



Local Authorities and the Seventh Carbon Budget – Summary Report

Prepared for the Climate Change
Committee

July 2026

CAG Consultants

Client Name: Climate Change Committee

Project Title: Developing local area advice for climate change mitigation

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

Disclaimer

CAG Consultants LLP has prepared this report for the sole use of the Climate Change Committee, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the Climate Change Committee and CAG Consultants LLP. No other warranty, expressed or implied, is made as to the professional advice included in this report.



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 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 MtCO_{2e}'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.

1.1 Summary report objectives and structure

The CCC commissioned CAG to produce a report to investigate what the CCC's advice on the Seventh Carbon Budget means at the local level. The report aims to help inform local government, national government and delivery organisations by exploring the role of local authorities in delivering national carbon budgets. It highlights practical actions local authorities can take to support the delivery of the 2050 Net Zero target, providing key actions and case studies. This summary report is an abridged version of the full report, which can be found [here](#). For each sector covered (buildings, surface transport, electricity supply, waste, agriculture and land use, and industry), this summary report covers:

- Key actions needed to deliver the CCC's Balanced Pathway.
- An 'onion' diagram (see below) that outlines the range of actions local authorities can take to support delivery across their different spheres of influence.
- Priority actions for local authorities.

¹ [The Seventh Carbon Budget](#)

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

The full report is more extensive and includes an explanation of the range of actions for local authorities (depicted in the onion diagrams), case studies and wider challenges and barriers for each sector. The full 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 interests³. A separate report highlights the role of local authorities in climate adaptation⁴.

1.2 Framework for understanding local authority actions

This report uses the ‘onion diagram’⁵ of spheres of control and influence for each sector (Figure 1 below) to depict a long list of actions that local authorities can take to influence area-wide emissions in a sector. This positive framing recognises the importance of coordination, support and enabling roles, and the value of engagement with communities and businesses. All actions depicted in the onion diagrams are explained with case studies in the full report.

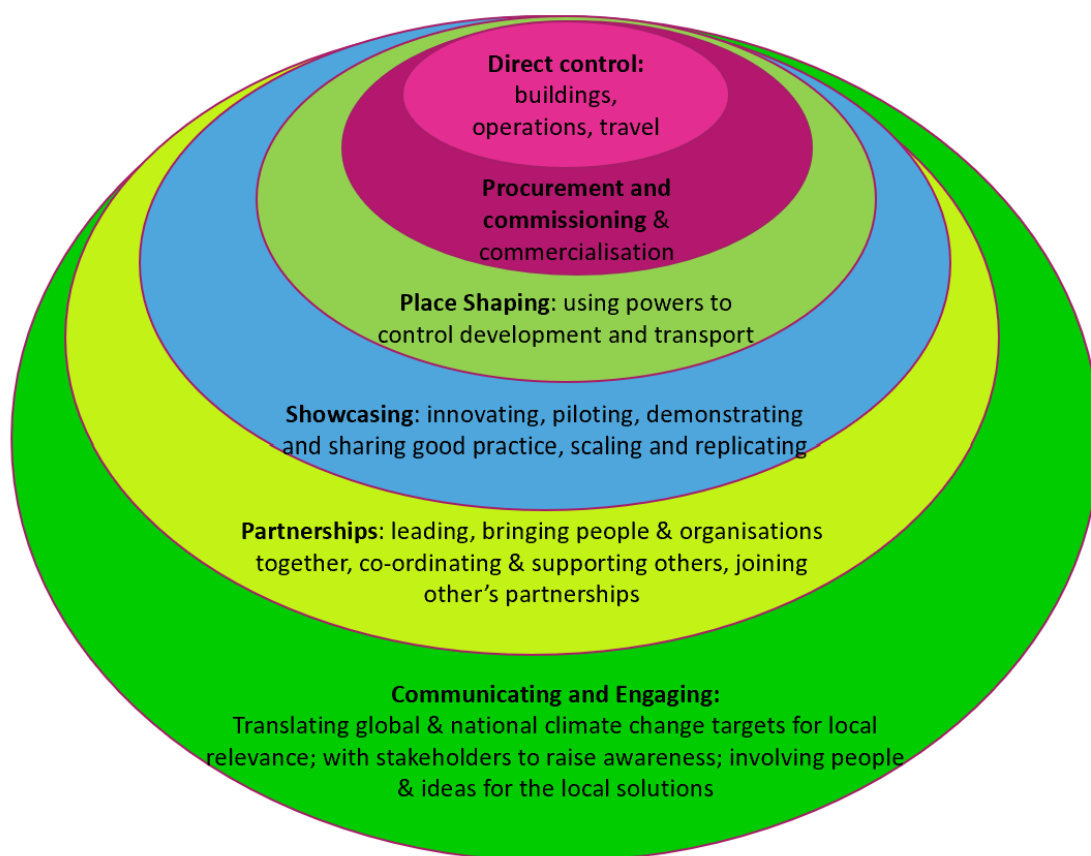


Figure 1: Local authority control and influence over emissions.

³ Full references for sources can be found in the main report.

⁴ [The role of local authorities in climate adaptation](#)

⁵ Coxcoon, R. & Roberts, S. (2020) Climate Action Planning Tool for Local Authorities, Centre for Sustainable Energy

Disclaimer on policy and programmes described in this report

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 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, 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.

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 contracts⁶.
- 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.

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 green space 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 (see residential and non-residential buildings section).
- Planning transport networks that support modal shift, active travel and public transport (see modal shift section) and planning, coordinating and delivering EV charging infrastructure (see vehicles section).
- Aligning planning policy with renewable energy deployment, grid reinforcement and Local Area Energy Plans (see electricity supply section).
- Embedding land-use change, woodland creation or peatland protection and restoration in Local Plans (see agriculture and land use section).

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:

⁶ [How to build sustainability into procurement: staying on track for carbon Net Zero – Procurement Essentials - CCS](#)

- Providing practical, trusted, locally tailored advice on heat pumps, energy efficiency and EV charging (see residential buildings and vehicles sections).
- Engaging communities in street redesign, bus improvements and active travel schemes (see modal shift section).
- Raising awareness about waste prevention, recycling and reuse and designing services that are designed to make it easy to reduce waste (see waste section)
- Involving landowners, land managers, farmers and communities in land use change and new approaches to agricultural management (see agriculture and land use section).
- Working with communities to promote understanding, address concerns and build support for new energy infrastructure and industrial technologies (see electricity supply and industry sections).

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. Examples include:

- Partnerships with housing associations, installers and community groups to deliver retrofit and heat decarbonisation (see residential buildings section);
- Collaboration with transport operators, bus companies, rail operators, schools and businesses to enable modal shift (see modal shift section);
- 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 (see electricity supply section);
- Partnerships with farm clusters, national parks, environmental NGOs and land managers to deliver land-use change (see agriculture and land use section);
- Industrial clusters, local businesses and skills providers working with authorities to enable industrial decarbonisation (see industry section);
- 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.

3 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.

3.1 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).

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.

3.1.2 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).

Figure 2 below shows the range of actions local authorities can take to support emissions reductions in existing homes across different spheres of influence⁷:

⁷ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

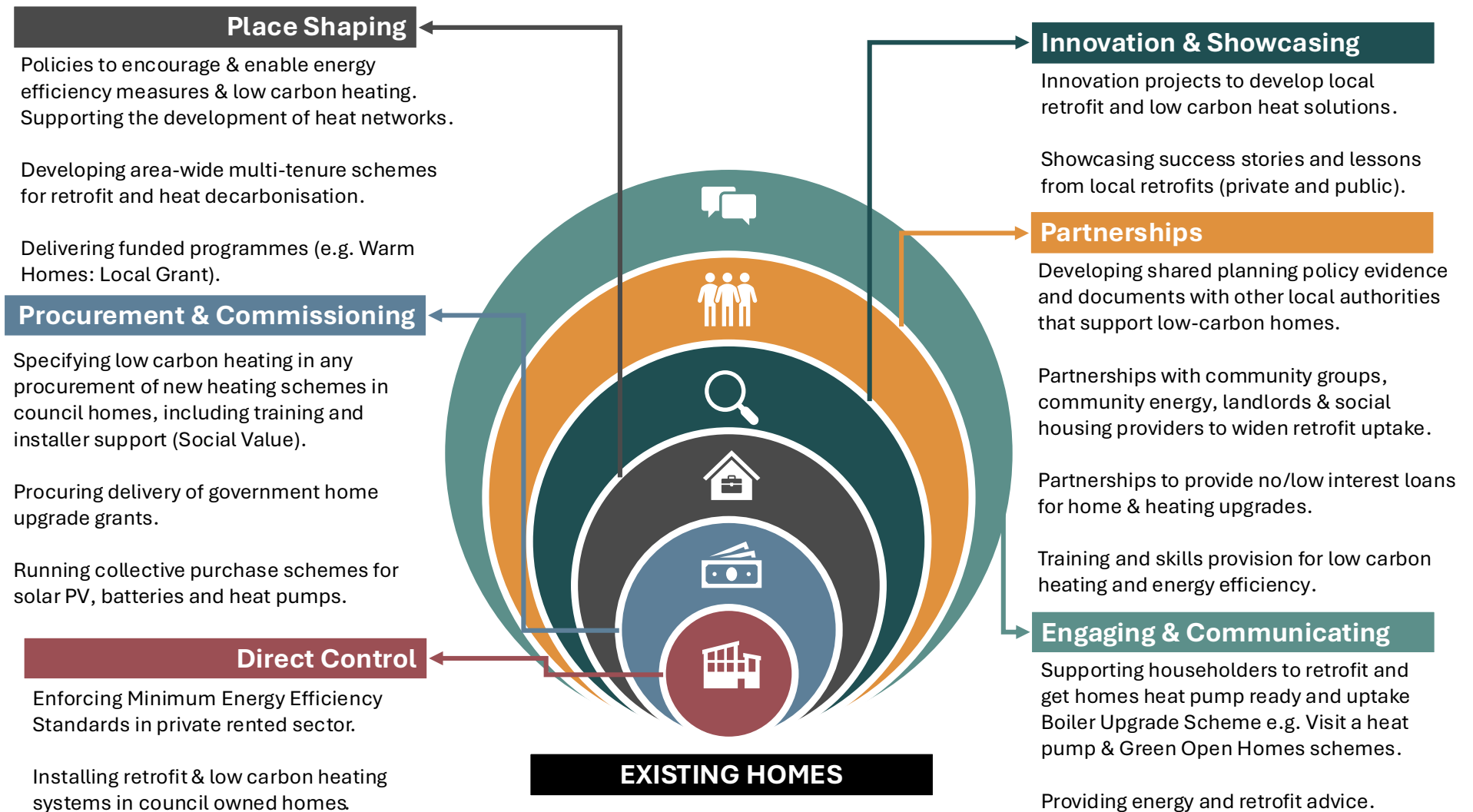


Figure 2: Onion diagram of local authority influence for existing homes

Priority actions for local authorities are:

- **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.⁸
- **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.⁹
- **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.

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. Social housing landlords need to achieve an EPC C on any one of these metrics by 2030 and a second by 2039.

⁹ 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 established⁹. 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 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 installers.¹⁰
- **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 2030¹¹, 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.

3.2 New homes

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,

¹⁰ 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.

¹¹ 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 2030¹¹.

which would add to emissions and increase overall costs by requiring retrofitting later.

3.2.2 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 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).

Figure 3 below shows the range of actions local authorities can take to support emissions reductions in new homes across different spheres of influence¹²:

¹² A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

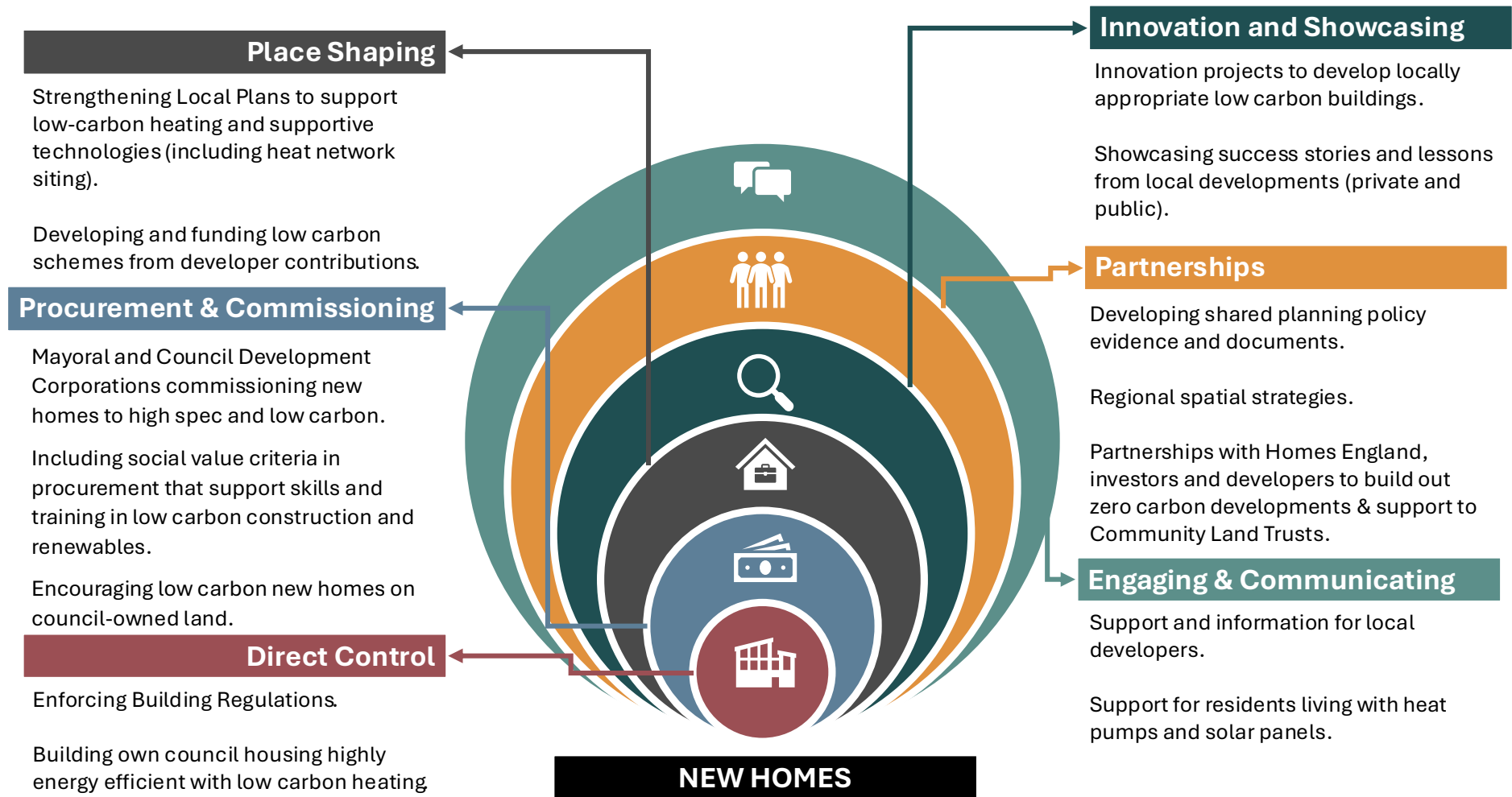


Figure 3: Onion diagram of local authority influence for new homes

Priority actions for local authorities are:

- **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.

4 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 consumption¹³. These include hospitals, schools, government and local government buildings.

4.1 What needs to happen for non-residential buildings?

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

¹³ [National Buildings Database: Understanding Great Britain's non-domestic buildings](#)

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, 88% of non-residential heating is delivered by low-carbon sources compared to 24% 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, for example in the Balanced Pathway.

- 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.

4.2 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.

Figure 4 below shows the range of actions local authorities can take to support emissions reductions in non-residential buildings across different spheres of influence¹⁴:

¹⁴ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

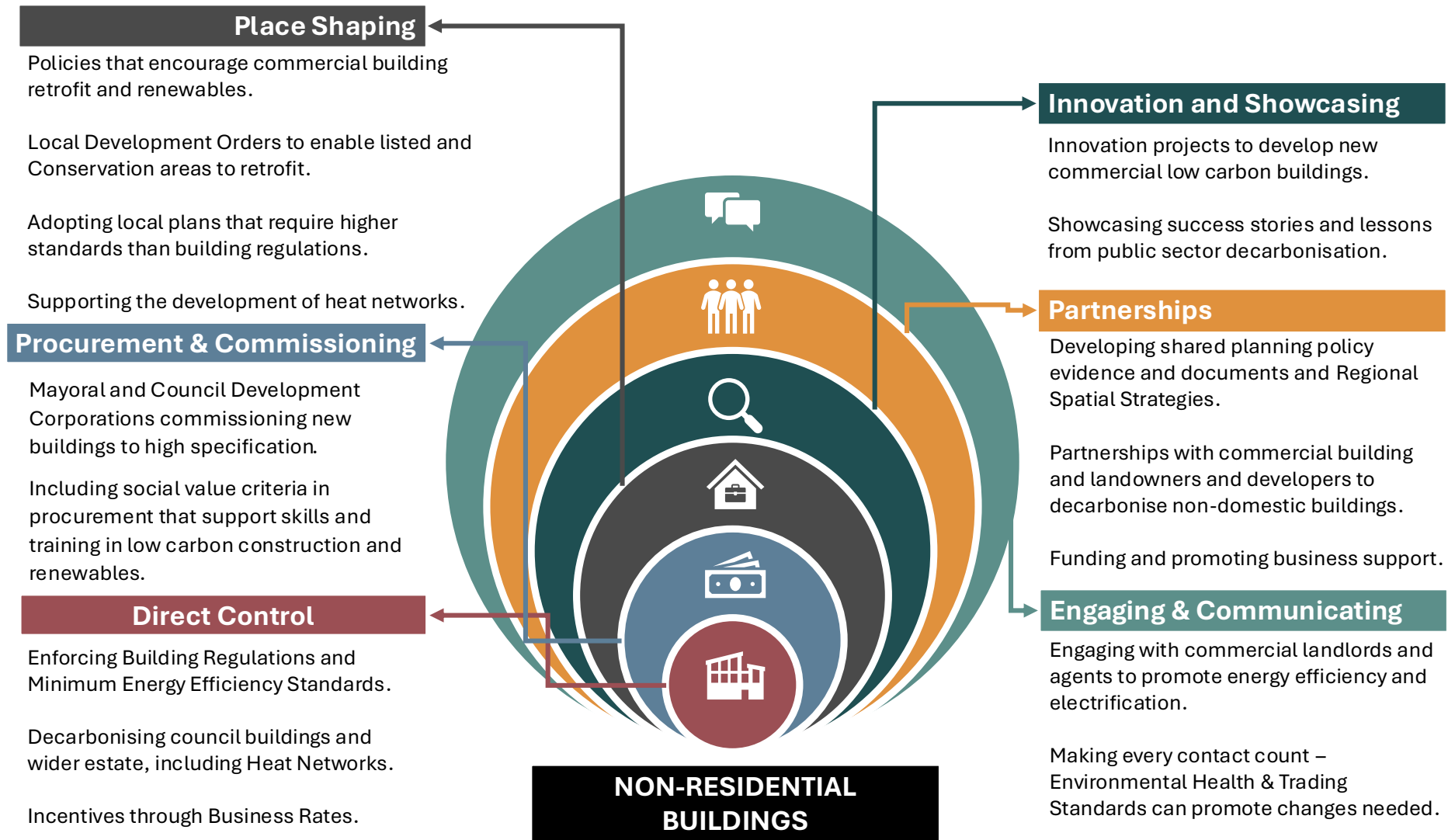


Figure 4: Onion diagram of local authority influence for non-residential buildings

Priority actions for local authorities are:

- **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.** Supportive information for building owners clarifying that most heat pump installations do not need planning permission, clear supplementary planning policies supporting energy efficiency measures, decarbonisation advice and straightforward planning processes for planning applications from building owners and developers that support decarbonisation can go a long way in encouraging these measures and removing barriers.
- **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).

5 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 MtCO_{2e}.

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.

5.1 Vehicles

5.1.1 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 76,500¹⁵. The reliability and accessibility of public charge points need to improve.
- There will be no hydrogen cars or vans.

¹⁵ [Markdown_map_LocalAuthority_publication_template.knit](#)

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.

5.1.2 Priority actions for local authorities on electric vehicles

Figure 5 below shows the range of actions local authorities can take to support emissions reductions in vehicles across different spheres of influence¹⁶:

¹⁶ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

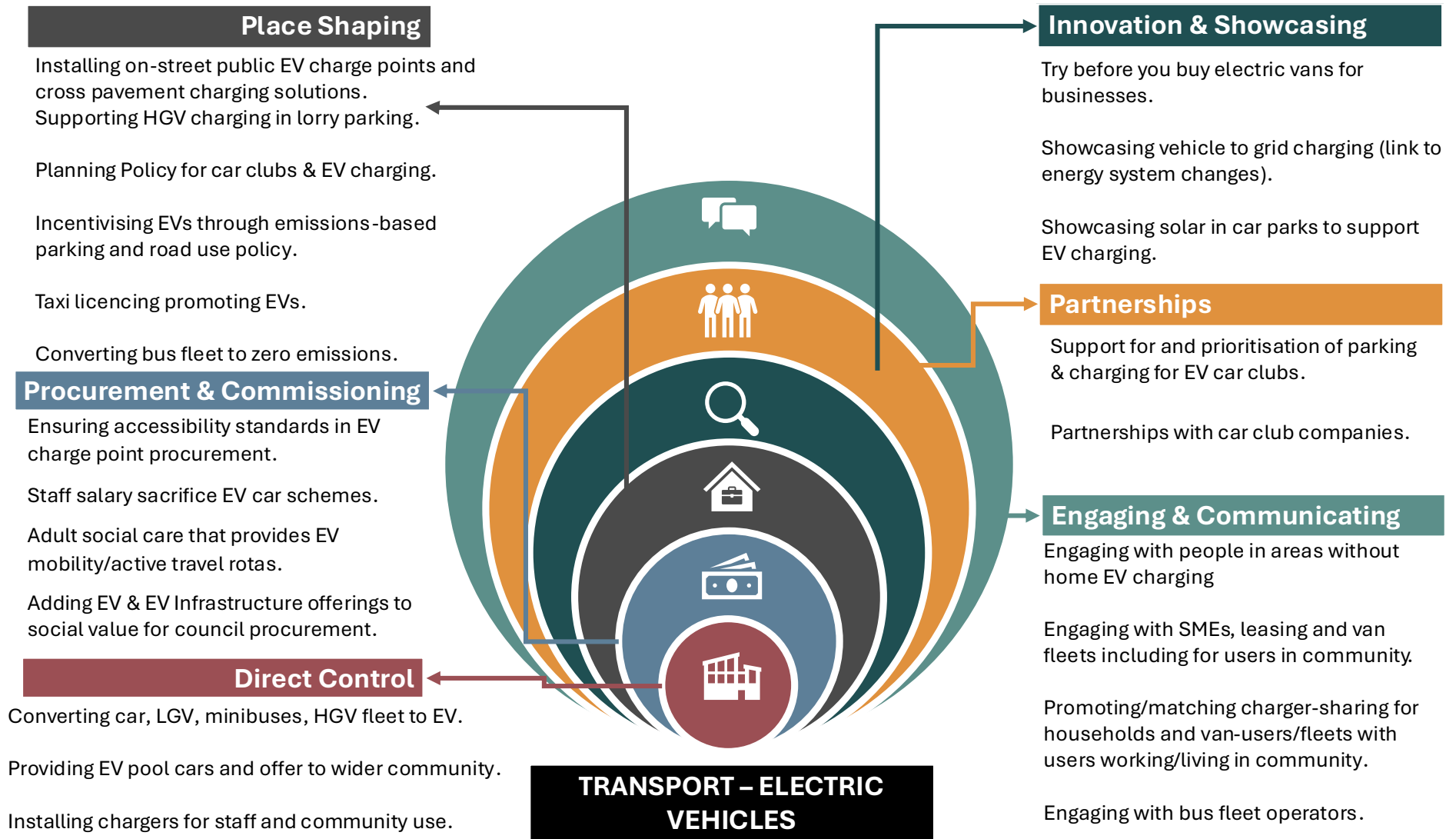


Figure 5: Onion diagram of local authority influence for transport - electric vehicles

Priority actions for local authorities are:

- **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 lower parking charges to incentivise EV car clubs and EVs, and smaller cars with lower fees.

5.2 Modal shift

5.2.1 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.

5.2.2 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.

Figure 6 below shows the range of actions local authorities can take to support emissions reductions via modal shift across different spheres of influence¹⁷:

¹⁷ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

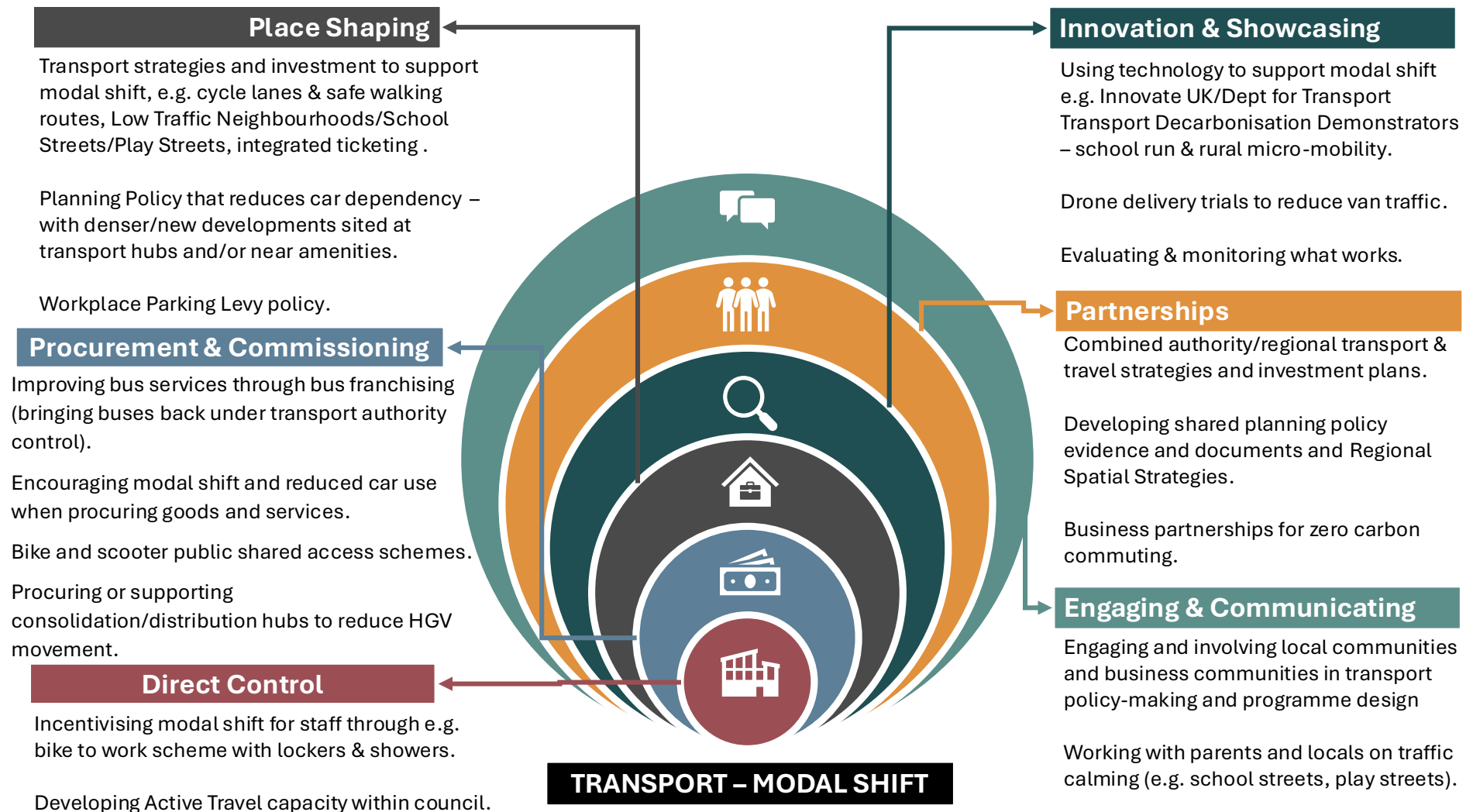


Figure 6: Onion diagram of local authority influence for transport - modal shift

Priority actions for local authorities are:

- **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.

6 Electricity supply

Electricity supply is the fifth highest-emitting sector in the UK in 2023, accounting for 9% of UK emissions, 37.8 MtCO_{2e}. 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.

6.1 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.
- Unabated¹⁸ 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.

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

¹⁸ Unabated means gas burnt without capturing emissions through Carbon Capture and Storage (CCS)

distribution infrastructure (e.g. new lines, cables and pylons and associated substations).

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 **Error! Reference source not found. Error! Reference source not found.** for Energy from Waste.

6.2 Priority actions for local authorities for electricity supply

Figure 7 below shows the range of actions local authorities can take to support emissions reductions in the electricity supply sector across different spheres of influence¹⁹:

¹⁹ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

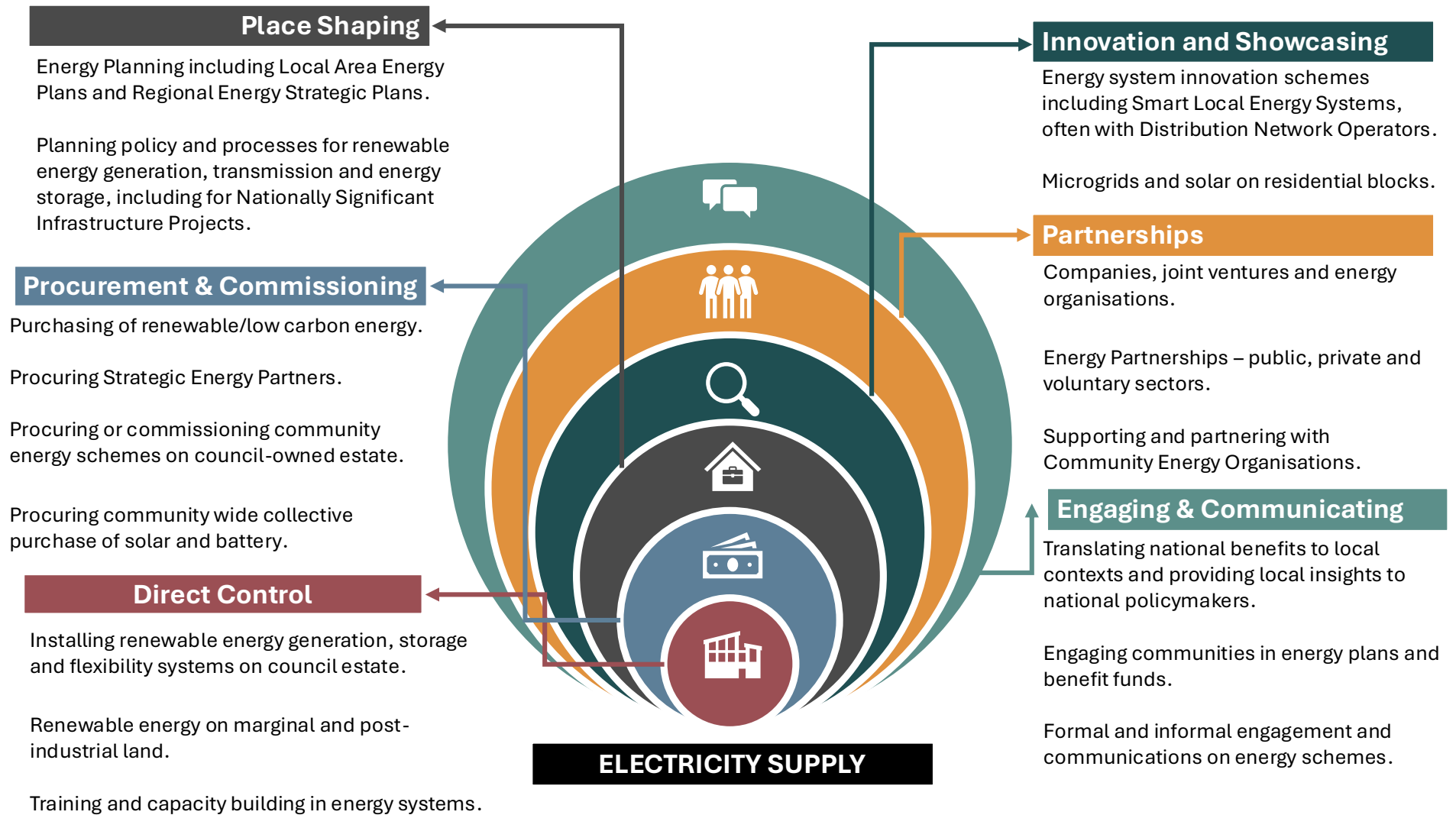


Figure 7: Onion diagram of local authority influence for electricity supply

Priority actions for local authorities are:

- **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.

7 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.

7.1 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 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.

7.2 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.

Figure 8 below shows the range of actions local authorities can take to support emissions reductions in the agriculture and land use sector across different spheres of influence²⁰:

²⁰ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

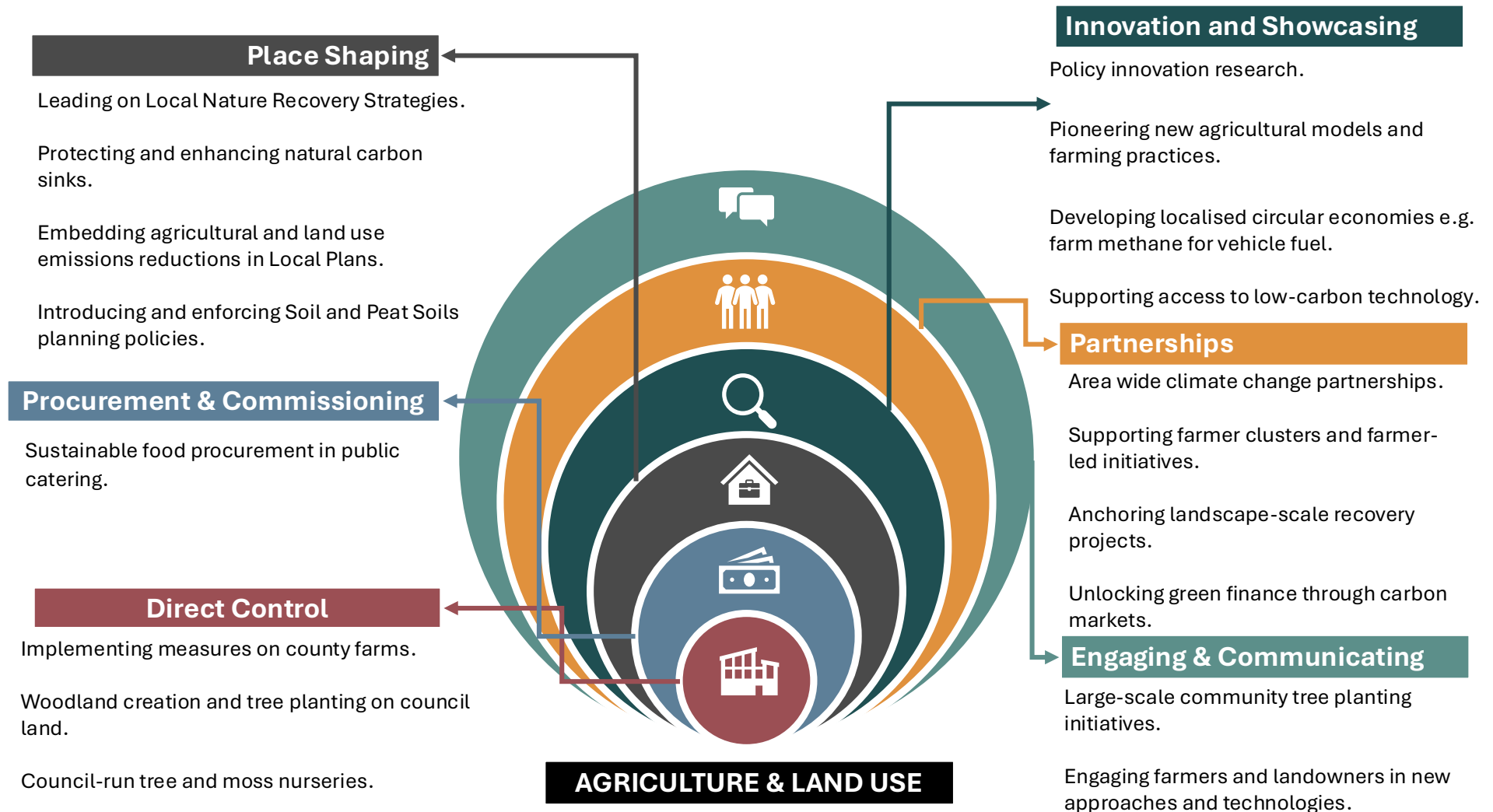


Figure 8: Onion diagram of local authority influence for agriculture and land use

Priority actions for local authorities are:

- **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.

8 Waste

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

8.1 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.

8.2 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.

Figure 9 below shows the range of actions local authorities can take to support emissions reductions in the waste sector across different spheres of influence²¹:

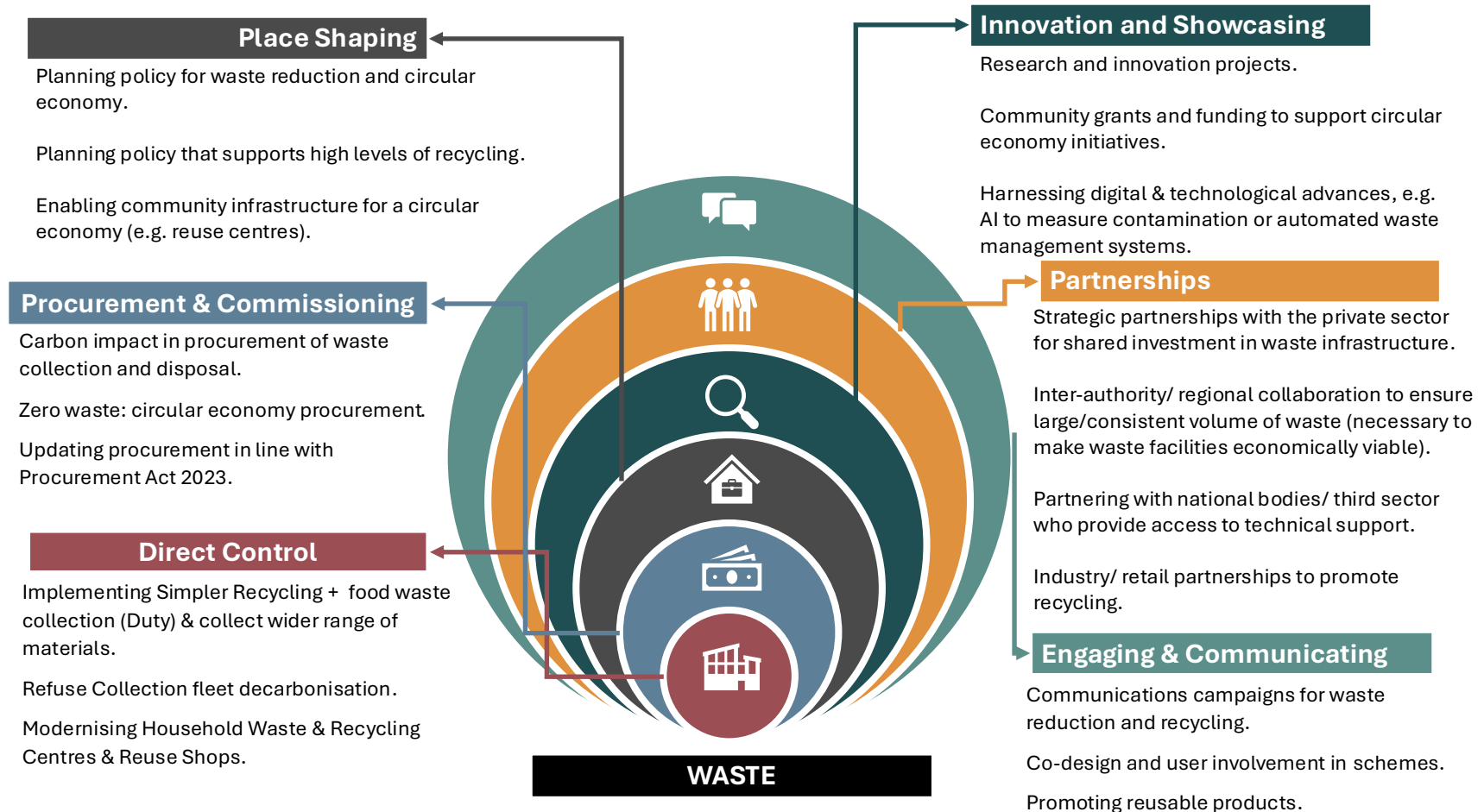


Figure 9: Onion diagram of local authority influence for waste

²¹ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

Priority actions for local authorities are:

- **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.

9 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 coal²².

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 country²³.

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

9.1 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.

- 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.

²² [Energy consumption in the UK 2023 - GOV.UK](#)

²³ [Decarbonisation of Dispersed Industrial Sites | UKERC | The UK Energy Research Centre](#)

- 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.

9.2 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 2023²⁴. 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.

Figure 10 below shows the range of actions local authorities can take to support emissions reductions in the industry sector across different spheres of influence²⁵:

²⁴ [UK local and regional greenhouse gas emissions statistics, 2005-2023](#)

²⁵ A detailed explanation of the different actions included in the diagram, alongside case studies, can be found in the full report.

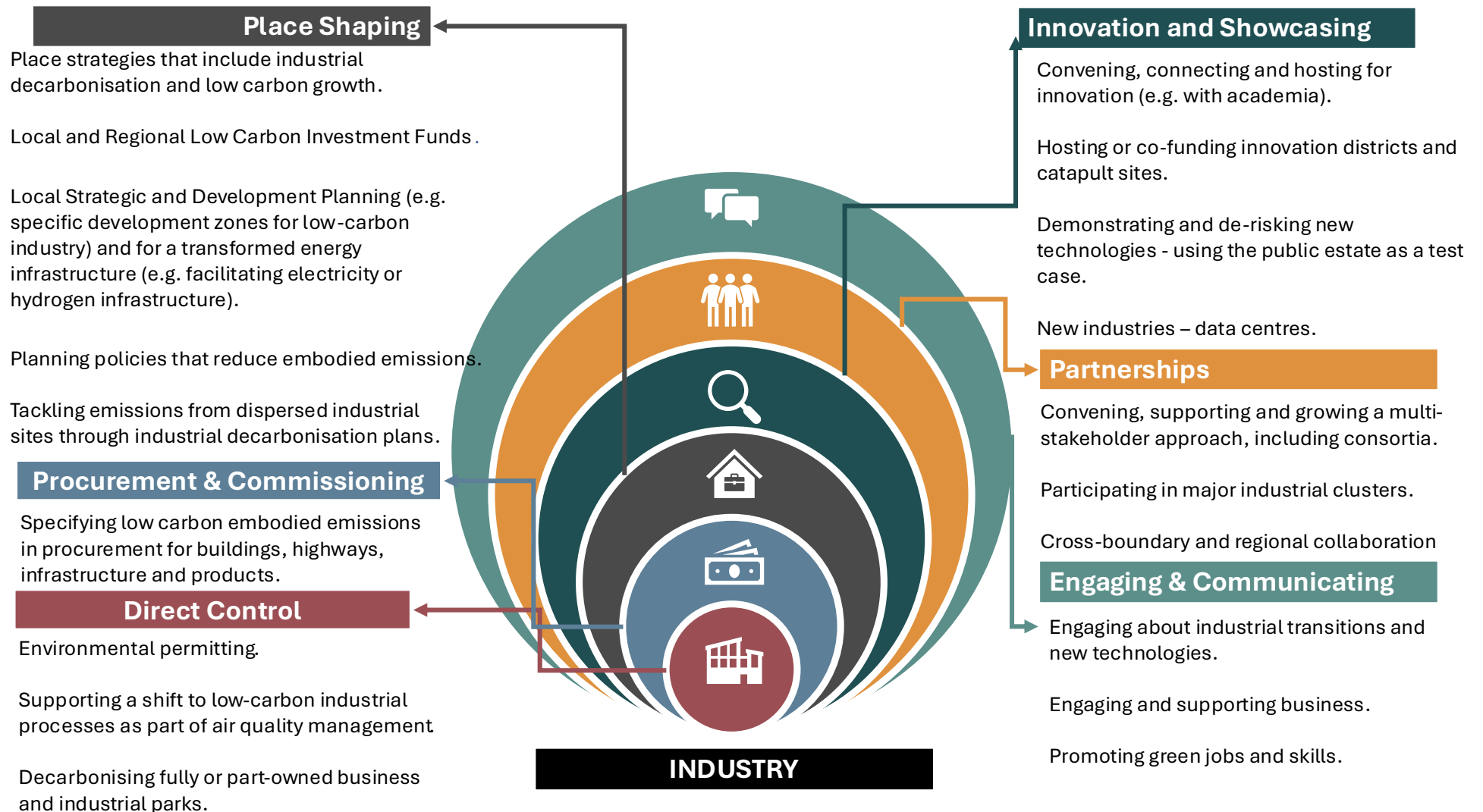


Figure 10: Onion diagram of local authority influence for industry

Priority actions for local authorities are:

- **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, 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.

10 Wider context

Delivering emissions reductions in line with the CCC's Balanced Pathway takes place within a wider context of structural challenges, many of which sit largely outside the direct control of local authorities. This section highlights key cross-cutting challenges (but is non exhaustive). Detailed challenges for each sector are discussed in the full report.

Across sectors like buildings, transport and industry, the transition relies heavily on rapid electrification. This in turn requires **significant upfront capital investment** in assets such as heat pumps, electric vehicles and associated depot upgrades (for example for waste collection vehicles), industrial equipment and supporting infrastructure. This creates affordability and financing barriers for households, businesses and the public sector, particularly given that costs are often incurred upfront while cost savings accrue over time.

Another barrier to rapid electrification is the **electricity to gas price ratio**, which reduces the incentive to switch from fossil fuel heating systems, vehicles and industrial processes to electric ones. Electricity prices in the UK remain significantly higher per unit of energy than gas, in part due to the way policy costs are distributed across energy bills. This weakens the economic case for switching away from gas, as the ongoing running cost savings from electrification are reduced or uncertain.

Supply chain capacity also constrains the pace of delivery. Across multiple sectors, the transition depends on a rapid expansion of skilled labour, manufacturing capacity and supporting infrastructure. For example, the large-scale deployment of heat pumps requires a substantial increase in trained installers. Current supply chains are often not yet operating at the scale needed, leading to bottlenecks, longer delivery times and higher costs.

Local authority resource and skills capacity present an additional constraint, limiting the ability to plan, coordinate and deliver decarbonisation at the required scale. Many of the actions identified across sectors depend on specialist expertise and sustained staffing capacity – for example, developing Local Area Energy Plans, engaging effectively in complex infrastructure processes such as Nationally Significant Infrastructure Projects, enforcing Minimum Energy Efficiency Standards, or designing

and delivering active travel schemes. Building planning, engineering and energy expertise within councils is often necessary but challenging, and this is taking place in a context where there are already well-documented shortages of staff in key functions such as planning and building control.



CAG CONSULTANTS

Founded in 1983, CAG Consultants is an independent, employee-owned co-operative. We provide support, research and analysis, policy advice and training in a wide range of fields relating to sustainable development and climate change. We have practitioners in stakeholder & community involvement, regeneration, evaluation, economics and regulatory affairs. We deliver high quality, innovative and thoughtful work for our clients, who include government departments, local authorities, public agencies, the NHS and regeneration and community planning partnerships across the UK. We pride ourselves on our strong ethical approach and our commitment to social justice and improving and protecting the environment.

CAG Consultants' Quality Management System is approved to the Quality Guild standard.

For more information, see www.cagconsultants.co.uk