonisation in regional clusters; Diarmaid Clery, Sarah Mander, Clair Gough - ScienceDirect](#)

The UK's 5.4 million SMEs⁵⁶⁷ form part of the eco-system of suppliers that will support the higher profile high emitters in decarbonisation, and can be less visible in policy-making due to their diversity. As such regional and local organisations that understand the local context and have reach into the local business economy are well-placed to provide support and partnership in this important sector.

Local authorities themselves should either ensure that business support is available and publicised and/or should ensure they signpost businesses to support from their Growth Hub, university or private business support organisations.

8.5 Priority next steps for local authorities

This section highlights what local authorities should focus on as next steps. These steps target where local authorities have the most direct influence and where they can support (including through actions in their wider spheres of influence) the most impactful measures to decarbonise industry. These are priorities set for decarbonisation (local authorities will also consider other objectives).

- **Use industrial permitting and air quality management as touchpoints to encourage low-carbon technologies and engage businesses.** Although industrial permitting and air quality management are not primarily designed to reduce carbon emissions, they give local authorities regular contact with a wide range of industrial sites, particularly the many A2 and Part B environmental permits that are regulated locally. These interactions provide a practical opportunity to highlight low-carbon technologies, encourage resource and energy-efficiency measures, and signpost businesses to relevant support, such as local Growth Hubs, innovation programmes or funding for upgrades.
- Support and, where appropriate, require the decarbonisation of operations on council owned (or co-owned) business parks and industrial sites, by setting clearer expectations for low-carbon operations, improving the energy performance of buildings, and ensuring that new developments or refurbishments align with climate goals. Councils can also use leases, procurement, and estate-wide programmes to encourage or require tenants to adopt low-carbon technologies and participate in local decarbonisation initiatives.
- Specify low embodied emissions in procurement for buildings, highways, infrastructure and products to increase the demand signal for low-carbon products. Through their procurement of buildings, highways, infrastructure and other products, local authorities can play a role in shaping market demand for low-carbon, lower-embodied-emission materials (materials that are

⁵⁶⁷ [Business statistics - House of Commons Library](#)

manufactured in using low-carbon processes and recycled or recovered materials).

- **Embed industrial decarbonisation within wider place strategies and translate this into supportive planning policies.** Economic strategies, growth plans, Local Plans and planning policies should support electrification, hydrogen or CCS-ready infrastructure, allocating land for low-carbon industries, and aligning planning decisions with long-term industrial transition pathways. Local planning authorities can introduce whole life carbon assessments into the planning process for new buildings, reducing emissions from this important industrial s
- **Support engagement with communities affected by the transition to decarbonise industry.** Local authorities can play an important role in helping communities understand and navigate the impacts of industrial decarbonisation, particularly in places where shifts in technology, infrastructure or industrial activity may affect jobs, skills or local identity. By convening forums, supporting dialogue between industry and communities, and helping residents access skills or employment programmes, councils can ensure that local voices shape the transition and that the benefits and opportunities of industrial change are widely shared. Engagement with local employers supports the skills agenda, as local authorities develop their next Local Skills Improvement Plans.

8.6 Challenges and barriers

Enabling the industrial transition is complex, involving long-term investment decisions that can lock in production methods for decades and which needs policy certainty and long-term funding support. There are several key barriers to local authorities aiming to help decarbonise industry.

8.6.1 Funding, investment and cost barriers

- Industrial decarbonisation is significantly constrained by the persistently higher electricity prices (compared to gas). High electricity prices reduce the cost-savings that can be made from more efficient heat pumps and other low-carbon technologies. Tackling this spark gap challenge is a matter for national government and is out of local authority hands. This is why some local authorities are providing energy efficiency support, solar PV and other schemes to help industries to decarbonise without further increasing their electricity costs.
- **Significant capital investment to decarbonise industrial processes.** Industrial decarbonisation often require upfront investment, including electrifying heat and processes, installing Carbon Capture and Storage (CCS), switching to hydrogen for high-temperature applications, and investing in major energy efficiency improvements. While direct local authority investment is

unlikely, local authorities have worked on local industrial decarbonisation plans in some areas, which outline the size and type of investment opportunity and continue to promote these opportunities to investors.

8.6.2 Governance, roles and market structures

- **Unclear local authority role in industrial decarbonisation.** Local authorities face uncertainty about their expected contribution to industrial decarbonisation, with responsibilities spread across planning, permitting, economic development, skills, and procurement, but without a clear, consistent national framework defining their role, as the issue is also distributed across several government departments.

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