LOCALIS

Mapping a route to clean local growth

CLEARING THE PATH TO NET ZERO

BY JOE FYANS, GRACE NEWCOMBE & ZAYN QURESHI

About Localis

Who we are

We are a leading, independent think tank that was established in 2001. Our work promotes neo-localist ideas through research, events and commentary, covering a range of local and national domestic policy issues.

Neo-localism

Our research and policy programme is guided by the concept of neo-localism. Neo-localism is about giving places and people more control over the effects of globalisation. It is positive about promoting economic prosperity, but also enhancing other aspects of people's lives such as family and culture. It is not anti-globalisation, but wants to bend the mainstream of social and economic policy so that place is put at the centre of political thinking.

In particular our work is focused on four areas:

- **Decentralising political economy.** Developing and differentiating regional economies and an accompanying devolution of democratic leadership.
- **Empowering local leadership.** Elevating the role and responsibilities of local leaders in shaping and directing their place.
- **Extending local civil capacity.** The mission of the strategic authority as a convener of civil society; from private to charity sector, household to community.
- **Reforming public services.** Ideas to help save the public services and institutions upon which many in society depend.

What we do

We publish research throughout the year, from extensive reports to shorter pamphlets, on a diverse range of policy areas. We run a broad events programme, including roundtable discussions, panel events and an extensive party conference programme. We also run a membership network of local authorities and corporate fellows.

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Acknowledgements

This report is the result of extensive engagement with local authorities and central government as well as expert stakeholders from across the various sectors examined. We are extremely grateful to all those who gave up their time to be interviewed, took part in the chapter workshops or sat on the advisory panel. We would also like to thank the councils who provided case studies for the report chapters.

A huge debt of gratitude is owed to our partners for supporting this project over more than half a year of research and writing: firstly to the District Councils' Network and its director, James Hood, its senior policy & partnerships officer, David Sharman and Ian Fytche, chief executive of North Kesteven DC and DCN lead on the new greener communities workstream. To Local Partnerships we owe our thanks to Caroline Hampden-White its communications director, and to the Unitary Councils' Network its chairman Cllr Paul Bettison. And as with our report from 2019, we are again grateful for the assistance of Connected Places Catapult and Sam Markey, Place Leadership Ecosystem Director.

Finally, we must thank our colleagues at Localis – Jonathan Werran for originating the project as well as Callin McLinden and Sandy Forsyth – for their support on all aspects of this work.

Any error or omissions remain our own.

Joe Fyans, Grace Newcombe and Zayn Qureshi

Advisory panel

This research project was supported by an advisory panel, whose members are listed below. Advisory panel members provided one-on-one advice and/or attended an editorial roundtable on the preliminary findings. They may not agree with every analysis and recommendation made in the report.

- Chris Murray, Adviser, Connected Places Catapult
- James Hood, Director, District Councils' Network
- David Sharman, Senior Policy & Partnerships Officer, District Councils' Network
- Roz Bulleid, Deputy Policy Director, Green Alliance
- Cllr Zoe Nicholson, Leader, Lewes District Council
- Caroline Hampden-White, Communications Director, Local Partnerships
- Rachel Toresen-Owuor, Programme Director, Local Partnerships
- Jo Wall, Strategic Director for Energy, Local Partnerships
- Harry Steele, Infrastructure and Climate Change Specialist, RTPI
- Cllr Pippa Heylings, Cabinet Member for Climate Policy, South Cambridgeshire District Council
- Matt Winfield, Executive Director, England &NI Sustrans
- Karen Barrass, Policy and research manager, UK100

Executive summary

A public mandate was delivered at the 2019 general election, for a country reoriented around a more regionally balanced economy - one which contributes to reducing global temperatures and protects the natural world. The UK is committed to reaching net zero by 2050, with numerous pieces of legislation enshrining the target and backing this politically. Understanding what needs to be done to drive decarbonisation, and what accompanying opportunities there are for increasing prosperity in the long-term, is crucial to realising this goal. Across the public sector landscape, this boils down in place to the position and active role of local government.

At the local level, there is potential to deliver consistently on this strategy in a way that has so far eluded central government in a volatile political environment. For this to be the case, an environment of certainty must be created through governance frameworks, long-term national strategies, and dedicated revenue streams so that councils can plan their route to net zero. From central government, this requires redefining the parameters for local authorities to drive decarbonisation: the floor on action must be raised and the ceiling removed.

Councils across the country are aware of the perilous situation caused by climate change, as demonstrated by the well-publicised declaration of climate emergencies in the vast majority of local authorities. Yet while some places are undoubtedly blazing a trail to decarbonisation, across many councils, there has been difficulty in translating this sense of urgency into policy. This report is designed to provide practical examples and policy pathways to action for all types of local authority across five key sectors:

1. Housing and the built environment
2. Energy
3. Manufacturing
4. Transport and infrastructure
5. Land management

The context

The impacts of the climate crisis are becoming apparent in the UK. In the past year alone, we have seen wildfires in London, overwhelmed drainage systems

causing flooding across the country and trains unable to function due to heat, with knock-on economic effects stacking up. The logistical implications of continued change in this direction are massive, particularly in the current economic context. Over a decade of moribund growth rates and widening gapes in incomes and productivity across the country have left the UK particularly exposed to the harsh economic headwinds of 2022, with a cost-of-living crisis mounting off the back of soaring inflation and extreme volatility in the global energy market.

The task for the country now, against the backdrop of a clear need for economic transformation, is to both prepare for the changes which are to be wrought under the current heating scenario and work committedly across society to mitigate future global temperature increases, in line with our international commitments – specifically the Paris Agreement of keeping temperatures below 2 degrees celsius compared to pre-industrial levels.

The risk of not doing this are enormous. The Renewable Energy Institute[1] have outlined how failure to meet this target by 2030 could result in 2.7 degrees celsius in global warming. This will mean increased erratic weather conditions including severe floods and droughts across the UK, which could destroy animal habitats. The Met Office has projected that, if the target is not reached, by 2070 winters could be 30 percent wetter and add to increased flooding and destruction to local communities and homes across the country.

Yet this task must not be forced into a false dichotomy of 'economy versus environment', of growth or decarbonisation, but understood as the impetus for a sorely needed gear shift in the British economy. Our current model of growth has failed to pay dividends for some time – with worsening inequality, stagnating development and an overall lack of inclusivity being recognised across the political spectrum, most recently in the push to redress the country's major regional economic imbalance under the banner of levelling up. The need for transformative change in the face of a major existential threat must therefore be combined with the need to create an economy that better serves its society. For the term to be of any utility, this must be how 'clean growth' is understood in the context of 2022. A more circular economic model would increase the productivity of people and resources, improve quality of life and environment and lead to the creation of jobs across major industries. Furthermore, it would help address many of the underlying causes of the cost-of-living crisis – not least the multiple inefficiencies in the way our we generate energy and use it to heat our homes.

1 The Renewable Energy Institute – What happens if we don't meet renewable energy targets?

The role of local and national government

Using both their cross-sectoral convening powers and status as the most trusted form of government, councils have a role of great importance to play in driving the behavioural and structural changes needed to transition to net zero, deliver sustainable growth, and avert climate catastrophe. Local authorities across the country are acting to push their local economies in the direction of decarbonisation and better, higher growth. This report is filled with examples of councils acting within current systemic constraints to deliver net zero – using their local plans to push better practice in the built environment, investing locally in the generation and supply of renewable energy, working with local business to increase sustainable practice, leading a transformation in land management, and driving behavioural and infrastructural changes needed to transition justly to a net zero country.

The atmosphere in which councils are acting, however, is one of great uncertainty. In the past year the UK government has gone from a commitment to net zero which was found lacking in policy terms by the Supreme Court, to abandoning even this rhetorical level of dedication and deeming the whole idea of decarbonisation to slow global heating as something in need of review. This is not in the national interest and is against both global commitments and public opinion. YouGov data shows that around 70 percent of the public are aware that human activity is heating up the planet, with around 50 percent tending to believe that the government are not doing enough to reduce emissions.

Yet measures designed at bringing down the global temperature increase have suffered from a lack of coordination across geography and sectors, a lack of clarity over specific targets and how they will be met and, perhaps most importantly of all, a lack of consistency as the country has cycled through three different governments in half a decade. The role of national government must be to chart the contours of our national route to net zero and put in place measures to ensure the course is followed by all parts of the public and private sector. Central government must recommit to net zero and define in policy terms what the parameters will need to be for our international commitments to be met. A holistic review must be launched into the fiscal mechanisms available to local government to fund decarbonisation and clean growth projects. Central government must raise the baseline for local action, and remove the ceiling currently placed upon it.

Key themes

Across the five sectors surveyed for this research, certain overarching themes have emerged beyond the clear need for central government to raise the bar for action at the local level. The three key challenges for local government in driving decarbonisation and delivering clean local growth are:

- **Strategic planning across boundaries**. The challenges of clean growth are felt acutely at the local level, but action must be coordinated at a variety of different spatial scales if they are to be effectively addressed, from the regional to the hyper-local.
- **Addressing the skills deficit.** From home insulation to modern sustainable land management, upskilling is needed both within local authorities and across local economies if we are to achieve sustainable growth.
- **Stimulating local markets and driving inward investment.** Whilst the public sector must be at the forefront of mapping the route to clean local growth, this must be in the context of providing opportunities for the private sector to innovate and drive up productivity, in the stable economic context that long-term vision can provide.

In addressing these challenges, across all sectors examined in this report, local government must lean on its **soft power as place leader** as the driving force of action, taking a **holistic approach to economic strategy** throughout – where decarbonisation is understood as a cross-sectoral, cross-departmental mission.

Recommendations summary

General

- The government must fully recommit to net zero and, responding to the Supreme Court decision of July 2022, produce a detailed and costed strategy for achieving decarbonisation of the economy.
- Given the fraught economic situation and lack of available extra funding from the exchequer, central government must launch a comprehensive review of the fiscal mechanisms available to local government to fund decarbonisation and clean growth projects.

Housing and the built environment

- Raise the standards for net zero local plans in the revised National Planning Policy Framework:
  - Make specific reference to the targets agreed to in the Paris Agreement and the role of local planning in achieving the goal.
  - Include a requirement for emission reduction targets at the local level.
  - Set targets for green and blue infrastructure provision.

  - Set requirement for inclusion of low-carbon heat technologies in new developments.
  - Set stringent mitigation obligations for new developments.
- Produce a long-term plan for building stock decarbonisation with regional breakdowns of supply and demand for retrofit.
- As part of the overall measures to bring down energy costs and support people through the cost-of-living crisis, government must find and set aside money for a long-term retrofit programme, to give industry the confidence needed to ramp up investment in the necessary skills and materials.

Energy

- Commit to renewable energy and abandon plans to further extract fossil fuels from the North Sea.
- Produce legislation to bring forward the Local Skills Improvement Plans as laid out in the Levelling Up White Paper, with an emphasis on the delivery of new green skills for retrofit.
- Produce a comprehensive legal framework for Local Area Action Plans, as was scoped by Ofgem and BEIS in late 2021.

Manufacturing

- Launch a new wave of enterprise zones to help support the transition to net zero in the manufacturing sector whilst also growing regional productivity.
- Attach skills provision to enterprise zones through Local Skills Improvement Plans, ensuring that approval for zones is granted only on demonstration of a viable local skills supply chain for businesses in the target sector.

Transport and infrastructure

- Bring forward a new Transport Act:
  - Create a legal framework for integrated transport strategies across the country with carbon reduction targets and responsibilities.
  - Give councils powers to incentivise bus operators to decarbonise through local regulation.
- Create a mechanism to increase transport revenue funding to local authorities, proportionate to the percentage of local public transport which is net zero.

Land management

- Reaffirm support for nature recovery and the protection of the environment in planning regulations.
- Give councils power to act on privately-held flood defences
- Create a comprehensive, cross-departmental national land management framework – so that councils and landowners are aware of the different options for decarbonisation and how these aggregate up to a national reduction in emissions.

Sector summaries

Housing and the built environment

Opportunities	Barriers
• **Local Plans** can be used to make commitments to reducing carbon emissions in building a matter of law – this is most effective when quantified in terms of carbon budgeting. • **Retrofit** can be achieved through collaboration between councils on developing pipelines for supply at an aggregated scale, as well as pooling funds – this can be coordinated through county councils or LEPs.	• **Building standards** are a powerful tool for local authorities, particularly once the Future Homes Standard comes into effect, however the lack of capacity within local authorities to absorb and enforce the new standards must be addressed. • While local plans can help local authorities drive decarbonisation, the **National Planning Policy Framework** must be updated to raise the baseline and ensure action across the country.

Decarbonising housing and the built environment across the UK will require a mix of retrofitting in old buildings and stringent standards for carbon emissions on new buildings. The need to look holistically at the nation's supply and demand dynamics around retrofit, in a way which takes stock of the level of investment needed and expected return, is well established and supported across the political spectrum. Furthermore, developing supply chains and industry bases for retrofit is already a clear opportunity for levelling up and driving economic growth. It must also be seen as a crucial measure to combat both the cost-of-living crisis and the need to shore up energy security.

Local government has a range of hard and soft powers to help drive decarbonisation in new buildings, chiefly through the local plan but also through the enforcement of building standards. Local plans can be used to drive innovation through encouraging the use of modern methods of construction and help to build a supply chain for new green skills in housebuilding.

However, central government must raise the baseline for local plans through the National Planning Policy Framework (NPPF) and provide capacity funding for the enforcement of updated building regulations. Currently, the NPPF does not provide a high enough baseline for carbon reductions and actually limits the scope of councils to drive decarbonisation. The local plan – rather than a bureaucratic obstruction to be avoided where possible – should therefore be seen as a document in which the nexus of growth and decarbonisation is situated. Places should be using their local plan to chart the course to net zero in a way which maximises innovation and investment in human capital.

For decarbonising old buildings, local authorities can collaborate with each other at different tiers and spatial scales to aggregate demand and work together on solutions. Aggregating retrofit demand and creating a project pipeline has major labour market implications, with the potential to provide training for a new generation of skilled manual workers. However, policy context is required in the form of a long-term strategy which outlines the scale of retrofit demand at the regional level and begins the process of matching to supply, so that local actors can be empowered to come together in functional geographies and take this crucial step along the path to net zero.

Recommendations to central government

- Raise the standards for net zero local plans in the revised National Planning Policy Framework:
  - Make specific reference to the targets agreed to in the Paris Agreement and the role of local planning in achieving the goal.
  - Include a requirement for emission reduction targets at the local level.
  - Set targets for green and blue infrastructure provision.
  - Set requirement for inclusion of low-carbon heat technologies in new developments.
  - Set stringent mitigation obligations for new developments.
- Produce a long-term plan for building stock decarbonisation with regional breakdowns of supply and demand for retrofit.

- As part of the overall measures to bring down energy costs and support people through the cost-of-living crisis, government must find and set aside money for a long-term retrofit programme, to give industry the confidence needed to ramp up investment in the necessary skills and materials.

Energy

Opportunities	Barriers
• Through investment in their own **renewable energy generation capacity**, councils can directly contribute to the decarbonisation of the national grid. • Local authorities can work with **community energy projects** to help local groups deliver energy on a smaller scale. • **District heat networks** can reduce carbon emissions and, in the longer term, the energy bills of residents. • **Green skills** can be built up locally in a strategic way through the convening of skills providers and businesses around a long-term project pipeline.	• The **long-term nature of investments** in heat networks can present a barrier to council involvement, particularly in smaller authorities where capacity is lower. • The **architecture of the Further Education college system**, incentivised largely around competition, creates a barrier to holistic local collaboration on skills.

A transformative shift in the generation, storage and transmission of energy is required to prevent catastrophic global heating, a goal which has over the course of 2022 come entirely into line with the national security interests of western states who can no longer afford to be dependent on Russian energy. Decarbonising the energy sector, particularly in the current economic context, depends on expanding investment in renewable energy and an associated major national push to create the necessary skills provision.

Local authorities can use their own financial and landowning capacity alongside their abilities as conveners of stakeholders to drive investment in renewable

generation, whilst also working with training providers and employers to create skills pathways to meet this demand. Investing in renewable energy and its associated technologies has major growth implications – particularly around the proliferation of highly-skilled jobs and their associated training pathways. There are multiple different areas relating to clean energy where a skills uplift and raising supply-side demand could lead to an increase in high-quality, high-skilled employment. However, policy alignment over incentives is needed between further education and local government, the Local Skills Improvement Plans announced in the Levelling Up White Paper are a positive step in this direction, but the policy must be specifically targeted to accommodate the need for green skills.

Local government has an important role to play across energy decarbonisation – in providing land and channelling investment to renewable energy; in convening the local public and private sector around green skill provision and in the operation of more efficient and greener district heat networks. District heat networks, as part of broader regional energy strategies, can help meet energy demands whilst reducing emissions at a local level by consolidating generation for an area in a single powerplant. In the long term, district heat networks can reduce energy bills for both commercial and residential properties. It is important that all areas are aware of what is the most sensible and practical contribution they can make to energy decarbonisation, through the production of Local Area Energy Plans, which are currently optional but could be greatly boosted through the production of a legal framework for their adoption.

Recommendations to central government

- Commit to renewable energy and abandon plans to further extract fossil fuels from the North Sea.
- Produce legislation to bring forward the Local Skills Improvement Plans as laid out in the Levelling Up White Paper, with an emphasis on the delivery of new green skills for retrofit.
- Produce a comprehensive legal framework for Local Area Action Plans, as was scoped by Ofgem and BEIS in late 2021.

Manufacturing

Opportunities	Barriers
• Local authorities of all kinds can collaborate with each other and local businesses to **incentivise Foreign Direct Investment (FDI)** through local skills initiatives, favourable planning policy and strategic coordination. • Local authorities of all kinds can use **council-owned assets and funds** as well as strategies to help enact a just transition to decarbonised manufacturing.	• Many powers that can aid councils in driving FDI in green manufacturing methods and technologies are part of the **now-abandoned Industrial Strategy's enterprise zones**, leaving questions as to the further roll-out of such policy and how the framework may differ under the new 'investment zones'. • Increasingly reducing council budgets can restrict ability to promote a just transition to decarbonised manufacturing.

While significant progress has been made in decarbonising the UK's manufacturing industry, much of the 'low-hanging fruit' of emission-reduction has now been achieved, the situation now requires greater innovation and associated investment to push further along the road to net zero. Investment in innovation will be key to both achieving productivity growth and decarbonisation in UK's manufacturing sector – with long-term funding and vision required to develop individual businesses, wider infrastructure, and human capital.

The route to clean growth involves continuing to reduce emissions through greater efficiency, new technologies and clustered industries. Achieving these innovations also requires a focus on labour market forces – both to provide new pathways to high-skilled employment and a transition away from lower-skilled, less efficient manufacturing. While lacking obvious powers to directly influence the sector, local authorities can use indirect routes, such as their convening power and the provisions of local planning, to drive change in the sector. The challenge for governance is to offer a mix of incentives for private investment whilst also providing the physical and human capital needed to make such investment viable – local authorities will have an important role to play as the locus of governance.

In the current policy context, the most effective form of local intervention in the manufacturing sector is through Enterprise Zones, a vestige of the abandoned national Industrial Strategy. This policy is to be revisited in a sense, through the

new Investment Zones announced in September 2022, but there are important lessons to be learned from the existing framework. Enterprise Zones work well when legislation works with local democracy rather than seeking to work around it. Coordinated and strategic local skills policy is also crucial to maximising the growth potential of investment zones.

Decarbonisation of manufacturing must be considered in the context of a just transition – particularly in the context of the cost-of-living and energy security crises brought to the fore in 2022. Councils have a role to play – financial, advisory, and strategic – in ensuring a just transition at the local level. High-tech, transferable skills can be amassed at the local level through coordination between manufactures, educational institutions, and local authorities. Councils must be empowered and funded to continue laying the groundwork for a just transition to net zero manufacturing through skills policy, their convening role for businesses and wider planning policy – which can be used to incentivise manufacturing, which is efficient, productive and contributes to net zero goals.

Recommendations to central government

- Launch a new wave of enterprise zones to help support the transition to net zero in the manufacturing sector whilst also growing regional productivity.
- Attach skills provision to enterprise zones through Local Skills Improvement Plans, ensuring that approval for zones is granted only on demonstration of a viable local skills supply chain for businesses in the target sector.

Transport and infrastructure

Opportunities	Barriers
• Local authorities can achieve **meaningful community engagement** on transport and decarbonisation, two issues which impact everyone, through things like Citizen's Assemblies. • Strategic use of a range of powers alongside public information campaigns can help **incentivise active travel** to the benefit of local health and wellbeing as well as decarbonisation. • **Joined-up procurement, planning, energy and highway strategies** can be used to greatly simplify the roll-out of electric vehicles, easing the transition for the public.	• Whilst capital funding can be obtained for many decarbonisation solutions, **the revenue funding gap** of local authorities remains a significant barrier to running services once the initial capital injection has been obtained. • The piecemeal devolution landscape across England makes **comprehensive integrated transport strategy** difficult in many parts of the country.

Transport is the UK's highest-emitting sector, and decarbonisation will need to be driven both by technological and behavioural change. Reaching net zero across transport and infrastructure requires continuation and intensification of the current reorientation of physical infrastructure towards cleaner forms of transport, alongside an increased effort to change behaviours and attitudes.

As with much of the clean growth policy platform, these goals are mutualistic with other national efforts. Achieving clean growth in transport will also help improve health outcomes and social mobility, both issues with clear implications for levelling up. Improving transport infrastructure has been identified repeatedly as crucial to alleviating regional inequality and delivering local growth. Increasing active travel has been shown to have benefits for local businesses as well as for health and wellbeing.

Local authorities have a role to play in transport decarbonisation – across types of local authorities and geographies, multiple powers and resources exist to help aid a smooth transition. However, the disjointed and piecemeal nature of these powers mean authorities must make the best use of their ability to convene and

collaborate across different geographies and at different scales in developing an integrated and holistic vision. Councils are using their powers to drive behavioural change and install cleaner transport infrastructure, but a framework for integrated solutions that runs across all types of authority is required to ensure that local efforts aggregate up to a national modal shift of sufficient scale.

Recommendations to central government

- Bring forward a new Transport Act:
  - Create a legal framework for integrated transport strategies across the country with carbon reduction targets and responsibilities.
  - Give councils powers to incentivise bus operators to decarbonise through local regulation.
- Create a mechanism to increase transport revenue funding to local authorities proportionate to the percentage of local public transport which is net zero.

Land management

Opportunities	Barriers
• Councils can improve resilience and community engagement through empowering communities at-risk of flooding by working with flood action groups. • Long-term planning can **create a pipeline of projects to boost resilience**, bringing in multiple parts of the local and regional economy and public sector. • The Local Nature Recovery Strategies pilot programme demonstrated the potential for **bringing together stakeholders from across society to work together on biodiversity** at the local level.	• The issue of **piecemeal and overlapping policy directives** from central government can lead to inefficient carbon offsetting and conflicts between goals of sustainable food production, nature recovery and biodiversity. • Sustained flood-resilience is difficult due to the lack of a dedicated revenue stream for resilience and adaptation. • Considering the severity of the issue, councils are under-powered to act on privately-held flood defences in poor condition.

Due to the historic undervaluing of the ecosystem services provided by natural land, the UK is the most nature-depleted nation in the G7 and faces multiple climate change related crises around resilience if land use is not reformed.

The socio-economic case is undeniable. Biodiversity net gain can improve the quality of life and environment in areas, as well as helping to reach net zero, and increase the attractiveness of a place's 'offer'. Greater flood resilience is crucial to avoiding major economic damage in many parts of the country. Yet the task is not simple – multiple competing interest must be navigated to drive decarbonisation at both the national and local level, with issues such as biodiversity, food security and flood risk management all being areas of concern for national resilience.

Local authorities must take a holistic view of the issue and work with landowners, local agricultural sector, communities, and businesses to alter land use in a way which is sustainable and efficient. Piecemeal and overlapping government policy initiatives, alongside a lack of hard powers and dedicated revenue funding streams, stand as the key barriers to a holistic local approach to decarbonisation across land management.

Recommendations to central government

- Reaffirm support for nature recovery and reinstate full environmental protections to the planning system.
- Give councils power to act on privately-held flood defences.
- Create a comprehensive, cross-departmental national land management framework.

Introduction

In July 2022, the UK high court ruled that the government's net zero strategy was in violation of the Climate Change Act 2008, due to insufficient information on how its policies would contribute to reducing emissions, and ordered the department of Business, Energy, and Industrial Strategy (BEIS) to prepare a report providing this information[2]. The ruling was a landmark, marking the first time that the Climate Change Act had been used to legally scrutinise climate commitments, and raising the bar for future policy. This context provides an opportunity to review the path to net zero across society, at a time where the urgency of doing so is rising every day.

The ecological imperative

The impacts of the climate crisis are becoming apparent in the UK. For decades, climatologists have predicted 'hotter summers and wetter winters' across the country as manifestation of rising global temperatures due to man-made climate change. The reality of these changes are starting to unfold. In July 2022, the most severe heat wave on record brought fires across the country and led to the busiest day for London's fire response services since World War II. Instances of flooding due to heavy rain are increasing as sea levels rise and coastal erosion accelerates. The logistical implications of continued change in this direction are massive, particularly in the current economic context. The UK's infrastructure is not prepared for these weather extremes – in the past year alone we have seen drainage systems overwhelmed by rain and trains unable to function due to heat, with knock-on economic effects stacking up. Our housing stock, as is well documented, is not built for the climate of extremes in which it now stands.

The time for half-measures or easy solutions has long since passed, and the nature of climate change means that even in achieving net zero emissions, we will still face the consequences of carbon in the Earth's atmosphere for years to come. If net zero emissions are not achieved, and the global heating targets outlined by the International Panel for Climate Change are not met, the results will be catastrophic to the UK and its way of life. Public recognition of this fact is clear. YouGov data shows that around 70 percent of the public are aware that human activity is heating up the planet, with around 50 percent tending to believe that the government are not doing enough to reduce emissions. Yet measures designed at bringing down the global temperature increase have suffered from a lack

2 The Guardian (2022) – Court orders UK government to explain how net zero policies will reach targets

of coordination across geography and sectors, a lack of clarity over specific targets and how they will be met and, perhaps most importantly of all, a lack of consistency as the country has cycled through three different governments in half a decade.

The economic prize

This is not to say that the issue is being ignored. Government, local and national, recognise the danger posed to the systems which support our society. What is lacking, however, as was upheld in the court decision on the net zero strategy, is a clear and quantified plan to reduce emissions in line with global heating targets. All elements of society must come together and make the changes needed to stave off the worst of climate change and reorient our economy to a more sustainable direction. After all, the UK economy under the current model of growth has failed to pay dividends for some time – with worsening inequality, stagnating development and an overall lack of inclusivity being recognised across the political spectrum, most recently in the push to redress the country's major regional economic imbalance under the banner of levelling up.

The need for transformative change in the face of a major existential threat must be combined with the need to create an economy that better serves society. For the term to be of any utility, this must be how 'clean growth' is understood in the context of 2022. Decarbonising the economy will entail a move to a more circular model – one where waste and pollution are eliminated, products and materials are circulated, and nature is regenerated[3]. A more circular economic model would increase the productivity of people and resources, improve the quality of life and environment[4] and lead to the creation of jobs across major industries[5]. The prize of comprehensive decarbonisation is therefore huge, yet the challenges of transition cannot be understated: major behavioural change will be required at every level from the global to the individual, with politics having to respond to difficult trade-offs in an increasingly challenging environment.

Report aims and objectives

Understanding what needs to be done to drive decarbonisation, and what accompanying opportunities there are for increasing prosperity in the long-term, is crucial to this. On the public sector side of the economy, this boils down in

3 Ellen Macarthur Foundation – What is a circular economy?

4 Institute of Development Study (2017) – What is the link between productivity, circular economy and the SDGs?

5 McKinsey (2017) – Mapping the benefits of a circular economy

place to the position of local government. Councils across the country are aware of the perilous situation caused by climate change, as demonstrated by the well-publicised declaration of climate emergencies in 308 local authorities[6]. Yet while some places are undoubtedly blazing a trail to decarbonisation, in many councils there has been difficulty in translating this sense of urgency into policy. Sharing best practice and accumulated institutional knowledge across local government is therefore vital. This report is designed to provide practical examples and policy pathways to action for all types of local authority across five key sectors:

1. Housing and the built environment
2. Energy
3. Manufacturing
4. Transport and infrastructure
5. Land management

Comprehensive planning and long-term vision are required to achieve decarbonisation whilst also unlocking the benefits of clean growth across these pillars of the economy. At the local level, there is potential to deliver consistently on strategy in a way that has so far eluded central government in a volatile political environment. For this to be the case, an environment of certainty must be created through dedicated revenue streams, so that councils can plan their route to net zero. Such policies will require creativity and locally focused thinking, but the urgency of the situation means minimal action must be taken off the table. From central government, this requires redefining the parameters for local authorities to drive decarbonisation: the floor on action must be raised and the ceiling removed.

Structure and terminology

Each chapter of the report deals with one of the five key sectors, outlining the current context and central government position, the local government powers to act and providing examples of opportunities and barriers which have arisen from councils' attempts to drive decarbonisation in the sector. In differentiating between types of authorities and their powers, the terms "district/unitary" and "county/unitary" are used throughout the report. Unitary, in this context, can be taken to include metropolitan and London boroughs, as well as unitary authorities.

6 Climate Emergency UK (2021) – List of councils who have declared a climate emergency

Green Public Procurement

Roughly 15 percent of global greenhouse gas emissions can be attributed to public procurement related supply chains[7]. Because of this, and the necessity for governments to make progress on achieving net-zero, green public procurement (GPP) is becoming more widely advocated, developed and practiced by contracting authorities. GPP has three mutually supportive goals:

- Combatting supply chain ignorance,
- Improving environmental performance of products and production, and
- Stimulating market demand more environmentally friendly products and production.

GPP requires collaboration and a fundamental shift in mindset from companies and governments away from procurement as a back-office function and towards a more strategic understanding. At the local level, this need not be as daunting as it may sound at first – and should not be perceived as a cost burden, but rather as a practice that creates long-term sustainable growth.

The transition to greener public procurement is a change that has been demonstrated to be a relatively simple process that can benefit all key stakeholders beyond net-zero achievements. Understanding how to commission for low-carbon outcomes will be key to local authorities having maximum impact with GPP. This will require, not only understanding how to put low-carbon evaluation criteria into procurement, but also developing a holistic mindset of what the low-carbon outcome is that is hoping to be achieved. A leading example in this space is Suffolk County Council, who have developed their own Climate Change Commercial Ask.

Whilst UK public contracting authorities have previously been limited by EU directives on procurement, the latest Procurement Green Paper outlines a more flexible public procurement system for UK contracting authorities and appears to facilitate a more strategic purview of procurement and its wider implications. The green paper comes with a distinct message to authorities that they do not have to select the lowest price bid when procuring, instead insisting that authorities take a broader view of value for money that incorporates other factors. If fleshed out with local nuance, facilitated by appropriate resourcing, and awareness is spread with accompanying training, public procurement reforms have the potential to accelerate the turn towards a more strategic, greener practice.

7 World Economic Forum (2022) – Green Public Procurement: Catalysing the Net-Zero Economy White Paper

CHAPTER ONE

Housing and the built environment

Decarbonising the nation's housing stock and wider built environment is central to achieving net zero. And it remains a significant challenge in both new builds and existing stock. Local authorities play a crucial role in both housing and the built environment, with planning authority status being perhaps the most powerful tool at the disposal of English local authorities at the district/unitary level.

Yet the policy environment in which local authorities are operating is uncertain, with a decided lack of consistency in recent decades. This section examines what local authorities can do to drive decarbonisation in both new housing and the existing built environment.

Key points

Driving decarbonisation

- Decarbonising housing and the built environment across the UK requires a mix of retrofitting in old buildings and stringent standards for carbon emissions on new buildings.
- Local government has a range of hard and soft powers to help drive decarbonisation in new buildings, chiefly through the local plan but also through the enforcement of building standards.
- However, central government must raise the baseline for local plans through the National Planning Policy Framework and provide capacity funding for the enforcement of updated building regulations.
- For decarbonising old buildings, local authorities can collaborate with each other at different tiers and spatial scales to aggregate demand and work together on solutions.

Achieving clean growth

- Local plans can be used to drive innovation through encouraging the use of modern methods of construction.
- Aggregating retrofit demand and creating a project pipeline has major labour market implications, with the potential to provide training for a new generation of skilled manual work.

1.1 The current national picture

All places in UK, regardless of region, face similar issues with decarbonising the built environment and the housing sector. The central challenge is one of upgrading old buildings whilst creating modernised, higher standards for old buildings, all in a challenging fiscal context.

1.1.1 The challenge of decarbonisation in new and old buildings

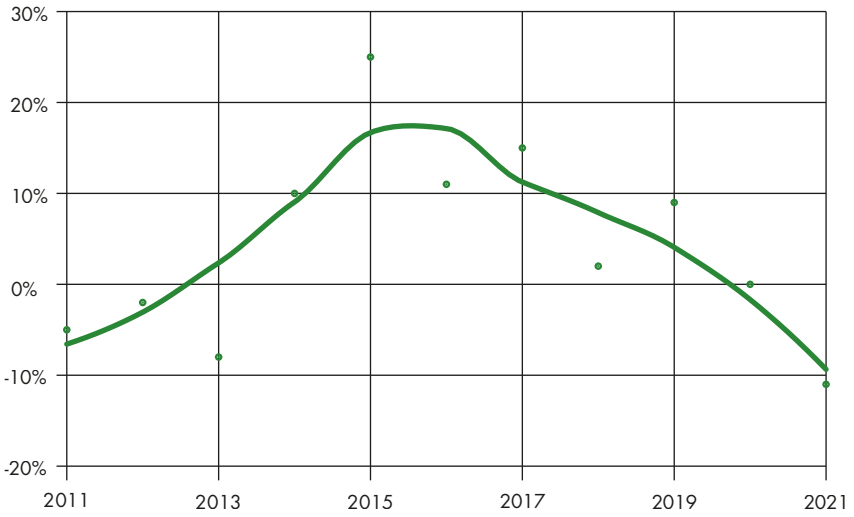
In their 2019 election manifestos, all the main political parties included commitments to increase housing supply in England. The Conservative manifesto[8] pledged to "continue to increase the number of homes being built" with continued progress towards a target of 300,000 homes per year by the mid-2020s. As it stands, new housing supply is currently lower than the government's ambition of 300,000 new homes per year, with 216,000 new homes being supplied in

8 Conservative Party (2019) – Conservative Party Manifesto 2019

2020/21[9] - down 11 percent on 2019-20.

For new builds, the current regulations for UK housing construction do not require new buildings to be designed and built to net-zero emissions. Therefore, new buildings, which will last beyond 2050, are being designed and built to far lower standards than net zero. Meanwhile in the case of existing building stock, 80 percent of the 2050 building stock already exists[10], and thus retrofit to net zero is urgently required. The challenge for policy going forward is therefore to increase the energy efficiency of old buildings whilst greatly improving the carbon footprint of new buildings.

Figure 1. Housing growth in England, Net new dwellings



Source: DLUHC

1.1.2 Retrofitting and energy efficiency

The government's ambitions on energy efficiency are set out in the Clean Growth Strategy and include an aspiration for homes in England and Wales to achieve EPC Band C by 2035 where cost effective, practical, and affordable. But progress

9 DLUHC (2021) – Housing supply: net additional dwellings, England: 2020 to 2021

10 UKGBC – Climate Change: UKGBC's vision for a sustainable built environment is one that mitigates and adapts to climate change

has stalled, measures are expensive, industry is underinvesting, and householders still find retrofits a major hassle. Recent data indicates that 16 million homes in England – two thirds of the English total – have Energy Performance Certificate (EPC) ratings of D or worse[11].

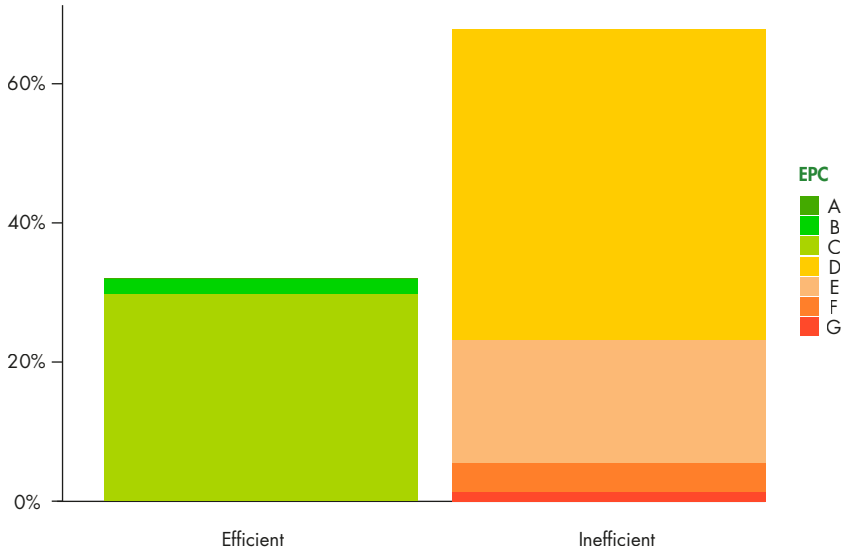
Retrofitting for more energy efficient homes is difficult in the UK because it has one of the oldest and least efficient housing stocks in Europe. Many of the energy improvement measures that are easier to install with lower levels of disruption, such as loft insulation and condensing boilers, have already been achieved. To make the necessary impact, much deeper retrofits will be required, recognising the necessary scale, cost, and challenge of deployment. Unfortunately, key to this is the Future Homes Standard which, despite previous suggestions that it would be introduced in 2023, has been delayed to 2025. This means hundreds of thousands of homes are likely to be built to lower standards until 2025, placing the burden and cost of home efficiency improvements on the future owners of those homes[12].

Retrofit requires governance and intervention; there currently exists no market for self-funded retrofit and waiting for one to develop will mean leaving problems to become further entrenched. The industries and sectors implicated in retrofitting have too many skill gaps to match the demand for nationwide retrofit. Recent political events, with multiple quick changes of administration, have made it very difficult to maintain the consistency of messaging required to create the market conditions for nationwide retrofit. Central government needs to support industries and supply chains through having a robust national retrofit strategy that allows for the creation of market conditions to kick start retrofit and support local authorities.

11 Environmental Audit Committee (2021) – Achieving net zero

12 Green Alliance (2021) – Net zero policy tracker: April 2021 update

Figure 2. England Retrofit Demand
Energy Performance Certificate lodgements, 2021



Source: DLUHC

The cost-of-living crisis which has defined the political landscape in 2022 is directly connected to the vast retrofit demand seen across the country. Many houses in the UK would need less gas to heat their homes if they were properly insulated, thus retrofitting would save people money and reduce greenhouse gas emissions. The £5000 Green Homes government grant[13] for thermal insulation upgrades of existing buildings falls well below the insulation requirements for net-zero in addition to the entire supply chain for installation being weak even before the impacts of the pandemic on labour supply and movement of goods. A comprehensive framework, including funding mechanisms, is required from central government for the full potential of retrofit to be realised.

Following the September 2022 announcements on energy price measures, representatives from the Building Research Establishment, RenewableUK, and other industry bodies called for the government to avoid 'knee-jerk' short-term measures and instead publish a comprehensive plan to decarbonise the country's

13 BEIS (2020) – Green Homes Grant: Make energy improvements to your home (closed to new applicants)

building stock[14]. Such a plan would bring down living costs in the long-term, increase energy security and increase the provision of a valuable skills in the labour market (see section 2.1.2).

1.1.3 Standards and regulation

Building efficiency is determined by the design and construction of the building, methods of heat production and distribution, and electricity and water usage within the building. However, environmental housing performance is determined by more than just building efficiency – it must also be a functional, liveable space for its occupants. In England, building standards are governed by the Building Regulations 2010, which set out approved standards for energy efficiency, emissions, ventilation, acoustics, and safety. Every home is required to have an EPC comprising a predicted fuel cost-based efficiency rating and a rating based on predicted carbon emissions.

In January 2021, the government published the outcome of the Future Homes Standard (FHS) consultation. The FHS is the government's strategy for new homes and will outline changes to the Building Regulations. It will apply to all new buildings from 2025, achieving a reduction of 75-80 percent in CO_2 emissions, with an interim change expected to apply from June 2022 that aims to reduce emissions by 30 percent compared to current levels[15]. In October, just days before the start of COP26, the government published the Heat and Buildings Strategy which outlines the importance of improving energy efficiency across the residential property sector and provides detail on decarbonising homes. The strategy sets a goal to decarbonise the buildings sector by between 47 percent to 62 percent by 2035[16].

Finally, in December 2021, the government announced new regulations whereby new homes and buildings will have to produce significantly less CO_2 (by 30 percent) as a bold step to help the country move towards net zero[17]. The changes were initially well received, having been described as "bringing us one step closer to decarbonisation", and came into force in June 2022.

1.1.4 Evaluating progress

The current policy approach is widely seen as not being ambitious enough to tackle the issue of energy inefficient homes in England. There is a challenge associated with promoting investment in household energy efficiency

14 Edie (2022) – Industry reaction: What do green groups want from Liz Truss as Prime Minister?
15 UK Parliament POST (2021) – Environmental housing standards
16 BEIS (2021) – Heat and Buildings Strategy
17 DLUHC (2021) – New homes to produce nearly a third less carbon

improvements, both for new build and for retrofit. The dominant policy framing has focused on the role of energy policy to address market failures or barriers to the take-up of energy efficiency measures. But attempts to create incentives to address these have not so far attracted the levels of investment needed to deliver an ambitious scale of deep household energy efficiency improvement[18].

Although reductions in carbon emissions in this sector have been very slow over the past decade, some progress has been made. For instance[19]:

- The government has a new fuel poverty strategy which sets out funding and policy to help the most vulnerable households in England.
- New regulations for non-domestic rented properties have been approved so those who own commercial or industrial rented properties will need to increase their energy efficiency to at least EPC Band B by 2030.
- Funding for the Local Authority Delivery Scheme and the Social Housing Decarbonisation Fund Demonstrator has been successfully allocated to upgrade homes most likely to be in the fuel poverty and social housing.

1.2 Local authority powers and capacity

Local authority powers and capacity to drive decarbonisation – housing and the built environment

Power	District/Unitary	County/Unitary	LEP
Soft power	• Provide information to residents on retrofit via 'one-stop shops'.	• Convening power over retrofit – can coordinate multiple districts.	• Regional hubs for information and support on retrofit.
Hard power	• Responsible for producing local plans. • Enforcing building standards. • Management of own public estate and council homes.	• Management of own public estate.	

18 Bergman et al (2020) – Reframing policy for the energy efficiency challenge: Insights from housing retrofit in the UK

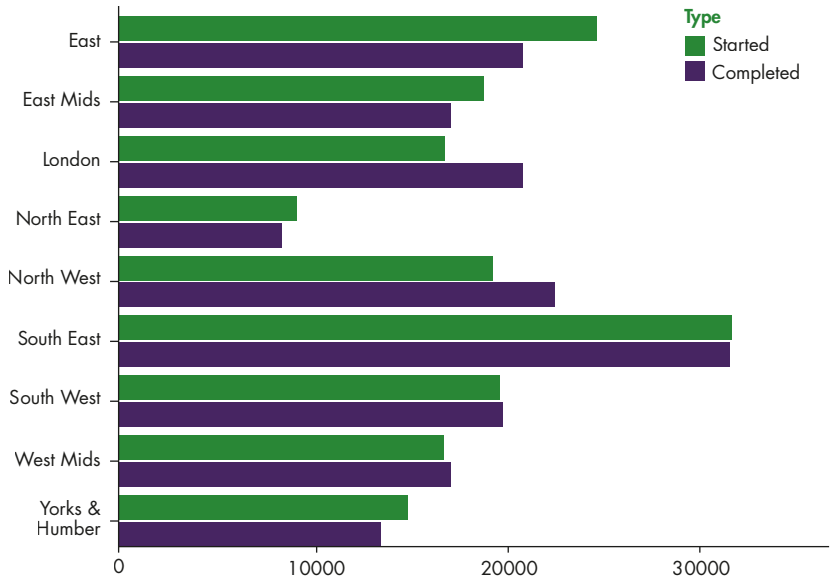
19 Green Alliance (2021) – Net zero policy tracker: April 2021 update

1.2.1 The planning system

The planning system provides the basis for decisions on the amount, location, and form of new development. Where, how, and what we build has significant implications for our environment. The current National Planning Policy Framework (NPPF) does not go into detail as to how the planning system should achieve this, and the July 2021 amendments to the NPPF did little to align national planning policy with the government's overall commitment to achieving net zero by 2050. In fact, the chapter on climate change remains relatively unchanged since the first version, published in 2012, meaning the climate sections of the NPPF are out of date.

For example, no reference was made in the 2021 revision to the government's target to reduce emissions by 78 percent by 2035[20]. These amendments, or lack of them, have been criticised as meddling as far as climate change is concerned. The task of setting specific, implementable net zero policies thus falls to local planning authorities in their development plans. Any borough, district, or unitary council can put real climate action into its local plan if it wishes and doing so is compatible with government policy. Unfortunately, those councils who choose to do nothing face no scrutiny or sanction from central government. In effect, then, the government is being hands-off about the potential of local plans to address the climate emergency.

Figure 3. New housebuilding, 2021



Source: DLUHC

20 Friends of the Earth Policy (2021) – U-turn on planning reform opens opportunity for progress on climate and nature

If set out properly, local plans provide planning authorities an opportunity to drive decarbonisation in housing and the local built environment – specifically, through embedding measures relating to climate change mitigation, adaptation, and resilience. The importance of local plans in driving decarbonisation has been recognised by the NPPF, which acknowledges their role in securing a significant reduction in greenhouse gas emissions as well as planning for renewable energy generation. Additionally, it also requires planning authorities to have a holistic understanding of climate adaptation. The RTPI and TCPA have released guidance on how to plan for climate change[21] that details these approaches. Certain actions that can be taken include planning green infrastructure as part of wider net zero infrastructure networks in the area, setting out how new development ought to be planned to avoid impacts of climate change over the next 100 years, and accelerate adaptation options for areas facing significant close term threats from climate change.

The NPPF and the 2004 Planning and Compulsory Purchase Act both provide a basis for local action to be taken on climate mitigation measures through local plan making. This can be done through avenues including setting clear carbon emission reduction targets, enabling low-carbon energy generation, setting requirements for the use of district heat networks in new developments, setting authority-wide targets for the use of decentralised renewable energy, and setting specific requirements around sustainable buildings and transport. The NPPF must reflect how things like local plans, local transport planning, and local nature recovery strategies can come together to enable a holistic cross sector approach to decarbonisation. This will enable stakeholders working in different types of planning, for example transport and land use planners, to come together to engage with one another. This would additionally help with developing sound business cases for net zero related projects and making them more attractive to investors.

The idea that local planning is an obstacle to growth ignores the potential of plans to build in long-term pipelines for development through which the goal of sustainable growth can be achieved holistically, whilst also increasing market certainty and skills provision. The local plan – rather than a bureaucratic obstruction to be avoided where possible – should be seen as a document in which the nexus of growth and decarbonisation is situated. Places should be using the local plan to chart the course to net zero in a way which maximises innovation and investment in human capital. A deregulatory race to the bottom will not

21 RTPI, TCPA (2018) – Rising to the climate crisis: A guide for local authorities on planning for climate change

produce the extent, nor the kind of growth required – locking in low quality housing, inequitable growth and most importantly exacerbating environmental damage by failing to ensure that the housing stock of the future is net-zero.

Modern Methods of Construction and the local plan

Modern Methods of Construction (MMC) refers to a broad range of alternative construction techniques that differ from traditional methods. The term most commonly refers to off-site factory production of the different component parts of buildings. This can range from walls to roofs to ready-made rooms that could be transported to the end destination for final assembly.

MMC have the potential to drive innovation in the construction industry, particularly in embedding low-carbon practices in the building process. It has been argued that MMC methodology has enabled 90 percent of the work to be completed off-site[22]. Whole house MMC, including off-site modular and panel construction can offer improved air tightness and energy efficiency in the final product.

There is a significant productivity advantage in using MMC. Low levels of productivity has been labelled an 'enduring feature'[23] of the home building industry. However, through using MMC, the time taken to construct a house is reduced – by up to half the time – while also enabling up to four times the amount of properties to be built with the same labour force used with on-site construction.

Increasingly, planning authorities are including the use of MMC in their local plans to help stimulate demand. However, stakeholders including the LGA have argued that the decision to include it must be taken locally rather than be an imposition from central government. It has also been argued that setting out MMC related policies in the local plan can help guide design and place making at an early stage. Doing so can set parameters for its use, help maintain high standards and provide a benchmark for design. Therefore, a way to incorporate MMC in a local plan would be through considering them when setting design standards in policy.

22 UK Construction Online (2022) – How are modern methods of construction helping to exceed net zero targets in practice?

23 Housing, Communities and Local Government Committee (2019) – Modern methods of construction

1.2.2 Housing and building standards

As with the planning system, it is important to move forward in a manner which increases the ability of building regulations to act as a framework for ensuring housing is contributing to the push to net zero. Local authorities must use every regulatory tool at their disposal to drive down emissions and deliver quality, efficient housing. District and unitary local authorities are responsible for council housing and can have an influence on private registered providers of social housing as well as having responsibility for their own buildings. Combined authorities can use their strategic planning powers to enable the provision of low-carbon housing. County, district, and unitary councils are in a good position to use their ownership of land and buildings to also boost clean technology uptake in the local area through implementing it in their own stock first.

Local authorities of all configurations can influence energy efficiency through retrofitting and the installation of low-carbon heating in council housing as well as their own council-owned buildings. They can do this through setting their own energy efficiency standards that are stricter than the national level and can ensure that buildings in their area comply with local building regulations such as enforcing minimum energy efficiency standards in the private rented sector. After 2025, local Building Control teams can be put in place to ensure compliance with the Future Homes Standard. They also have responsibility to increase awareness and provide advice and guidance to the public surrounding energy efficiency and low-carbon homes. It is important to draw attention here to criticisms of the FHS as it currently exists. Stakeholders have argued that it do not yet include the energy efficiency standards that are needed. A lack of focus on fabric first means the FHS currently does not tackle issues around poor insulation.

Dedicated staff and capacity

Across all areas of decarbonisation and clean growth in the housing sector, capacity in the form of dedicated staff is an issue for most local authorities. For councils with already pressed planning budgets, creation of roles to deal with decarbonisation can be challenging, particularly on specific issues such as retrofit or building standards, requiring restructuring and potentially depriving other policy areas of resource. It is therefore important that a review into the financing of council action on net zero take into account the need to bolster the human resources of the sector.

There are two Building Control Bodies in charge of checking whether building regulations are being adhered to. These include the Local Authority Building Control and a private sector Approved Inspector Building Control service. While

people can choose which control body to use, local authorities responsible for building controls have a central role in ensuring that the standards are being adhered to.

With regards to the decarbonisation of heat in buildings and the wider transition to net zero, changes to the building regulations came into force on Wednesday 15 June 2022. Most significantly[24], these amendments make provision for an updated methodology for measuring energy efficiency that utilise a new performance metric. Further changes to Part L, which covers the conservation of fuel and power, include the requirement of new residential buildings having to produce 30 percent less CO_2 than current standards, and a 27 percent reduction in other buildings. The changes brought to these two parts through the Future Homes and Buildings Standard will be fully introduced in 2025. However, the interim uplifts introduced in June 2022 include requirements for new homes to produce 30 percent less CO_2 than current standards, and a 27 percent reduction in other buildings.

1.2.3 Retrofitting at the local level

Being landowners with significant amount of building stock local authorities of all configurations are in a prime position to develop a localised solution to the retrofit challenge. There are a number of strengths that they possess which enable effective coordination at the local level to tackle the agenda. The LGA have highlighted a number of these qualities found in local authorities when setting out their vision for net zero[25]. These include being place shapers, purchasers, problem solvers, asset owners, and importantly convenors. Despite the failure of the Green Homes Grant in galvanising action around retrofit, the Local Authority Delivery (LAD) scheme has endured. Its continuation demonstrates the centrality of authorities working on the ground for the delivery of retrofit and heat decarbonisation strategies. The scheme is aimed at raising the efficiency of low income and low EPC rated homes, specifically those below Band E.

In total, £500m of funding is being allocated to local authorities through five regional Local Net zero Hubs, who act as regional points of coordination on energy issues. The hubs themselves are a collaboration of Local Enterprise Partnerships working together at scale on local energy projects. The example of the LAD scheme demonstrates the capacity, capability, and importance of coordination and collaboration at the local level for the effective delivery of retrofit

24 Norton Rose Fulbright (2022) – Changes to the Building Regulations to help deliver net zero
25 LGA – Net zero: Our offer to Government

strategies. However, greater funding is needed and with more attention paid to regional and local differentiation. Differences in land and property value naturally mean the ability of both local authorities and private homeowners to fund retrofit varies greatly across the country. Future retrofit strategy from central government will therefore need a 'levelling up' dimension, where areas with lower-than-average household income are afforded support in the retrofit agenda.

Collaborative working by local authorities will be essential in the current fiscal context, especially when considering the complexity and costs involved in retrofitting depending on factors such as the type of building tenure. However, understanding the level at which this collaborative working is needed will be equally important. At the district level, most with particularly inefficient buildings tend not to be in the combined authority regions which are better placed to coordinate major retrofit schemes. Consequently, districts need to collaborate with each other, their local businesses and communities who will benefit in the long term from more energy efficient homes.

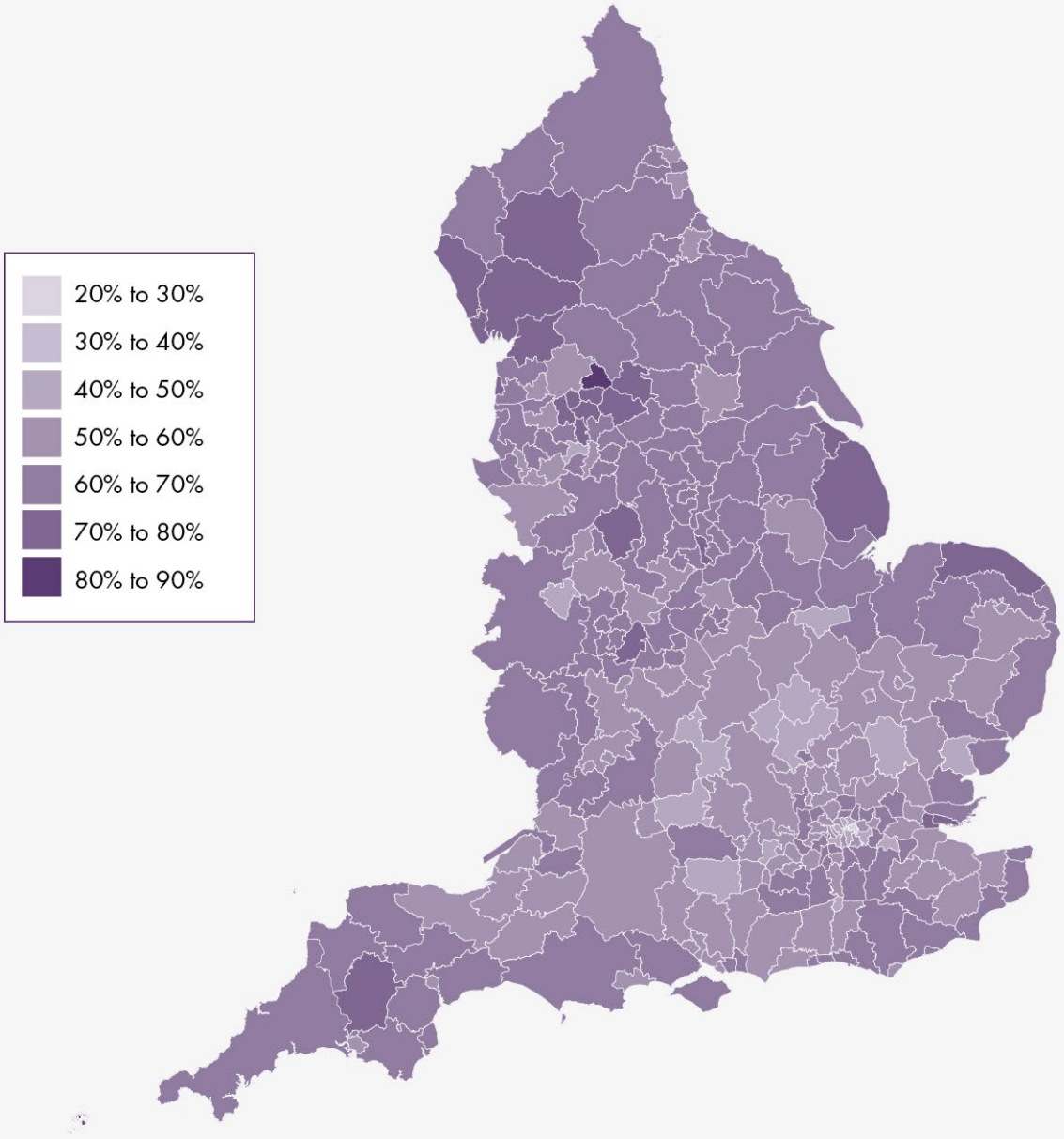
Funding retrofit: using blended finance

'Blended' finance is a practice typically ascribed to development scenarios, usually internationally. In the context of local government, blended finance would combine official central government funding with other private or public resources, as a means of leveraging additional funding from other actors. It can be problematic; favouring more affluent or middle-income places and must be balanced with government investment where the market for private finance is not viable. There is a need to ensure that projects integrate accountability, transparency, and the participation of residents, communities, and other stakeholders.

Strategic planning between district authorities at this level will be vital in helping raise the energy efficiency of inefficient and hard to reach homes. The idea of working together to deliver joined up net zero related action strategies has been advocated by prominent stakeholders, such as the RTPI through their call for Green Growth Boards[26]. The purpose of which would be to deliver on collaborative strategies relating to climate action, housing provision and transport needs. Through such bodies action can be taken on retrofit delivery at a regional level using pooled resources.

26 RTPI (2021) – Green Growth Boards

Figure 4: Ten-year average retrofit demand (percentage of EPC lodgements at D or lower)



Source: DLUHC

The lack of a detailed national strategy can cause uncertainty at the local level for businesses. Some local authorities are working to higher standards than others whilst mandating certain different standards, causing frustration within the construction sector due to firms having to work to multiple different standards – putting some off working within certain local authorities all together. Absence of a national baseline that all must adhere too is affecting the ability of the market to move forward with retrofit.

1.3 Achieving clean local growth in housing and the built environment sector

Opportunities	Barriers
• **Local Plans** can be used to make commitments to reducing carbon emissions in building a matter of law – this is most effective when quantified in terms of carbon budgeting. • **Retrofit** can be achieved through collaboration between councils on developing pipelines for supply at an aggregated scale, as well as pooling funds – this can be coordinated through county councils or LEPs.	• **Building standards** are a powerful tool for local authorities, particularly once the Future Homes Standard comes into effect, however the lack of capacity within local authorities to absorb and enforce the new standards must be addressed. • While local plans can help local authorities drive decarbonisation, the **National Planning Policy Framework** must be updated to raise the baseline and ensure action across the country.

Creating market conditions for clean local growth in housing and the built environment

Local authorities have an important role to play in providing market confidence and bringing in the investment needed to accelerate the decarbonisation and clean growth of their local economy. Creating the right market conditions for clean local growth in housing and the built environment will entail:

- Kickstarting the demand for retrofit and energy efficiency improvements by working on council owned public estate.

- Setting stringent standards for carbon emissions on new buildings and embedding these in the Local Plan.
- Using the Local Plan and associated strategies to drive low-carbon innovation and stimulate demand for practices such as Modern Methods of Construction

1.3.1 Building net zero into local plans

Planning should be a key mechanism for delivering sustainable development. Done well, planning ensures that the right development happens in the right place and at the right time, benefiting communities, the environment, and the economy. The net zero policies in development plans in England vary between local authorities with differences in the conditions imposed, the sustainability related assessments, the level of carbon reduction needed to be policy compliant, and ultimately the likelihood of planning permission for a scheme being granted.

The Plymouth & South Devon Joint Local Plan[27], adopted by South Hams, West Devon, and Plymouth City Council, is a leading example of a local plan that has properly taken net zero ambitions into account for the future development of the local area. It is seen as the only adopted plan that has a quantified and strategic carbon reduction target to help support the council's 2030 net zero ambition. Its use of the Community Infrastructure Levy to help fund local environmental projects has also been lauded as innovative. CPRE have stated[28] that this is the best example of a local plan fully aware and on top of local climate change targets and actions.

In practical terms, what the local plan means for Plymouth and South West Devon is that all new houses in the area will need to be built with net zero and climate change in mind[29]. Specifically, the plan makes it legally binding for builders to bare the environment in mind when constructing homes and buildings in the area. Now efforts are being made to engage the local community on the details of the plan and to see whether they believe it goes far enough in setting out practical steps towards achieving net zero by 2030 – a target which all three councils have set after declaring a climate emergency.

It is hoped that by setting such a legally binding requirements, further plans for

27 Plymouth City Council (2019) – Adopted Plymouth and South West Devon Joint Local Plan
28 CPRE (2022) – Climate emergency: time for planning to get on the case
29 Radio exe Devon (2022) – Plymouth & West Devon new-builds must be environment-friendly

seeing community energy hubs occur in the area can come to fruition. If homes that are being built in the local area are being done so with battery storage facilities designed in them, then the ability for neighbours to share energy stored becomes a lot easier.

Undertaking a carbon assessment of a local plan's spatial strategy is one way of embedding net zero into local plan making through a place-based approach. South Cambridgeshire District Council have recently done this in their joint local plan[30] with Cambridge City Council. Specifically, a bespoke carbon assessment of all spatial strategy options is being looked into. The benefit of this has been in giving both councils an overview of the choices in terms of what the carbon costs of densifying certain urban areas would be, which will give a better understanding of where best to plan for new housing in the area.

The Climate Change Committee[31] have recognised the urgent need to integrate energy and spatial planning to be able to better embed net zero action in the local planning system. They also highlight how most local plans have not recognised the extent of the challenges associated with delivering net zero. Currently only one third of local plans have binding carbon policies or objective standards for energy efficiency. Therefore, despite the importance of the planning system in delivering effective action against climate change, on the whole this has not been translated to local plan making. Despite local planning authorities having the power to put climate action into their local plan, there is no scrutiny or penalty from central government for not doing so.

Despite this, more examples of local planning authorities are emerging showing improved efforts at building net zero into their local plans. For example, Oxford City Council's adopted Local Plan 2036 has gone further than many others in pushing for a 40 percent reduction in emissions associated with regulated energy over Building Regulations. Elsewhere, the Broxbourne Borough Council Local Plan sets out conditions requiring the design and materials used in building construction needing to ensure long term resilience and minimise ongoing maintenance. Additionally, it also emphasises the recycling of building materials and their reuse on site wherever possible to minimise waste.

1.3.2 Building standards

Building regulations – and the role of district councils in ensuring they are adhered to – provide a strong foundation for action to help drive decarbonisation and the

30 Greater Cambridge Shared Planning – Greater Cambridge Local Plan
31 Climate Change Committee (2022) – Local Authorities and the Sixth Carbon Budget

wider transition to net zero on the local level. And while all parts of the building regulations will be vital tools for decarbonisation, there are a few which will be particularly important for the journey ahead. This includes the building regulation changes introduced in June 2022. The changes introduced were part of a wider move by government to improve energy efficiency standards for buildings and will have significant impact on developers as well as social housing providers, including local authorities. However, if adhered to properly, they provide an opportunity to embed decarbonisation and clean growth in communities and the built environment.

There are a number of challenges associated with the proper implementation of these standards. In its response[32] to the consultation of the Future Buildings Standard, the LGA identified issues with council capacity to enforce these standards as a significant barrier. Specifically, the barrier that exists between energy efficiency criteria provided in a planning application and its enforcement undermines local plan policies around energy efficiency in construction from being effective.

This is due to the disconnect between, on the one hand, building control that is focused on ensuring building regulations are adhered to, and on the other, planning departments being overstretched with the planning approval process. Council capacity being stretched thin ultimately results in there being no join up between 'the energy efficiency criteria specified in the planning application and the enforcement of building regulations'. Therefore, the LGA have urged government to address this prior to any change of legislation being brought forward.

1.3.3 Collaboration on retrofit

Understanding the urgent need to act now on the retrofit challenge, there are multiple avenues through which to take action at the local level. Yet for many local authorities still experiencing the effects of austerity measures and budget cuts that are impacting their ability to act, there is an urgent need for clear guidance. This is why the first step to galvanise action will be to equip them with the right knowledge and tools.

The LGA ran a 'Building Housing Retrofit Skills Leadership and Learning Programme'[33], over a six-month period across 2021 to 2022. This brought

32 LGA (2021) - LGA submission to the Ministry of Housing, Communities and Local Government on the Future Buildings Standard 13 April 2021

33 LGA (2022) - LGA Building Housing Retrofit Skills Leadership And Learning Programme, March 2022

together 24 officers and councillors from borough, district, county, and combined authorities across England with the express purpose of going through and unpicking challenges related to domestic retrofit. In particular, focus was placed on developing skills within local authority officials to handle retrofitting and implement strategies.

Similarly, Local Partnerships have developed a 'Local Authority Retrofit Handbook'[34] in order to give practical advice to local authorities of all shape and size in England. It was commissioned by BEIS through the five Net zero Energy Hubs and brings all existing resources and tools in one place to help streamline and guide authorities starting on their retrofit journey or looking to scale up action already being taken.

Looking at examples of how different authorities have approached retrofit, Hampshire County Council set up the Insulate Hampshire[35] initiative that ran throughout 2012. The initiative involved the county council and 11 district councils from the region and was delivered by YES Energy Solutions. At the time of its conclusion, it was the largest local authority area based insulation scheme in the country and delivered the greatest number of insulation measures when compared to other authorities. Specifically, the scheme had £5.5m available to offer homeowners and private renters free cavity wall and loft insulation. Over its course, more than 18,500 insulation measures were delivered.

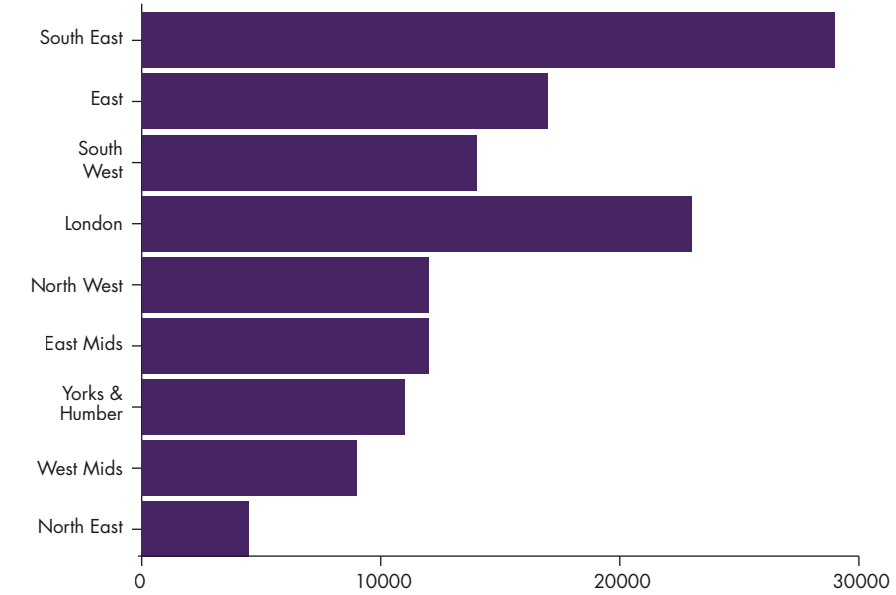
Another example can be found with New Forest District Council and their Greener Housing Strategy. The recently launched strategy is set out to help with the design of retrofit packages by April 2024 and then deliver EPC C by 2030. Using the strategy, the council will also work with private landlords and homeowners to help them improve their energy efficiency standards a part of which will include running a localised communication campaign from 2022 onwards.

Collaboration on retrofit at the local level will also be important to grasp the potential for productivity growth found in the sector. Estimates suggest that the 'retrofit revolution' could create up to half a million jobs across the UK[36]. Given this, it will be vital for every part of the local state to work together to manifest this according to their unique place circumstances and strengths. Work has already begun in this direction, with the West of England Combined Authority publishing a 'Retrofit Skills Market Analysis'[37].

34 Local Partnerships (2021) – Local authority domestic retrofit handbook
35 YES energy solutions – Insulate Hampshire
36 Edie (2020) – Green recovery: 'Retrofit revolution' could create half a million UK jobs
37 West of England Combined Authority (2021) – Retrofit Skills Market Analysis

Finally, in terms of maximising the potential of collaboration and strategic planning for retrofitting on the local level, Localis has previously advocated for the use of 'one stop shops' to engage with homeowners in finding suitable methods to facilitate retrofit. They should be formed as a collective effort of neighbouring district authorities and be set up as a joint venture that sits independently of each constituent authority. The ultimate benefit of this would be to allow them to pool resources to act on the challenge at an aggregated scale.

Figure 5. Jobs in home insulation



Source: Business Register and Employment Survey

1.4 Case study: North Kesteven

North Kesteven District Council (NKDC) has adapted consistently in recent years to stay ahead of changing regulations concerned with housing standards in line with carbon targets. In 2010, the Homes and Communities Agency encouraged a "reasonable standard" for sustainable homes, but NKDC forged ahead and moved to the less generalised Fabric First Standard to maintain property insulation values. This code was improved repeatedly as the council strove to keep ahead of the curve in building regulatory standards. Now, homes in North Kesteven must meet the strict Passivhaus Standard alongside the CO_2-sy Homes Standard[38] under the Climate Emergency Action Plan 2020, and the success of these new builds have become a source of pride for the district.

In 2019, North Kesteven joined many other areas in declaring a climate emergency and devoted itself to novel and direct action. Its planning officers developed an evidence base on climate change and developments came to a head in 2021, when the council set out new policies and included an ambitious chapter on climate change in its local plan. These policies ranged in subject matter from large-scale renewables to embodied carbon.

Navigating a complex and uneven policy landscape

The main obstacles to these plans are viability and funding, which reforms to the methodologies around grant funding, as well as a general simplification and clarification of the legislature, could alleviate. Regarding building regulations, current government grant funding does not aim for a zero-carbon solution, rather relying on the goal of simply reaching EPC Band C in buildings where retrofitting remains a relatively expensive task despite the inferior standard. Additionally, the Standard Assessment Procedure methodology does not reflect the benefits of new technologies such as heat pumps, which are currently defined as electric heating without accounting for their contribution to decarbonisation.

Although private contractors are willing to build

38 North Kesteven District Council (2021) – All new council homes will be zero carbon

to higher standards, the supply chain required for the level of housing standards and new builds required by central government will falter under the demand of every council that intends to meet these standards. There are simply not enough materials for heat pumps and insulation available in England, and the largest contractors are spread thin and concentrated where demand is highest. Districts such as North Kesteven suffer because of this varied demand.

In North Kesteven, a majority rural district, over half of buildings fall below an EPC C rating for energy performance, with over two-thirds of their building stock built pre-1960. Every building below an EPC C rating is off the gas grid. Evaluations of the costs to retrofit all buildings to a zero-carbon standard – more stringent than current government requirements, but a goal for the NKDC – reveal a figure of between £85-100 million for the project. There is also a major issue with the funding of retrofitting due to the finance regulations surrounding the Housing Revenue Account, given the requirement of depreciation. Homes England's approach to grant allocation for new builds also lacks the incentive for local authorities to reach for net-zero, with grants given on a basis of number of bedrooms per home rather than sustainable build standards.

Marshalling stakeholders is always a challenge in the delivery of housing, but this is unnecessarily complicated where net zero is concerned by mixed messaging from central government. Direct government influence over local planning in North Kesteven is minimal, given the dearth of nationally significant infrastructure projects in the area. Yet there are contradictions across legislature, where specific powers and limitations come into conflict with the overall net zero strategy, councils must decide which takes precedence. For NKDC, these barriers produced by government guidance can result in protracted debates over correct implementation. This lack of clarity can cause a general lack of confidence that actions and policies proposed in the plan will be approved pass through a successful examination as being in accordance with the NPPF.

Moving forward: lessons from North Kesteven

There is clearly room for a change in the way that local authorities are tasked with and enabled to work on clean growth in housing and planning. NKDC, as a council that has consistently reached ahead of national standards, acknowledges a need for a national evidence base from which all areas can benefit; a pool of knowledge that would assist other council bodies without the need to sacrifice excessive resources for research. Alongside this, a national spatial strategy would be useful, wherein the disparities of energy resources across the country would be lessened by a critical analysis of the available space and already-existing energy schemes. The lasting impression of this study on North Kesteven implies that a well-informed and collaborative local authority is a key factor in the route to net zero.

NKDC aspires to explore models that involve consortiums that work to bring in additional funding. It recognises the importance of like-mindedness among district councils but admits that there is still a need for a set national standard for housing – one which exceeds the plans of the Future Homes Standard – and greater encouragement from central government. Regarding the local plan, there is also an aspiration for a de-risking process, where local authorities could move forward with confidence, ensure the evidence base is robust, and that policies could deliver an endgame of net zero.

1.5 Recommendations to central government

- Raise the standards for net zero local plans in the revised National Planning Policy Framework:
  - Make specific reference to the targets agreed to in the Paris Agreement and the role of local planning in achieving the goal.
  - Include a requirement for emission reduction targets at the local level.
  - Set targets for green and blue infrastructure provision.
  - Set requirement for inclusion of low-carbon heat technologies in new developments.
  - Set stringent mitigation obligations for new developments.
- Produce a long-term plan for building stock decarbonisation with regional breakdowns of supply and demand for retrofit.
- As part of the overall measures to bring down energy costs and support people through the cost-of-living crisis, government must find and set aside money for a long-term retrofit programme, to give industry the confidence needed to ramp up investment in the necessary skills and materials.

CHAPTER TWO

Energy

In light of both the push to decarbonisation and the surge in energy prices, the UK government, the energy regulator, and energy sector participants alike are searching for solutions to tackle the challenge of investing in the energy system and the need to decarbonise to meet national and international obligations.

At the local level, there is a role for councils to play – one that involves a mix of investment and convening powers. Beyond this, local energy networks have been identified by government as an important facilitator of net zero.

Key points

Driving decarbonisation

- Decarbonising the energy sector, particularly in the current economic context, depends on expanding investment in renewable energy and a associated major national push to create the necessary skills provision.
- Local authorities can use their own financial and landowning capacity alongside their abilities as conveners of stakeholders to drive investment in renewable generation, whilst also working with training providers and employers to create skills pathways to meet this demand.
- However, policy alignment over incentives is needed between further education and local government: the Local Skills Improvement Plans announced in the Levelling Up White Paper are a positive step in this direction.
- District heat networks, as part of broader regional energy strategies, can help meet energy demands whilst reducing emissions at a local level by consolidating generation for an area in a single powerplant.

Achieving clean growth

- There are multiple different areas relating to clean energy where providing a skills uplift and raising supply-side demand could lead to an increase in high-quality, high-skilled employment.
- In the long term, district heat networks can reduce energy bills for both commercial and residential properties.

2.1 The current national picture

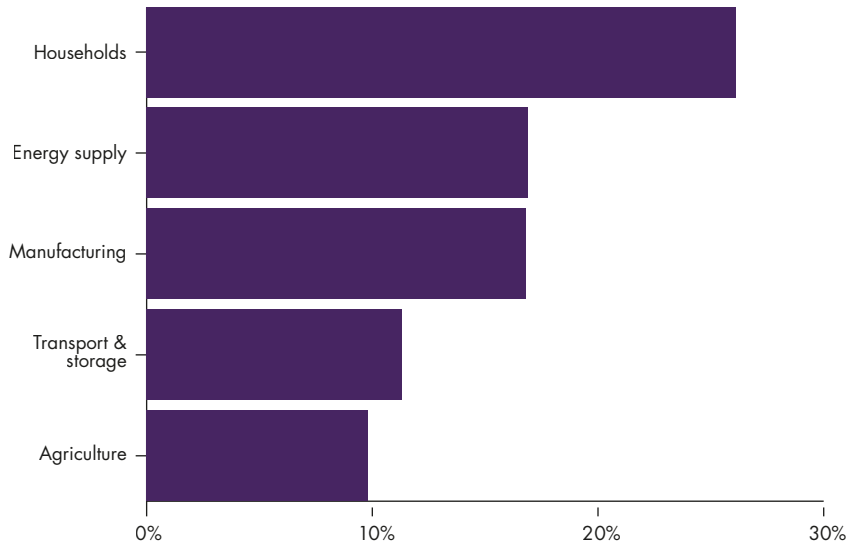
A transformative shift in the generation, storage, and transmission of energy is required to prevent catastrophic global heating, a goal that has come into line over the course of 2022 with the national security interests of western states who can no longer afford to be dependent on Russian energy. The cost-of-living crisis is in many respects a manifestation of this dependency and should be seen as a major incentive to transition away from fossil fuels and towards clean, renewable sources of energy. This is a major challenge, the scale of which is intensified by multiple factors nationally, the most acute being a lack of suitable skills across the multiple sectors and industries that are vital contributors to decarbonising energy.

2.1.1 Moving to renewable energy

Energy supply is the second-largest emitter of greenhouse gases in the UK at

23 percent, according to government statistics tracking domestic emissions[39]. In June 2019, the UK became the first country to sign into law a net zero carbon emissions target, building on its previous 80 percent reduction target established by the Climate Change Act 2008. Moving the UK energy system from fossil fuels to low-carbon alternatives is a key part of the net zero carbon equation. This is being enabled by a transition from a passive to an actively managed energy system with increased deployment of distributed energy resources and disruptive technologies[40].

Figure 6. Contribution to UK emissions
Main sectors



Source: ONS

Since the passing of the Climate Change Act, huge steps have been taken in reducing emissions and accelerating clean growth. Since the passing of the Act:

- The use of coal has fallen drastically from providing 33 percent of all electricity generated in 2008 to just one percent in 2020[41].
- Electricity from renewables accounted for a record 43.1 percent during 2020,

39 BEIS (2018) – 2018 UK Greenhouse Gas Emissions
40 Gudde et al (2021) – The role of UK local government in delivering on net zero carbon commitments
41 BEIS (2021) – UK Energy in Brief 2021

more than six percent higher than in 2019[42].

- England's renewable capacity grew from 21.8TW in 2008 to 120.5TW in 2019, a more than five-fold increase.
- The power sector has cut its emissions by more than half over the last 10 years, which has meant the majority of greenhouse gas emissions reductions have come from the power sector.

The energy sector has been the focus of the majority of clean growth policies to date. Just a few years ago, power was generated in 50 or so large fossil fuel and nuclear power plants. As of December 2020, renewable production generated 40.2 percent of total electricity produced in the UK, around six percent of total UK energy usage[43], with many renewable energy generators largely connected at the edge of the grid. Power regularly flows up the distribution network to the national transmission grid and many households, landowners, and businesses produce their own power 'behind the meter', reducing their reliance on the electricity network.

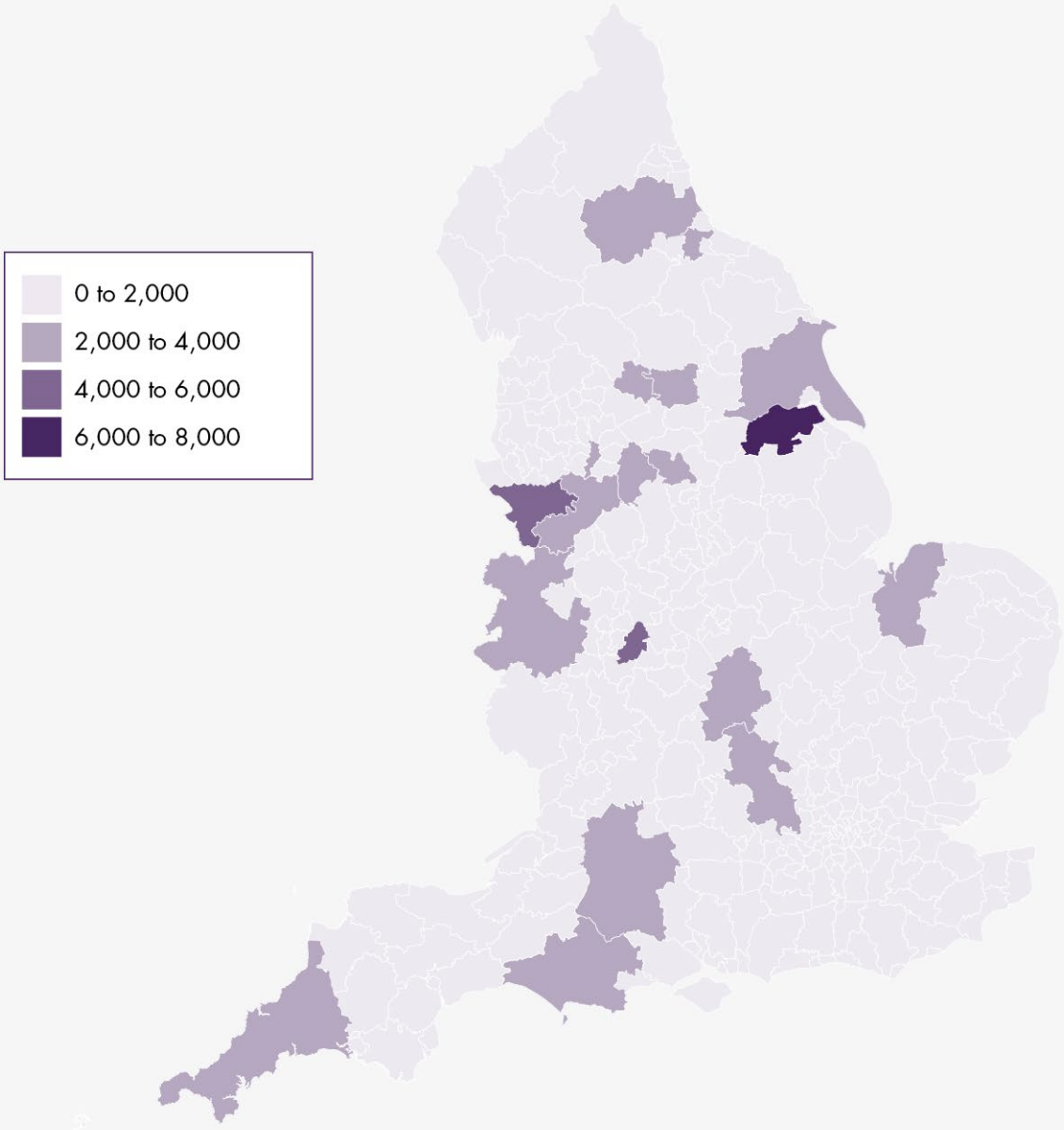
In 2021, the energy sector committed to investing in and delivering a net zero power system by the 2030s[44] while keeping bills down for customers and maintaining security of supply. While doing so, the sector recognised that realising this ambition will depend on government action and policies to deliver on the most ambitious emissions reduction targets of any major economy – from ensuring costs are spread fairly across the population to unleashing the billions of pounds of investment needed to fund this transformation.

42 BEIS (2021) – UK Energy in Brief 2021

43 BEIS (2022) – Energy Trends UK, April to June 2022

44 Energy UK – Towards net zero emissions: The energy industry's commitment to the climate, customers and jobs

Figure 7: GHG Emissions (tonne CO_2 equivalent)



Source: BEIS

In the Energy White Paper, the UK government set out its long-term policy and commitments to put the country 'on course to net zero' whilst acknowledging that the short-term national policy agenda is critical with commitments 'to support a green recovery from COVID-19' and 'create a fair deal for consumers'[45].

However, commitment to investing in renewable energy at the national level was called into question by the major changes to the government in August and September of 2022. Former Prime Minister Liz Truss pledged to introduce a temporary moratorium on the green energy levy and lift the ban on fracking and offshore oil & gas developments[46]. The logic for this decision was that the UK needs to secure its own energy supply in the short term and to plan renewable alternatives in the long term[47]. Overall, the focus on intensifying fossil fuel production adopted by the government in September 2022, particularly the potential of fracking for shale gas, is out of step with public opinion[48]. These steps caused alarm and led to suspicions that the net zero imperative may be abandoned.

On the other hand, the September 2022 energy support package did confirm that Energy Company Obligation and the latest wave of the Social Housing Decarbonisation Fund will remain unaffected and continue to run. Truss also confirmed that hydrogen blending as part of the UK's gas network will get the go-ahead next year, albeit in a 'limited and temporary' role[49]. Likewise, the alteration of the planning procedure for onshore wind, bringing onshore windfarms into line with all other planning applications, is a positive step in the transition to renewable energy.

The UK's position on renewable energy is therefore something of a mixed picture — one that is in pressing need of clarification. Investing in renewable energy and its associated technologies has major growth implications – particularly around the proliferation of highly skilled jobs and their associated training pathways. Local government has an important role to play across the piece: in providing land and channelling investment to renewable energy; in convening the local public and private sector around green skill provision; and in the operation of more efficient and greener district heat networks.

45 BEIS (2020) – Energy White Paper
46 Prime Minister's Office (2022) – PM Liz Truss's opening speech on the energy policy debate
47 Energy Voice (2022) – Liz Truss to make announcement on dozens of new North Sea licences: Report
48 YouGov (2022) – While opposition has dropped, Britons remain against fracking for shale gas
49 Recharge News (2022 – UK aims to break renewables' price link with gas as Truss fires off black and green pledges

2.1.2 Green skills deficit

Government have recognised, through their Plan for Growth[50], that the UK skills system is no longer fit for purpose and lags internationally, especially in areas of increasing importance such as green skills. There is a clear demand for a trained workforce in the energy sector including in retrofit, renewable power generation, and Carbon Capture, Utilisation and Storage (CCUS) to name a few. The Climate Change Committee have highlighted the importance of preparing early for this green skills demand, however a key challenge highlighted relates to the pace of change required and the fact that 'current [training] institutions are not equipping enough people with the required skills'.

This situation has created a 'skills mismatch'. The Industrial Strategy Council has forecast that the UK's projected demand for skills, including those relating to net zero, will continue to increase over this decade while their supply will be constrained[51]. This is something that risks stunted economic growth at a time when the country is looking to recover from COVID-19. Therefore, to rectify the skills system, the CCC have recommended strong government intervention, working closely with stakeholders across industry and the private sector as well local government in ensuring the correct provision of green skills required.

It has been estimated that 429,000 retrofitters will be needed to meet 2050 net zero targets[52]. However, 'retrofitters' is a category comprising of countless different trades with thousands of businesses of differing scale supplying the market. It is not as simple as upskilling those working in construction – and even if it were, the current repair, maintenance, and improvement (RMI) workforce is almost half the amount required for targets to be met by 2050. A 'retrofitter' is everything from assessors, coordinators, designers, to installers, and every role in between. A report by Energy Systems Catapult identified advice & customer care, low-carbon heating installation, property assessment, and technology integration as critical skills gaps in the face of rising demand[53]. Beyond this, there are capability gaps – poor retrofitting examples tend to be the result of skills gaps within an organisation or trade going unaddressed prior to taking on work, or gaps in knowledge amongst property owners and managers.

The same Energy Systems Catapult report found that market development, stimulating skills demand, and increasing the capacity and skills provision across

50 HM Treasury (2021) – Build Back Better: our plan for growth
51 Localis (2021) – Plan for Local Growth
52 Sumpton (2022) – The retrofit skills gap and what's needed to decarbonise the UK's housing stock
53 Energy Systems Catapult (2022) – Foresighting Skills for Net zero Homes

the supply chain should be medium-term priorities for the sector, and that central and local government should act to facilitate these same priorities. The recent Green Deal and Green Homes Grant failed to do so, instead only stimulating consumer demand and thus placing more pressure on an industry that is fundamentally lacking in enough skilled or qualified people to meet such demand effectively. The Green Homes Grant, a £1.5bn programme, was scrapped six months after launch — failing to retrofit 10 percent of its planned 600,000 homes. As Ian Preston, Director of Household Energy Services at the Centre for Sustainable Energy, notes[54], the thousands of businesses that are part of the retrofit supply chain are unlikely to take on apprentices or invest in training if demand is dependent on government schemes that can be withdrawn at any time with little warning – only serving to entrench skills gaps further.

2.1.3 Energy decarbonisation in the 2022 context

Progress towards decarbonising the energy sector has been positive. Of note[55]:

- New competitions have been launched to develop and improve the delivery of some key low-carbon power technologies such as floating offshore wind, innovative energy storage technologies and a biomass feedstock programme;
- The government has begun consulting on the phase-out of coal generation;
- A new scheme has been introduced to kickstart a just transition in the North Sea oil and gas industry;
- And the government has stopped financially supporting the fossil fuel energy sector abroad.

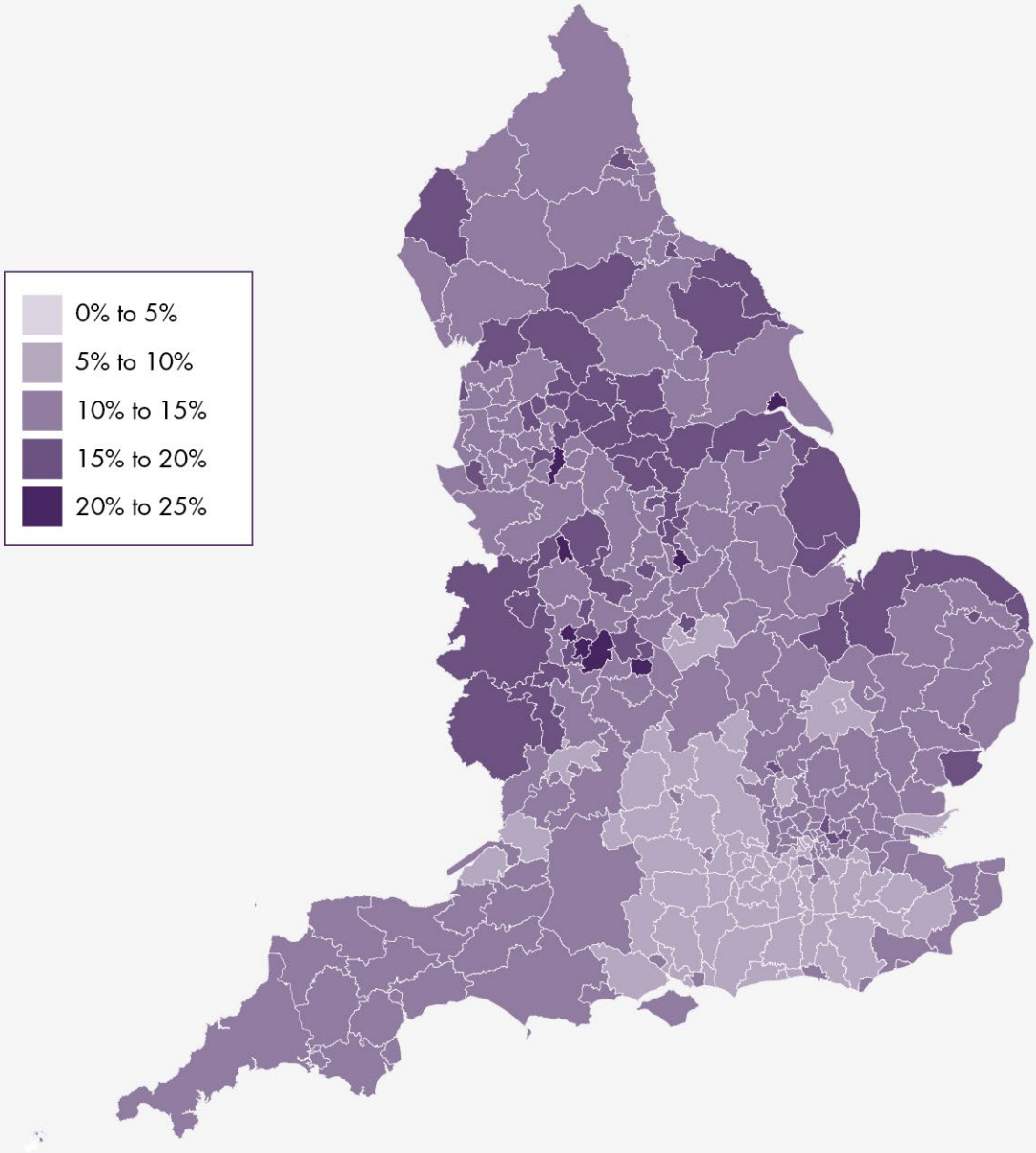
However, attention must be turned to 2022 and the cost-of-living crisis. The Energy Price Guarantee of £2,500 still translates to a 96 percent increase on the prices households paid last winter, with Money Saving Expert highlighting that many will continue to struggle to pay[56]. However, overall the intervention has been welcomed as something needed to save households from disaster. Beyond this avoidance of emergency, however, lies the need to fully decarbonise and achieve energy self-sufficiency.

The Johnson government launched the British energy security strategy[57], following the invasion of Ukraine, to set out plans to make the UK more energy-independent

54 CSE (2022) – Staring into the retrofit skills gap
55 Green Alliance (2021) – Net zero policy tracker: April 2021 update
56 Money Saving Expert (2022) – What to do if you're struggling to pay your energy bills
57 HM Government (2022) – British Energy Security Strategy

and accelerate the production of home-grown power. A major focus in the strategy is to make 95 percent of electricity low-carbon by 2030. Overall, it follows the path of upscaling the production of clean energy. For example, as part of its 'heat pump first' approach, government has announced a Heat Pump Investment Accelerator Competition to speed up their production. Alongside this, plans include expanding nuclear power and offshore wind, as well as solar and hydrogen power.

Figure 8: Households in fuel poverty (%), 2020



Source: BEIS

2.2 Local authority powers and capacity

Local authority powers and capacity to drive decarbonisation – energy

Power	District/Unitary	County/Unitary	LEP
Soft power	• Can work as place leaders to attract investment in renewable energy projects.	• Can bring together local partners, FE colleges and businesses to develop plans addressing the green skills gap. • Can work as place leaders to attract investment in renewable energy projects.	• Key convener of business and skills advisory panels.
Hard power	• NPPF consideration of local areas suitable for renewable generation. • Local plan power to set quotas for renewable generation in new developments. • Ability to develop own renewable generation assets through investment. • Can apply for funding for heat network delivery projects.	• Forthcoming Local Skills Improvement Plans will formalise and increase the role of county/ unitary authorities in building up green skills. • Ability to develop own renewable generation assets through investment.	• Develop Regional Energy Strategies across economic areas.

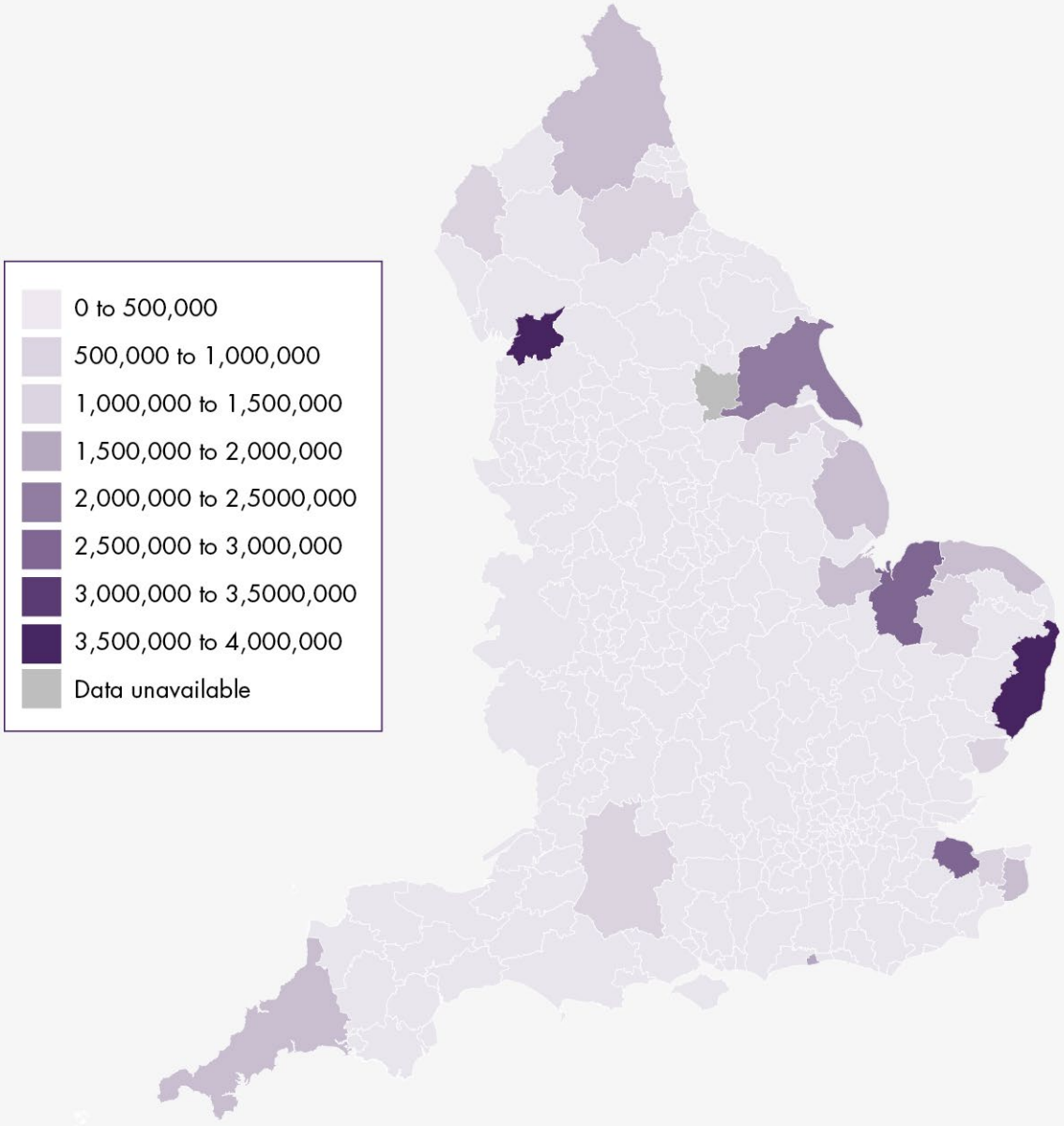
2.2.1 Land, investment, and renewable energy

Local authorities of all configurations are at the forefront of actualising the national net zero agenda at the level of place and helping translate it into something relatable to residents and communities. There are a number of factors that enable them to take the necessary steps forward and increase the provision of renewable energy on the local level.

In terms of powers, while combined authorities have little control over energy

markets or related infrastructure, they do have the ability to plan for and build the provision of energy infrastructure into their strategic plans for the authority area. These larger, subregional authorities are well suited to attract private investment into the area to be directed toward innovative, green energy-related technologies. They have core powers in areas such as economic development, skills, and transport. Therefore, they are able to provide investor confidence through setting a strategic direction for how funding will be used in these areas and what expected results could be. Additionally, they are able to use their role as subregional coordinators to convene private investors as a way of maximising collective spend for innovative, net-zero technology.

Figure 9: Renewable electricity generation (MWh)



Source: BEIS

The picture for counties, districts, and unitaries is different in that they do not have any significant powers on their own to drive change in this area, although there is potential for them to also drive some inward investment towards renewable energy and related technologies in their area. Holding key convening powers, local authorities can work with distribution network operators, neighbouring authorities and across their wider strategic partnerships to prepare local energy plans for the area with the intention of switching to renewable and low-carbon electricity. They can also work with investors and to develop project pipelines for the complex interaction of power, building heat demand, hydrogen, biogas, and the electrification of transport.

Planning policy has created a regulatory framework through which local planning authorities can work, on their own and together, to tackle the causes and consequences of climate change when considering proposals for developments. Specifically, paragraph 97 of the NPPF requires local authorities to consider appropriate local areas for renewable and low-carbon energy sources. Another opportunity for local authorities to act on increasing renewable energy provision is through the use and increase of their own asset ownership. The LGA have released guidance[58] on the opportunities for authorities looking to explore this. They highlight four options for councils looking to own renewable energy assets. These include developing a project on owned land, on third party land, acquiring project rights from a commercial developer, or a fully built and commissioned project.

Each option will have its advantages and challenges depending on a range of factors including whether the council in question is a borough, county, district, or unitary. For example, with self-developing on owned land a potential advantage is the fact that the project will be contained within the geographical boundary of the authority. This could be particularly advantageous for county councils and would simplify any need for strategic planning. Ultimately, investment will be key to the success of any of these renewable energy assets. As such, local government pension schemes will play a big role as net zero investors – particularly given government plans for their increased role in investing in local infrastructure projects, as laid out in the Levelling Up White Paper.

2.2.2 Local energy networks

A smarter, more flexible electricity network is key to reaching the government's net zero target by 2050, driven by decarbonisation, digitalisation, and

58 LGA, Local Partnerships (2020) – Renewable energy good price guidance

decentralisation. Energy networks are already facing unprecedented change as the country is moving from a traditional one-way power system to a more decentralised system with network connection points multiplying and energy feed-in further fragmenting. Localised energy networks will be key to the transition to net zero.

Following the publication of the Clean Growth Strategy, government has worked with local authorities, particularly combined authorities, in developing regional energy strategies[59]. This initiative has been funded by BEIS through Local Enterprise Partnerships across England and developed alongside local state stakeholders including from academia, business, industry and community groups. Overall, as stated in the Sheffield City Region Energy Strategy[60], they are designed to give confidence to businesses looking to invest in low-carbon energy generation regionally.

District authorities have been recognised as key to supporting the delivery of smart local energy systems due to their status as local planning authorities, their relationships with communities and their knowledge of local areas. De-monopolising major utility companies allows businesses to start trading in locally produced, cleaner, flexible forms of heating, cooling and power and is a more efficient way of managing a community's energy needs. These networks can take advantage of local conditions such as:

- Development of hydrogen for industrial use
- Presence of underground mine water sources or industrial heat available for district heating developments
- Wind power connected to distribution networks

Closely related to this is the increasing importance of Local Area Energy Planning[61] and forming strategic relationships with stakeholders including the District Network Operators in order to meet local net zero goals and contribute to national efforts. The importance of DNOs collaborating with local authorities is increasingly being recognised, as a means to understand what a low-carbon energy market transformation will look like and mean for each individual place and their circumstances. Working on this level of strategic planning will enable and empower local authorities to identify where a lack of correct infrastructure is standing in the way of achieving net zero locally and addressing this through commissioning for it.

59 Gudde et al (2021) – The role of UK local government in delivering on net zero carbon commitments
60 Sheffield City Region – Sheffield City Region Energy Strategy
61 Energy Systems Catapult (2022) – Local Area Energy Planning

A heat network[62], also referred to as district heating, is a system of insulated pipes that distribute heat from a central source to a number of properties within a given area. Networks can cover a wide range, including an entire city, or supply a local cluster of buildings. The use of district heating eliminates the need for boilers or electric heaters in individual buildings. For this reason, government has come to see them as an important part of not only carbon reduction, but also cutting down energy bills for people. In 2013, the government established the Heat Networks Delivery Unit aimed at addressing certain capacity and capability challenges identified by local authorities as barriers to heat network deployment across the country. It provides grant funding and expert guidance to councils who are engaged in developing heat network projects in their area. The unit is in its 12th round of funding and has so far helped 250 unique projects across 170 borough, county, district, and unitary authorities.

Local planning authorities are in a prime position to ensure the provision of district heat networks by setting requirements for them in new developments within local plans[63]. This can go a long way to ensure authorities are building climate change mitigation into their forward planning for the local area. One option that could be considered would be to set out local requirements for decentralised energy through targets. This could be expressed through expected energy generation as megawatt-hours per year.

2.2.3 Convening powers and green skills

The green skills gap is perhaps most acute in the energy sector. As enablers and communicators, local authorities can support local people and community energy organisations to install renewable generation for on-site use, and link this to energy efficiency behaviour. They can also work with employers and training providers to assess and improve skills availability for the low-carbon and renewable energy sector.

Local authorities can lead coordination amongst different local state stakeholders to identify the skills demand and availability for this sector. They have a key role in ensuring that the local labour market is responsive to the needs of a net zero economy whilst also harnessing place potential in doing so. This is especially the case for those borough, county or unitary councils who also hold the responsibility of being a local education authority. Working with further education providers and industry employers to increasing training opportunities can be seen as part of their

62 BEIS – What is a heat network?

63 RTPI, TCPA (2018) – Rising to the climate crisis: A guide for local authorities on planning for climate change

wider duty to stimulate economic growth and increase employment opportunity.

Adequately addressing the skills mismatch must be done through a localised lens, especially in light of how the impact of the transition to net zero on local labour markets will depend on their ability to match vacancies with the relevant skills. Such an approach would entail targeted and tailored measures for place that reflect their individual circumstances, particularly in understanding the green skills context of each local labour market, especially where and how skills in renewable energy can best fit in.

A necessary part of working through a localised lens will entail close strategic coordination and convening between every relevant part of the local state. This includes local authorities, further education providers, local businesses and employers, industries, and Local Enterprise Partnerships. For this collaboration to be truly effective, the institutional architecture of further education institutions needs to be reformed in order to promote trust and collaboration with wider business, industry, and employers. Doing this through further devolving the education budget would mean stakeholders being able to focus specifically on the green skills needs of their local economy.

Elsewhere, the Levelling Up White Paper announced the full rollout of Local Skills Improvement Plans. These will be employer led and are designed to encourage increased coordination between local employers and skill providers to tailor the provision of skills to local need. In particular, they will set out the current and future skills needs and how best to adapt provision to increase the prospects of the local labour market. They hold enormous potential in fixing the national skills mismatch, whilst equally increasing the availability of green skills in localities that are responsive to local opportunity and circumstance.

2.3 Achieving clean local growth in the energy sector

Opportunities	Barriers
• Through investment in their own **renewable energy generation capacity**, councils can directly contribute to the decarbonisation of the national grid. • Local authorities can work with **community energy projects** to help local groups deliver energy on a smaller scale. • **District heat networks** can reduce carbon emissions and, in the longer term, the energy bills of residents. • **Green skills** can be built up locally in a strategic way through the convening of skills providers and businesses around a long-term project pipeline.	• The **long-term nature of investments** in heat networks can present a barrier to council involvement, particularly in smaller authorities where capacity is lower. • The **architecture of the Further Education college system**, incentivised largely around competition, creates a barrier to holistic local collaboration on skills.

Creating market conditions for clean local growth in the energy sector

Local authorities have an important role to play in providing market confidence and bringing in the investment needed to accelerate the decarbonisation and clean growth of their local economy. Creating the right market conditions for clean local growth in the energy sector will entail:

- Working with FE colleges, skills providers, and businesses to help facilitate the provision of green skills in the local labour market. Particularly using the Local Skills Improvement Plans as an opportunity for tailored and targeted provision.
- Using council financial and landowning capacity, as well as position of leader and convener of the local state, to direct investment in local renewable energy generation.

- Using local planning powers to set quotas for the use of renewable energy in new developments.

2.3.1 Renewable energy

The role of local authorities in driving forward renewable energy provision will have to be underpinned by local leadership and innovation. Already there are several councils across the UK that are leading in this area, with the likes of Herefordshire, Shropshire, and Calderdale having estimated annual energy capacities ranging from over 2,500 – 4,400 MW[64]. In all three cases, the most common type of renewable energy produced is from solar PV.

Councils demonstrating local leadership in the use and adoption of renewable energy will be vital in setting an example for other local state and community stakeholders to do the same. As highlighted by the LGA[65], councils are one of the biggest consumers of electricity. Therefore, by investing in renewable generation to meet their consumption need, a strong signal will be sent to other anchors including businesses, local education and healthcare establishments, as well as residents, to also transition.

Relatedly, local authorities can apply this leadership to encouraging locally innovative solutions to scaling up renewable energy provision in their area. For example, Sharenergy[66] is an organisation that is aimed at helping grow community energy both locally and across the UK. This is done through building local capabilities and bringing together community members to develop energy projects, with capital raised through selling shares. Examples of projects include the Whalley Community Hydro that generates green electricity from the power of the River Calder in Whalley. Local authorities have a crucial role in working with such groups to increase the scale of innovation.

Looking at the innovation present within authorities themselves, recently Telford & Wrekin Council partnered with British wind turbine company Alpha 311 to attach turbines to streetlights on the A442[67]. The aim behind this is to generate enough electricity through wind generated by passing vehicles to power the lights, with whatever remaining going back into the national grid. This initiative builds on the council's strong track record of climate-related innovation and its high ranking as one of the top three UK local authorities for climate change action planning.

64 Green Match (2022) – Top 30 UK Local Authorities by Renewable Energy Capacity
65 LGA (2020) – Renewable energy good practice guidance
66 Sharenergy – Sharenergy helps communities to set up and own renewable energy societies
67 Shropshire Star(2022) - Wind turbines to make electricity from passing cars on Telford's A442

In addition to this, local innovation in renewable energy storage is evident through the Energy Superhub Oxford. Oxford City Council, working in a consortium with other local state partners, has aided the ESO in the introduction of a cutting-edge hybrid battery system which will underpin local and national clean power systems and support the UK's transition towards a zero-carbon energy system. Specifically, the hybrid battery system combines a 2MW/5MWh vanadium flow battery from energy storage leader Invinity Energy Systems with a 50MW/50MWh lithium-ion battery from global technology company Wärtsilä to deliver an innovative energy storage solution that can balance the intermittency of renewable energy. The battery system stores renewable energy at times of high supply and will provide essential flexibility to the UK's grid as renewable energy is scaled up.

The capacity of local authorities to drive forward renewable energy touches upon their role as an area's trusted broker and their naturally ability to engage with residents. The process of shifting to renewable energy when looking at home heating can be overwhelming for residents, particularly given the numerous factors that need to be taken into consideration when making a decision. But local authorities can act as trusted brokers in bringing together all the information that is needed to make an informed decision and linking residents with accredited providers, such as through a one stop shop.

The Solar Together scheme[68] is a perfect example of this. The scheme is a group-buying programme that enables residents to install solar panels, battery storage and EV charging points on their properties at an affordable price. The benefit of such a scheme is that information is provided in one place. Interested residents can register their interest, after which an auction is held amongst accredited providers, who bid to provide the installation at an affordable price. Finally, these providers will contact residents with a personalised offer based on the specifications laid out by residents when first expressing an interest. The scheme is run by iChoosr who work closely with local authorities to promote it across the country.

2.3.2 District heat networks

Given their distribution across cities and towns, local authorities of all configurations will be a key stakeholder in making heat networks a national success. As the government have recognised, their involvement in the development and expansion of heat networks will be central in delivering green jobs and local economic growth. This is due to the fact that local authorities can incorporate heat networks with

68 Solar Together – Homepage

combined heat and power plants to drive regeneration and attract new businesses locally.

An example of a local authority implementing a heating network project is Woking Borough Council and their combined heat and power project[69]. In 2000 the council created an Energy Services Company called Thameswey Energy Ltd to build and operate a CHP energy station in the town centre. The installations have provided low-carbon heating, cooling, and electricity to a range of buildings in the town centre including council-owned civic offices, a local entertainment complex, a 120 mixed-tenure houses, as well as a number of other buildings.

As a special purpose vehicle, Thameswey Energy Ltd has been able to attract investment from external sources and has the independence to spend funds as it sees appropriate. More recently, Woking Borough Council set out a renewable energy plan[70] following their declaration of a climate emergency within which a stated aim is to work with Thameswey to further decarbonise their energy network as well as exploring how to expand the CHP network. It has benefitted the town through being a best practice example of local energy generation, with stakeholders from other councils coming to learn from Woking's experience. Additionally, it has proven to be an innovative method through which to reduce carbon emissions and diversify energy supplies meaning that the council does not have to rely on major energy companies. On the other hand, a barrier that has been recognised is the time taken gain a return on investment from the project.

Elsewhere, in 2019 Stoke-on-Trent embarked on the second phase of their district heat network[71]. The council followed up work carried out earlier in the same year, which saw 2km of pipework being installed around the city, and a further 1.4km of pipework were laid down. Overall, the second phase took 30 weeks to complete. Supporters of the project highlighted how in addition to supplying greener energy to the local area it would also provide young engineers the opportunity to learn the latest industry skills. However, as of 2022 the heat network is still not operational[72]. While 4km of pipework has been laid down in the Shelton area of Stoke-on-Trent, scrutiny committee members of the council were told that even when the network is fully functional, it will take a number of years for residents to be offered it and thus to feel the financial benefits of it. This has

69 ade – Woking Town Centre case study

70 Woking Borough Council (2021) – Renewable energy plan

71 Make It Stoke on Trent & Staffordshire (2019) – Work starts on Stoke on Trent's Sustainable Heating Network

72 Stoke on Trent Live (2022) - Cash-strapped Stokies will have to wait years for cheaper bills through council heating scheme

caused significant frustration with council members who have expressed concern over the lack of benefit to residents from the 10-year-long, £19m project.

This touches upon a central challenge that risks standing in the way of effective local involvement in heat network rollout: the high capital costs involved. This includes the construction and financing of networks that often have long investment payback times. Such costs can discourage their deployment if cheaper alternatives are available and readily accessible. This is a particular concern for those local authorities who might not have the expertise or familiarity with heat networks and can be put off by the costs.

A third recent example of a district council engaging in this area is Lancaster City Council, who have started work on a Heat Network Techno-Economic Feasibility Study to look at the feasibility of whether heat networks in the city could support residents and businesses. Funded by the Heat Network Delivery Unit, the study is expected to be finished by April 2023 and builds on previous studies commissioned by BEIS in 2019.

The new study will provide a more detailed examination of eight indicative clusters identified in the previous study. Specifically, it will address technical solutions for delivery on the clusters seen as having the most potential in the delivery of local heat networks. A significant aspect of the study being undertaken by the council is their consulting with local public and private sector organisations that are high users of energy. Overall, the study is underpinned by the ambition that, if feasible, a locally delivered network could have the potential to protect businesses and residents from price increases in the wholesale energy market, which has seen record hikes in the cost of gas and electric.

2.3.3 Green skills

The local role in skills delivery has been well recognised by a number of stakeholders and increasingly acknowledged by government. If planned and coordinated effectively, it has the potential to fix the national green skills deficit in a way that accords with each locality's place potential. It also has the benefit of boosting local economic growth and regional COVID-19 recovery at the same time.

One of the most well-known models being proposed for a holistic provision of skills on the local level comes from the LGA through their Work Local[73] vision for a devolved and integrated employment and skills service. The motivation behind this came from the recognition that the UK has one of the most centralised employment

73 LGA – Work Local

and skills systems in the developed world. At the same time, there is no joined-up approach between central government agencies including the Jobcentre Plus, the National Careers Service, and the Education and Skills Funding Agency on the provision of skills in a manner capable of meeting the needs of local labour markets.

In light of this problem, the Work Local vision sees the power and funding to manage joined-up services for skills and education being devolved to combined authorities and councils working at a strategic level. This joined up service would provide place-specific support on employment, apprenticeships, education, skills, and business support for individuals and employers.

Out of the number of principles guiding the vision, the most pertinent include being driven by local opportunities and need as well as being underpinned by a common national framework for devolution. These principles will ensure that local areas are working toward a nationally recognisable goal but doing so in a way that is in accordance with their potential.

The vision was launched before the COVID-19 pandemic, and analysis done at the time suggested it could result in 8,500 more people in work with 6,000 people increasing their skills. More recently, following the publication of the Levelling Up White Paper, the LGA released the Work Local: Unlocking talent to level up[74] response. It set out a series of recommendations to government on how to improve its approach to skills provision and better tie this into the levelling up agenda.

Bristol City Council have been leading the local delivery of skills through their 'One Front Door'[75] one stop shop. The service delivers a job matching service to help employers, individuals, and support agencies match vacancies with local job seekers, including from the city's most deprived communities. The service is a part of the council's Employment, Skills and Learning team. It uses a coordinated approach that refers participants to local employment and skills providers using their existing Ways2Work network. This itself is a community of employment support and training organisations that link employment opportunities with people across Bristol and West of England.

A major focus for the service is on vulnerable and hard to reach people. Given this, it provides personalised employment support for those who might be experiencing complex challenges that prevent them from entering the job market. One Front Door is supported by an experienced steer group that is comprised of stakeholders from business and community organisations across the city.

74 LGA (2022) – Work Local: Unlocking talent to level up
75 Bristol City Council – One Front Door

2.4 Case study: Crawley

In 2020, Crawley Borough Council began to build their own heat network, based in the borough's redeveloped town hall site. However, prior to this green light, the council embarked on a process of policy development with input from local stakeholders and the leveraging of certain powers by the council.

Planning for carbon reduction

A key initial driver was the council's ongoing carbon reduction plan. Within the developing plan were various projects, one of which was to assess the feasibility of providing a heat network – with the town centre as its primary node. Another driver, as well as eventually facilitating the eventual heat network project, was the council's local plan policy. More specifically, the local plan set out a hierarchy of considerations for new developments in the borough's town centre, the top of which was to provide a heat network where one did not already exist. This meant that developers would be required to acknowledge and respond to this when putting forward their plans for site developments.

There were some town centre sites the council had an active interest in – most notable of which was the town hall site. In 2017, the decision was made to build a new town hall on part of the old site dating back to the 1950s. The plan was to work with developers to provide a sizable residential space on the remaining part of the site. There were also multiple smaller, satellite sites where significant redevelopment was also planned, all of which were within a catchment area of the main town hall site.

Working with local stakeholders

In early developments taking place after the introduction of the local plan's hierarchy of considerations, it became clear that developers were struggling to justify the expenditure, time, and risk associated with adding a heat network. Moreover, implementing a heat network as part of development was an area of specialism that sat outside most developers' interests and experiences at the time. There was a recognition in the council that placing the onus predominantly on developers to provide heat network implementation was too impractical to be effective in achieving the goals laid out by the carbon reduction plan. This saw them look inward at their own developments and what

could be done to expedite the process on their own accord.

The council were successful in applying for funding to finance a pilot scheme for the town hall site. This included £150,000 to go towards feasibility fees and £1.25m for construction costs, within an overall capital cost of around £5m. This was quoted as fundamental to the early life of the heat network project, as prior to this, rates of return seemed very marginal, and developers were too risk-averse at the time. After finding a partner developer willing to work in collaboration with the council, it was decided that the project would be pursued in phases. Phase one would provide heat for the developing town hall site and phase two would be a residential development immediately adjacent to the site. The council was able to secure commitment within its ranks and from key developers on this phased basis.

As of September 2022, Crawley is putting together the feasibility for phase two of its district heat network project. As noted, the development on a site adjacent to the town hall site will be predominantly residential, with some mixed commercial and educational buildings, including Crawley College. This phase of the project has been identified as the most heat intensive in terms of take up. It is possible for the council to make such calls and plan accordingly due to the intricacy of its feasibility processes.

There are two key elements in this regard. On the one hand, the council looks at the heat demand, the business case, and the technical feasibility of expanding the heat network outwards, and how that would be designed and costed. On the other, the council is now considering the feasibility of options for changing the fuel source of the heat network away from gas toward lower or no carbon fuel sources, as part of the project's second phase. Options considered in this regard include ground source heat pumps.

Using the local plan

Amongst more obvious powers such as building standards and softer convening powers, it is the codification of the local plan that has proved the most cost-effective and useful power – as it has enabled the council to open the potential of the heat network and bring partners and customers on board through planning approval processes. It also allows for a positive pressure to be placed on developers to think broadly about the heat network and broader decarbonisation agenda. The result of such a set-up is that there are three key identified players in the proliferation of the heat network: Crawley Borough Council, BEIS with regard to funding, and a partner developer responsible for the contracting and leasing of the sites in question.

In terms of the internal buy-in for the project, Crawley was able to write up and secure commitment from the administration to make the heat network a pursued priority – which, in turn, started to drive and mould strategy and delivery structures. Much time was spent regarding the governance of the heat network project and the structures that the council needed to have in place.

By completion, the major redevelopment of the town hall site seeks to deliver up to 273 flats, a nine-story building containing a new town hall, and grade A commercial offices above, a new public square, public realm improvements, ground floor commercial space, and a district energy centre serving over 1000 residents, one municipal and several commercial buildings. Completion of the first phase alone is estimated to save 350 tonnes of carbon a year.

2.5 Recommendations to central government

- Commit to renewable energy and abandon plans to further extract fossil fuels from the North Sea.
- Produce legislation to bring forward the Local Skills Improvement Plans as laid out in the Levelling Up White Paper, with an emphasis on the delivery of new green skills for retrofit.
- Produce a comprehensive legal framework for Local Area Action Plans, as was scoped by Ofgem and BEIS in late 2021.

CHAPTER THREE

Manufacturing

The industrial sector in the UK accounts for 29 percent of CO_2 emissions, with the bulk of those emissions coming from manufacturing processes[76]. For net zero to be achieved, manufacturing must become more efficient, circular, and hi-tech.

Local councils of all types have a facilitatory role to play in supporting business and investments in their areas, with planning authorities in particular able to leverage their powers in support of a just transition in manufacturing – especially in Enterprise Zones.

76 Griffin et al (2016) – Industrial energy use and carbon emissions reduction: a UK perspective

Key points

Driving decarbonisation

- While significant progress has been made in decarbonising the UK's manufacturing industry, much of the 'low-hanging fruit' of emission-reduction has now been achieved, the situation now requires greater innovation and associated investment to push further along the road to net zero.
- Decarbonisation of manufacturing must be considered in the context of a just transition – particularly in the context of the cost-of-living and energy security crises brought to the fore in 2022.
- While lacking obvious powers to directly influence the sector, local authorities can use indirect routes, such as their convening power and the provisions of local planning, to drive change in the sector.
- Councils also have a role to play – financial, advisory, and strategic – in ensuring a just transition at the local level.

Achieving clean growth

- Driving innovation in manufacturing – both in terms of methods and the actual goods produced – can boost productivity and exports, growing the national economy.
- High-tech, transferable skills can be amassed at the local level through coordination between manufacturers, educational institutions, and local authorities.

3.1 The current national picture

3.1.1 Pathways to industrial decarbonisation

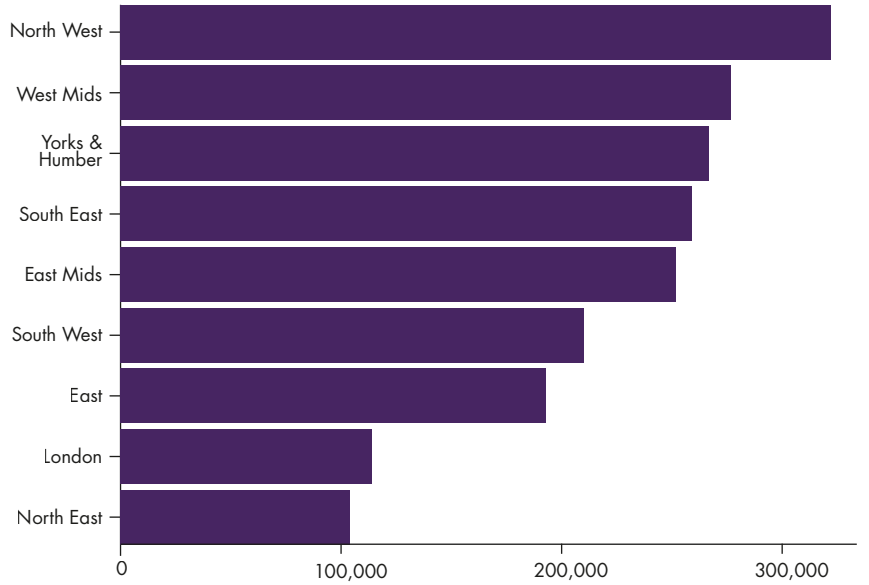
A lot has changed since the height of the first Industrial Revolution when Britain was known as the "Workshop of the World". Yet manufacturing still plays an essential role in the UK economy, contributing £170bn annually – nine percent of the UK's GDP – and providing 2.6 million direct jobs[77] as well as over five million jobs across the value chain. With this output, however, come carbon emissions. It is estimated that the manufacturing sector is responsible for 20 percent of the UK's greenhouse gas emissions, with two thirds of these thought to be from energy intensive users such as steel, glass, and ceramic manufacturers. However, this also demonstrates the vast potential for industrial decarbonisation and demonstrates

77 ONS (2022) – Annual Business Survey

the impact this could have in helping meet the UK's 2050 net-zero target.

The UK's Industrial Decarbonisation Strategy was published in March 2021[78], setting out an ambition to cut emissions from industry by two thirds by 2035 (compared to 2018 levels), which will be reviewed and updated every five years. It sets policies for near-term decarbonisation, including measures to build markets for low-carbon products and energy efficiency improvements. The strategy falls short however, because it sets out little detail on how to realise its ambitions, especially with no new funding.

Figure 10. Jobs in the manufacturing sector



Source: Business Register and Employment Survey

While manufacturing sectors are quite varied, many have the same requirement for fossil-fuel-intensive combustion processes, resulting in significant direct, indirect, and process GHG emissions. The UK manufacturing sector's historical emissions trend appears promising, having declined by 57 percent since 1990. However, this masks the fact that most of the low-hanging fruit, in terms of efficiency improvements, have now been achieved and further abatement is not possible

78 BEIS (2021) – Industrial Decarbonisation Strategy

without significant disruption to technological production routes[79]. Investment in innovation will therefore be key to both achieving productivity growth and decarbonisation in the UK's manufacturing sector – with long-term funding and vision required to develop individual businesses, wider infrastructure and human capital.

The challenge for governance is to provide a mix of incentives for private investment whilst also deploying state investment in the physical and human capital needed to make such investment viable – providing ample opportunity to work with councils as the locus of governance in different areas across the country. The availability of low-carbon hydrogen and CCUS, for example, is likely to be critical for the deep decarbonisation of some industrial sectors, alongside low-carbon electricity. Both will require the development and deployment of necessary infrastructure, supported by government investment. Key recent policies to this end include the Industrial Clusters Mission under the Industrial Strategy Challenge Fund, grant funding towards CCUS innovation and deployment, and the Low-carbon Hydrogen Production Fund[80].

3.1.2 The importance of a just transition

The route to clean growth involves continuing to reduce emissions through greater efficiency, new technologies and clustered industries. As the country's economy decarbonises, there will be an increased focus on 'green manufacturing'[81], specifically the development of green technology and the introduction of energy efficient and zero-carbon manufacturing processes. Automation is increasingly seen as a key element of green manufacturing and embedding sustainability into the process. As such, efforts have been directed at research and innovation in this area to further boost it.

On the other hand, automation poses a real risk for the livelihood of many people working in the sector. Given this, a just transition in the manufacturing sector will be of particular importance to avoid damaging impacts on local labour markets and ensuring people continue to prosper as the economy transitions to net zero. In this context, a just transition means ensuring that the process of decarbonisation happens without the livelihood and job security of places and people being put at risk. Attention must be paid to labour market dynamics – both in providing new pathways to high-skilled employment and a transition away from lower-skilled, less efficient manufacturing. The local state and associated institutions are well-

79 UCL (2021) – Towards net zero in UK manufacturing
80 CREDS (2020) – Industrial decarbonisation policies for a UK net zero target
81 Li et al (2013) – Automation in Green Manufacturing

positioned to do so if empowered.

Concern has been raised over the potential risk of a vacuum being left in the manufacturing sector, particularly in jobs typically considered to be 'low-skilled', by central government's immigration and skills policy. Automation and other technological solutions to addressing this vacuum should undoubtably be invested in and proliferated, but this must be done in a 'just' manner that does not leave working people redundant and skills-deficient, or have SMEs run out of money and go out of business. Furthermore, technological solutions, although important, are likely to pale in comparison to the potential of a nationwide re- and up-skilling programme – as ultimately automation in manufacturing being a threat to livelihoods is a symptom of skills gaps left unaddressed.

3.1.3 Reducing industrial emissions in the post-Brexit environment

The overarching mechanism for large-scale carbon reduction in UK industry has been the EU ETS cap and trade schemes in which eligible facilities buy and sell tradeable emissions allowances to cover their annual emissions, with a 'cap' set on the total emissions permitted by all allowances under the scheme. Guaranteeing a level of emissions in line with or below a determined 'cap' encourages decarbonisation by providing a price signal for low-carbon investment, whilst the market-based approach encourages least cost abatement[82].

Since May 2021, and the UK's exit from the EU, the UK ETS has been in place and open for trading. It works in a very similar way to the EU scheme, except that it only applies to the UK. Additionally, at the time of writing, the UK ETS is somewhat more ambitious than the EU ETS, with a price cap five percent lower than it would have been under the EU ETS. However, there is still much progress to be made, especially regarding the lack of commitment on decarbonising steel production despite the CCC's recommendation of reducing ore-based steelmaking to near-zero emissions by 2035. On the demand side, there should be a focus on carbon pricing, competitiveness, and procurement. On the supply side, funding infrastructure development and new technology should be targeted.

3.1.4 The role of the subregional, LEPS, and the need for consistent policy

Regional bodies have existed in one form or another over the last 20 years to help address the regional gap in productivity and boost economic growth. In 1998, the New Labour government introduced nine Regional Development Agencies. These

82 CREDS (2020) – Industrial decarbonisation policies for a UK net zero target

were non-departmental public bodies tasked with driving economic development and business efficiency as well as delivering a Regional Economic Strategy in their respective regions.

As part of the coalition government's drive to cut the deficit, RDAs were abolished in 2012, with Local Enterprise Partnerships being introduced two years earlier in 2010. LEPs are comprised of voluntary partnerships between local authorities and local businesses and there are 38 active LEPs across England. LEPs were then put in charge of producing Local Industrial Strategies that have been aimed at delivering economic prosperity in each region of the country.

While a number of Local Industrial Strategies have been produced[83], a combination of years of focus on Brexit, a change of government, and then COVID-19 led to the momentum behind them stalling. This was reinforced by the Johnson administration ultimately shelving the idea of them[84], turning its focus towards the new mantra of levelling up.

The Johnson administration released the Levelling Up White Paper[85] in 2022, setting out an outline for a long-term, cross-governmental policy regime against which to define and develop the future of regional economic development. The manufacturing sector has a notable role to play in this vision and helping level up regional economies, particularly when thought of in its constituent parts: innovation, research & development, and production. LEPs are well-placed to lead in bringing out the potential of sector.

To do this, LEPs need clarity over the future of LIS, so that they know how best to effectively produce them. Despite being shelved for the moment, LIS are based on valuable knowledge of the local economy and key sectors. Regions need strategies to show which sectors need support, where growth can be best invested in, and the scale of delivery required. LIS can deliver that function and will need to be continuously reviewed and updated to ensure that they are relevant and attainable. Going forward, government need to address the status and role of LIS as a matter of urgency.

Elsewhere, LEPs will be vital in linking providers of further education with employers to gain an understanding of the skills availability and demands of the local labour market, as well as demonstrating the value of certain skills pathways in the context of contemporary clean growth.

83 LEP Network – Local Industrial Strategies
84 LGC Plus (2021) – Exclusive: Concern over apparent shelving of local industrial strategies
85 DLUHC (2022) – Levelling Up White Paper

3.2 Local authority powers and capacity

Local authority powers and capacity to drive decarbonisation – manufacturing

Power	District/Unitary	County/Unitary	LEP
Soft power	• Can use convening power and local knowledge to promote the uptake of training in high-tech manufacturing. • Can provide a local interface for businesses to access opportunities for funding at subregional, regional, and national levels. • Can create local area energy plans to initiate discussion on infrastructure decarbonisation.	• Can use convening power and local education authority status to promote the uptake of training in high-tech manufacturing. • Can use Growth Boards to bring together stakeholders and generate strategy.	• Can use Skills Advisory Panels to formalise strategy for upskilling and reskilling.
Hard power	• Can use local plans to set conditions for and incentivise decarbonisation. • Can fast track development and put Local Development Orders in Enterprise Zones.	• Can use public estate and council funds to finance business support programmes.	• In areas designated as Enterprise Zones, can retain business rates and invest locally.

3.2.1 Local indirect routes to decarbonisation

Given that most energy-intensive manufacturing industries are based in specific areas of the country, including coastal areas and regions in the North and South West, local authorities will evidently have a significant role to play in the decarbonisation of the sector. This is something that was previously acknowledged by government through their policy on Local Industrial Strategies introduced in

2017, which gave a framework and direction for local areas to work with.

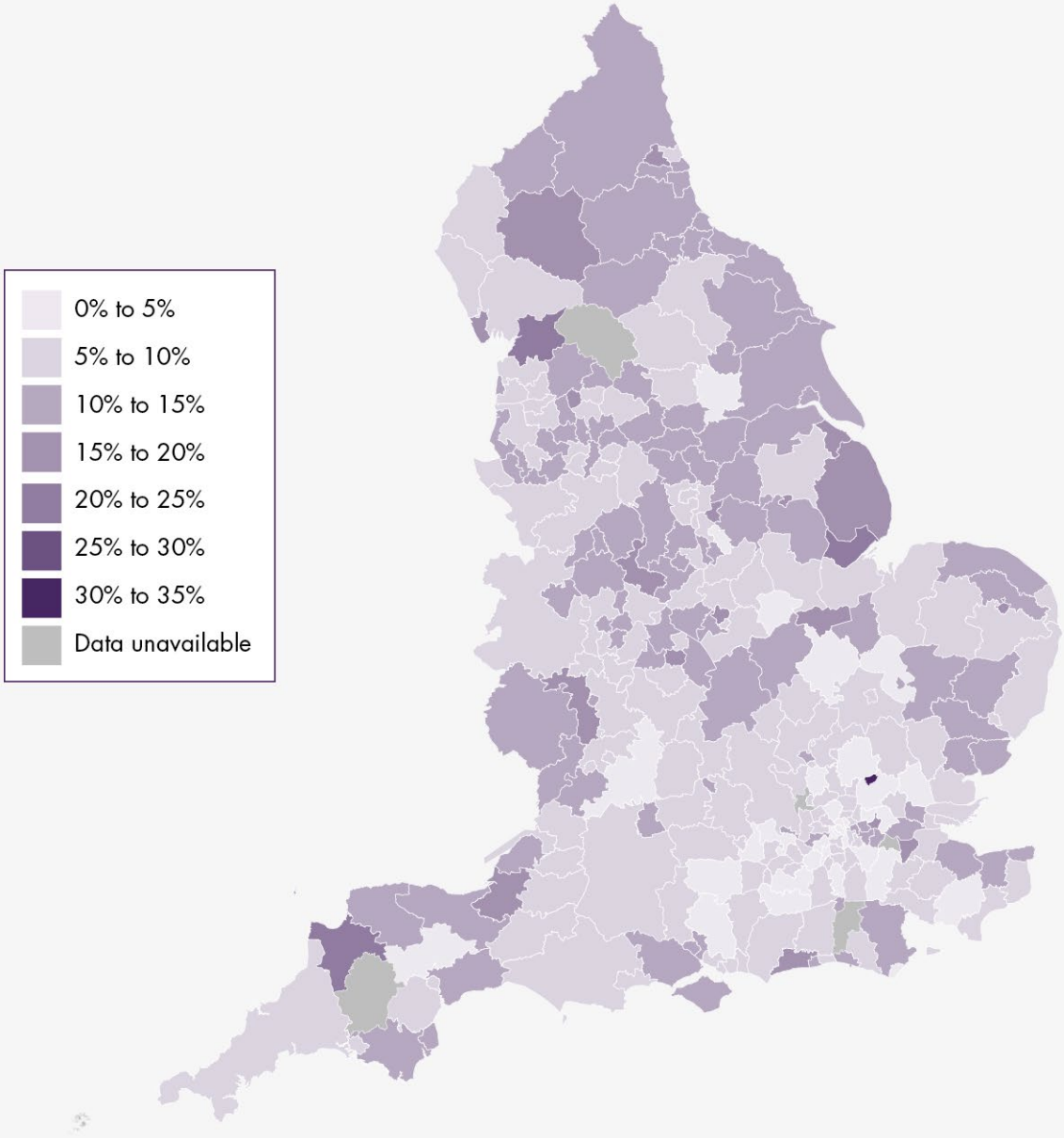
However, since their scrapping in the Plan for Growth, the Select Committee for Business, Energy and Industrial Strategy have noted that there is a distinct lack of structure that can underpin strategic conversations about industrial decarbonisation policy at the local level[86]. This has led stakeholders to argue that local influence on industry decarbonisation is limited to indirect routes[87]. Particularly given the limited powers of unitary, county, and district councils to coordinate major overhauls of industrial practices.

Skills

Local authorities' ability to act on the green skills agenda is a leading way through which to influence the decarbonisation of manufacturing. The current lack of skills and training opportunities needed for the transition to low-carbon manufacturing is a challenge for the practical implementation of decarbonisation strategies that may be planned. Equally, it provides an opportunity for authorities to work with local state stakeholders in supporting the local workforce to enhance their skillset.

86 BEIS Select Committee (2021) – Post-pandemic economic growth: Industrial Policy in the UK
87 UKERC (2022) – The role of local action in addressing industrial emissions

Figure 11: Proportion of workforce in elementary occupations (%)



Source: Annual Population Survey

Strategic coordination

Local authorities of all shapes and sizes being facilitators and convenors of place allows them to lead on strategic engagement with all local state stakeholders central to the decarbonisation of manufacturing industries. Local authorities can link manufacturing anchors looking to decarbonise their production and supply chain with business and economic stakeholders such as the Local Enterprise Partnership as well as skills providers including FE colleges to better understand a common way forward. Specifically, local authorities have the ability to embed manufacturing anchors in employment and skills partnerships.

Where they exist, LEPs will be a vital local-state partner to coordinate closely with. However, more clarity is required on the roles and responsibilities of LEPs in relation to other arrangements for strategic coordination such as enterprise zones. The Levelling Up White Paper made clear the importance and value of LEPs, yet it remains that their functionality could be absorbed into those of a combined authority, local authority, or indeed enterprise zones.

Where forming a combined authority is not possible, and enterprise zones lack in potential, LEPs should take precedent. In these instances, they would need increased powers to make them semi-equivalent in terms of other convening and regional powers. In the absence of this, it is made more difficult for local authorities that sit below to convene effectively.

Relatedly, an advantage for the manufacturing sector of LEPs as convening bodies is their ability to commission surveys of the sector over wider areas. This could allow for useful data collection and bespoke mappings of supply chains. This would allow for support to be targeted where it is needed most.

Planning

The planning system provides another route through which local planning authorities, including district councils, can influence the decarbonisation process of manufacturing. They have the ability to set the conditions for and incentivise manufacturing firms to decarbonise through better utilising the powers of their local plans.

Looking at planning more broadly, strategic planning is also a tool available to local authorities. For example, it has been noted that Local Area Energy Plans[88] can help inform conversations about the decarbonisation of infrastructure – including infrastructure required by the manufacturing sector. The creation of these

88 Energy Systems Catapult – The future of Local Area Energy Planning in the UK

plans is a process that can help enable the transition to net-zero energy systems, and while they may not be enough in and of themselves, they can act to bring all relevant stakeholders together.

3.2.2 Local authority support to Enterprise Zones

One area in which local authorities can utilise their powers to drive innovation is Enterprise Zones. First launched in 2012, these are designated areas across England aimed at supporting business innovation and local economic growth through providing tax breaks and government support to firms located in them. There is a strong sectoral focus in areas including automotive aerospace, renewable energy, and advanced manufacturing. Going forward, they will be at the forefront of decarbonisation in various different manufacturing sectors. And while Enterprise Zones are hosted by Local Enterprise Partnerships, there are actions local authorities can take to drive their growth.

Local authorities are in a prime position to lobby central government for increased funding and resources to be directed towards zones they may be working with for their ongoing development, especially when it comes to funding for their expansion. Relatedly, the local planning system can be used to propel these zones. For example, local authorities can put in place Local Development Orders that grant automatic permission for certain types of development within designated areas. Elsewhere, the planning authority can fast-track applications coming out of Enterprise Zones.

In terms of business support and setting the right conditions for investment, the fact that 100 percent business rates are retained by the relevant Local Enterprise Partnership and local authority for 25 years means that all rates raised can be reinvested back into the zone and wider local area to drive economic growth and attract more businesses to set up shop. The Investment Zone policy announced as part of the 2022 Growth Plan could potentially follow this framework to drive growth, however it is important that local authority priorities on decarbonisation and the environment are not pushed to the side. Local government should be empowered, not circumvented, in investment zone policy. Enterprise Zones work well when legislation works with local democracy rather than seeking to work around it. Coordinated and strategic local skills policy is also crucial to maximising the growth potential of investment zones.

Overall, the Enterprise Zone model has worked well precisely because of its empowering effect on the local state and benefits brought to regional economic growth. What makes the Enterprise Zones unique is the ability of local state stakeholders to decide where and how to re-invest funding retained at the local level, including in up- and re-skilling the local workforce and on clean growth.

On the other hand, stakeholders within the manufacturing sector have spoken with caution about the recent investment zone policy proposals. While the idea of deregulated zones could bring short-term growth potential, on a holistic and more macroeconomic level, it amounts to little more than a rearranging of existing capital and revenue, rather than growth *per se*.

Enterprise Centre at Langcliffe Quarry in Craven District Council

Craven District Council have invested £50,000 into the redevelopment of a former waste depot at Langcliffe Quarry to create a new enterprise centre that will benefit from state-of-the-art fibre optic broadband. The new development will create over 26,000 square feet of new business space and is being additionally supported by the York and North Yorkshire Local Enterprise Partnership.

The development includes eight light industrial business units for B1, B2 and B8 uses ranging from 1,013 to 8,325 sq ft. Set out in three terraces, the units have been built to afford the highest sustainability performance possible, including the installation of roof mounted Solar PV panels, rainwater collection, low voltage lighting, and low emissivity glass.

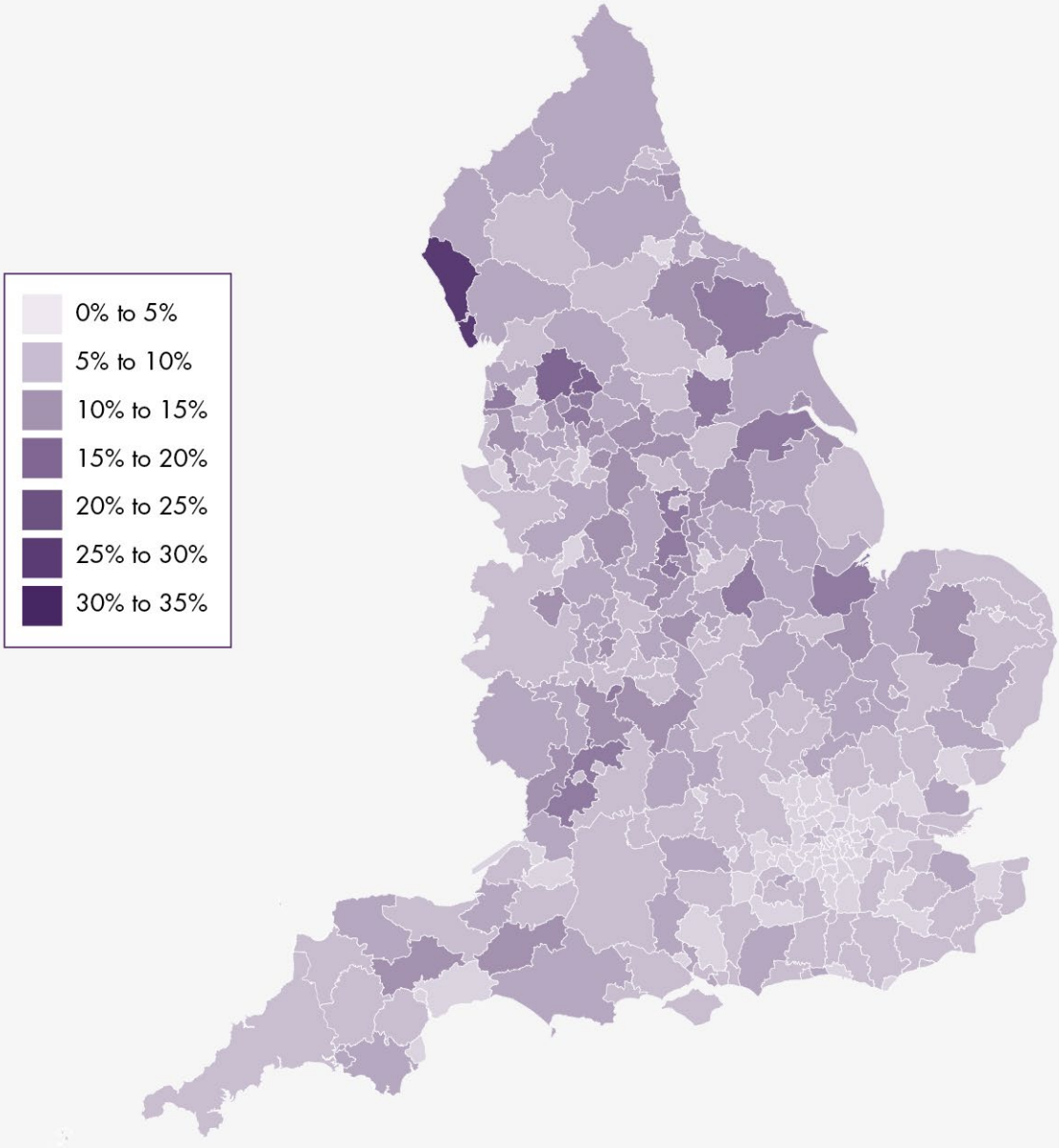
3.2.3 Just transition at the local level

While automation in green manufacturing poses a certain threat it also provides an opportunity for the local state stakeholders to work together in preparing the local labour market for the jobs that will be created and transformed as a result of this shift. Automation will inevitably eliminate certain jobs, but it will also create job opportunities that will require higher and specific skills.

Localis previously assessed[89] the local powers councils have to drive change toward clean growth in manufacturing and found that local government have limited powers with which to act. Combined authorities have the ability to work closely with LEPs in directing finances towards emerging green technologies and associated skill needs, however they lack regulatory powers to enable them to act at pace and independently, which is worrying in light of the threat of automation. Unitary, county, and district councils are further limited in terms of what they can do, although they can use council-owned assets to implement a circular local economy – something that can be part of a just transition.

89 Localis (2019) – The Route to Clean Growth

Figure 12: Proportion of total jobs in manufacturing sector (%)



Source: Business Reigster and Employment Survey

However, local government can use its convening power and strategic planning to lead on a localised response through the development of green skills and just transition strategies. This can help identify areas of the local labour market that are most at threat in the transition to a net-zero economy from factors such as automation. Coordinating at this level will require bringing together local and regional employers, education institutions, healthcare, and other relevant local state stakeholders to identify a set of objectives and work toward the same goals. The RTPI's call for Green Growth Boards would be a perfect body through which to direct this coordination. With all local state stakeholders working toward the same agreed and identifiable objectives, it becomes easier to build in the changes needed of the manufacturing sector into long-term planning for the development and investment of green infrastructure such as renewable energy generation.

The need to embed a just transition in the heart of climate action, and the vital importance of it for certain sectors, is well understood by the manufacturing sector, local government, and local state stakeholders. There is an awareness of the risks and opportunities involved for the manufacturing workforce in transitioning and Make UK's Green Skills Guiding Principles[90] demonstrates the sector's willingness to play its part in helping deliver a just transition. It is based on four pillars that include a commitment to help businesses with the green skills needed for the transition, to identify the areas of business where green skills are needed the most, engagement and alignment with the education system on skills, and delivering green and digital skills together.

90 Make UK – Green Skills Guiding Principles

3.3 Achieving clean local growth in the manufacturing sector

Opportunities	Barriers
• Local authorities of all kinds can collaborate with each other and local businesses to **incentivise Foreign Direct Investment** through local skills initiatives, favourable planning policy and strategic coordination. • Local authorities of all kinds can use **council-owned assets and funds** as well as strategies to help enact a just transition to decarbonised manufacturing.	• Many powers that can aid councils in driving FDI in green manufacturing methods and technologies are part of the **now-abandoned Industrial Strategy's enterprise zones**, leaving questions as to the further roll-out of such policy. • Increasingly reducing council budgets can **restrict ability to promote a just transition** to decarbonised manufacturing.

Creating market conditions for clean local growth in the manufacturing sector

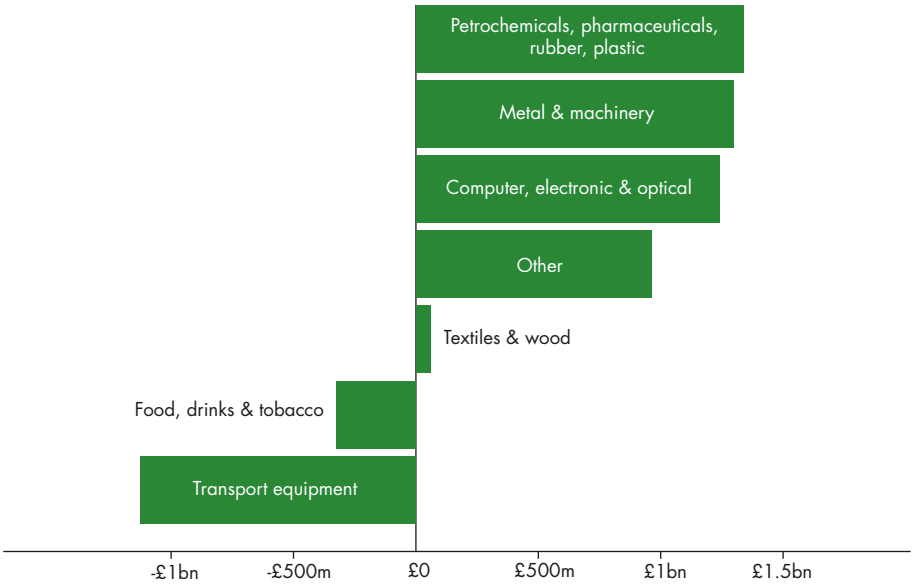
Local authorities have a strong role to play in providing market confidence and bringing in the investment needed to accelerate the decarbonisation and clean growth of their local economy. Creating the right market conditions for clean local growth in the manufacturing sector will entail:

- Using planning powers and the local plan to incentivise the decarbonisation of manufacturing practices. For example, fast track developments that are aimed at innovation in low-carbon manufacturing.
- Working collaboratively with neighbouring authorities to set up joint procurement entities prioritising the reduction of carbon emissions in manufacturing through a just transition.
- Lead on strategic planning and bringing together local state stakeholders to agree a common strategy for decarbonisation in local manufacturing that all work towards.

3.3.1 Modernising manufacturing through Foreign Direct Investment

Manufacturing jobs have been declining and transforming since the mid-19th century, from 40 percent of UK workers employed in the sector in 1845 to less than 10 percent today[91]. This decline should be seen in the context of a modernising manufacturing industry that will increasingly compete globally based on quality and sustainability and will be transformed by the digital revolution. The manufacturing jobs of the future are likely to be higher skilled, requiring degrees to support high-tech and professional occupations, and many jobs will become service jobs as research and servicing generate larger shares of revenues[92].

Figure 13. FDI in UK manufacturing, 2020



Source: ONS

Mobilisation of capital in the coming five years is of pivotal importance to achieve the substantial changes within industries over the required timeframe. The CCC CB6 report states that the amount of investment required to achieve net zero across the entire economy must increase by around five times in the next ten years, from around £10bn in 2020 to £50bn in 2030. It is critical that the

91 The Economist (2016) - Britain's manufacturing sector is changing beyond all recognition
92 The Economist (2016) - Britain's manufacturing sector is changing beyond all recognition

policy framework and conditions are put in place, along with a clear pathway of government regulation to allow capital investments to take place on the short timescale required.

The indirect routes available to local government to exert influence on the manufacturing sector will also contribute to the investment offer of places and making them friendly to foreign direct investment especially. This is important to note because ultimately it will be this inward investment that will help drive the decarbonisation of manufacturing and make it ready for a net-zero economy.

Working on skills, planning, and most importantly building strategic partnerships with key stakeholders, will be of critical importance in maximising the potential of the UK's overall FDI offer in manufacturing clusters and Enterprise Zones. Two leading examples include the Doncaster rail partnership between Doncaster Council and local businesses to attract investment in innovation in the rail sector, as well as the LEP-led Enterprise Zone in Surrey focused on immersive digital technologies.

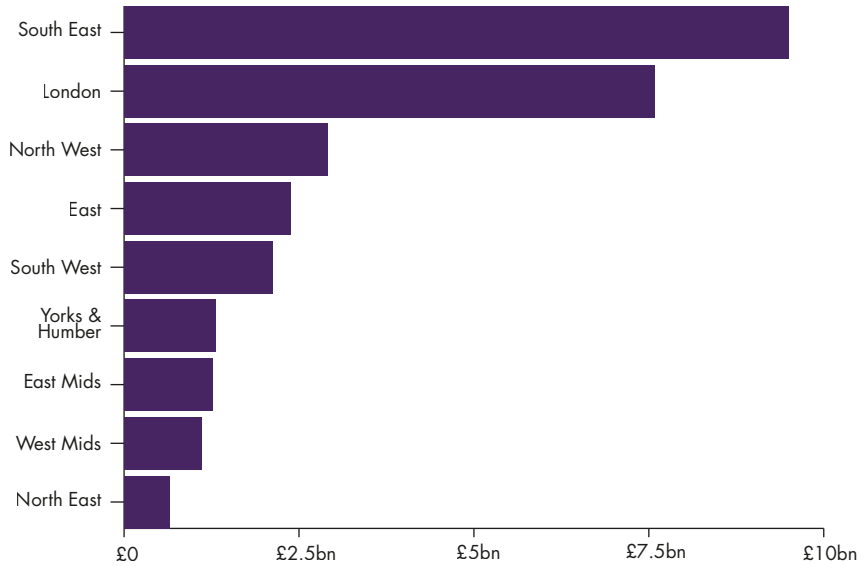
Business Doncaster is the council's inward investment business development service and works to draw investment into key sectors of the region. A leading one is the rail industry that has a large presence in Doncaster, which has for the last 150 years been 'at the forefront of national and international railway engineering and operational excellence'[93]. Business Doncaster, which is a partnership of the local authority and business support partners that includes the Chamber of Commerce, serves as a first point of contact to help guide those looking to invest in the city's railway sector. As such, it acts to grow and strengthen the railway asset to spur local economic growth.

The Enterprise M3 region[94] in Guildford, Surrey is the centre for innovation in immersive visualisation and gamification. Its core sectors include augmented and virtual reality as well as the creative industries. Its potential lies in contributing to the global forecasted growth of £224bn by 2024 of the augmented reality, virtual reality, and mixed reality technology markets. Given the government's focus on supporting innovation by the development of creative technologies, the Enterprise Zone will continue to be of central national importance. On a local level, retaining 100 percent of business rates and reinvesting it back into the Zone will significantly enhance its appeal for foreign direct investment.

93 Business Doncaster - Key Sectors

94 Department for International Trade - Immersive visualisation and gamification in Enterprise M3, Surrey

Figure 14. Estimated FDI by region, 2019



Source: ONS

3.3.2 Reducing industrial emissions with a just transition

With regards to a just transition, the Yorkshire and Humber Climate Commission has been set up to advance the region's climate leadership. In particular, its stated aim is to '[accelerate] climate resilient, net-zero development through an inclusive and just transition'[95]. The commission brings together public, private, and third sector actors to help deliver climate actions across the region. It has been supported by the council leaders from across the region as well as Yorkshire Universities, the Environment Agency, and Northern Powergrid, amongst many others.

Working at this scale has meant increased stakeholder buy-in and ability to act on immediate net-zero related challenges facing the region. The commission has published a Climate Action Plan that provides a framework for change and action. In particular, it calls for meaningful climate leadership from government, industry, and civil society in making contributions to fixing regional climate challenges.

95 Yorkshire and Humber Climate Commission – About Yorkshire and Humber Climate Commission

One of the 13 commitments laid out in the plan is to 'commit to a just transition'. As part of this, the commission will develop a just transition plan that maps the link between climate change and inequality. Relatedly, the plan also commits the commission to working with skills providers, industry, and businesses to develop net-zero-related training across the region.

There are a number of examples where district councils have been working to support local businesses successfully undergo a just transition. The Low-carbon Across the South and East (LoCASE) programme is supported by the European Regional Development Fund to provide a free business support programme in the South and East. The aim is to help businesses become more competitive and profitable while protecting the environment and encouraging low-carbon solutions. Its partners include a number of county and district councils including Basingstoke and Deane and Rushmoor Borough Council.

South Lakeland District Council have partnered with consultancy firm Green Small Business to give local businesses the chance to get subsidised environmental advice and 12 months of Green Small Business certification. The district council is hoping for 20 SME businesses to sign up through 2022 and 2023. In addition to this, the council has subsidised the Purposeful Business Start-up Programme: Future Fixers. The programme gives people the skills and knowledge to run a green, ethical enterprise. The council's backing means the usual £495 fee is cut to £60 for South Lakeland residents. 38 businesses have graduated from Future Fixers' Purposeful Business Start-up Programme.

Overall, there are a number of ways to enact a just transition, and local government and the wider local state will always be at the heart of it. One pathway towards a just transition that has been advocated for is community wealth building[96]. This would see action on climate change and economic growth brought together in a circular manner that delivers for and benefits local communities. Community wealth building can include the development of local retrofit supply chains that give back wealth to local residents through high wages, the public sector using their procurement powers to boost economic growth locally, or community- and council-owned energy generation infrastructure that reinvests profits locally.

An example of the community wealth building through procurement is Fusion 21[97], which is a social enterprise that specialises in public sector procurement through a framework approach that prioritises social value. Due to its legal structure, the

96 Rethinking Poverty (2022) – Local Government at the Heart of a Just Transition
97 Fusion 21- About Us

enterprise puts a percentage of its profits back into local social value projects that benefit local communities and businesses. Local authorities can learn from the example of Fusion 21 to set up joint procurement entities based on national frameworks that would be capable of doing the same, and in the immediate context redirect gains into local priorities such as tackling fuel poverty and accelerating a place-based just transition.

Lewes District Council[98] have placed community wealth building along with the climate crisis at the heart of their Corporate Plan. The work thus far has focused on council owned assets and using these to drive green sectors in the local area all the while providing opportunities for local residents. Activity on this has involved how best to bring good green jobs to those not in work. The council have worked with modular housing construction company Boutique Modern, who have teamed up with the local job centre plus to recruit people in need of work.

98 CLES (2019) – Community Wealth Building in Lewes

3.4 Case study: Hinckley & Bosworth

MIRA Technology Park[99] is a state-of-the-art global centre of excellence for transport technology, R&D, development and innovation. It forms one part of HOBIRA MIRA [100], which is a global provider of engineering, research, and test services in the automotive industry. The site offers fixed on-site engineering resources and R&D facilities that have been the focus of significant expansion over the last 10 years. MIRA Technology Park is split into two campuses; the majority sits north of the A5 in Leicestershire and comprises 860 acres. The southern campus comprises 175 acres and sits in Coventry and Warwickshire and will offer a larger footprint for advanced manufacturing. Over the last five years, focus has been on developing a larger scale offering and the delivery of buildings suitable for manufacturing at a greater scale. Currently, it hosts 40 companies on site with active plans for the expansion of the southern section, which is going through the planning process for its development.

Cross-cutting local governance and Enterprise Zone status

MIRA Technology Park sits across two administrative boundaries and close strategic coordination between the local authorities and state actors is necessary for its continual success. HBBC has led the co-ordination of work with-Leicestershire and Coventry & Warwickshire LEPs, government office and neighbouring local authorities via the Mira EZ Strategy Board which has made coordination between neighbouring authorities and local state stakeholders easier.

In 2011, the Park's CEO engaged with Hinckley & Bosworth Borough Council (HBBC) to help raise its profile both nationally and globally. Since then, the council has built a strong relationship with MIRA Technology Park to bring in the infrastructure investment required for its continued development. The council helped secure a Regional Growth Fund bid to government in 2013 of £19.7m, which acted as a catalyst that has allowed the site to expand its offer as a leading automotive cluster. After being awarded funding from the Regional Growth Fund, the council worked with Leicestershire LEP on getting Enterprise Zone status for the park, which bolstered its profile and its engagement with government.

For HBBC, Leicestershire LEP, and Coventry & Warwickshire LEP, a key benefit of MIRA Technology Park becoming an Enterprise Zone has been the ability to retain all business rates locally. This has allowed the council to reinvest the rates through the LEPs into the Park's continued development, which has helped attract more global companies. Becoming an Enterprise Zone has been key in overcoming growth challenges. There were infrastructure issues around energy capacity and road connectivity. However, through the successful RGF bids, significant investment was put in to upgrade the A5 into a dual carriageway, opening new development plots and improving power capacity and connectivity on the site.

From the perspective of MIRA Technology Park,

99 Horiba MIRA – Homepage
100 Horiba MIRA – About us

forming a close relationship with the constituent local authorities and local state stakeholders has been very important. They worked with both LEPs in the early stages regarding the vision for the site and plans for its further expansion. As it continues to grow, increased collaboration will be central to delivering the key infrastructure requirements needed to boost the parks status as a global automotive cluster. This will entail working with all levels of local government including the county council and across the Midlands.

Local investment and long-term skills pipeline

HBBC has been instrumental in the ongoing growth and development of the MIRA Technology Park. The combined campuses are projected to establish 5,000 direct jobs and 5,000 indirect jobs in the local economy. The council have facilitated a relationship between the Park and local FE colleges, local businesses, and the LEPs, which has helped secure the £9.5m MIRA Technology Institute. Further opportunities to support growth have been through the planning system, where HBBC committed to fast tracking every application of the Park. The ability to bid for and navigate government funding is another unique strength of local government which has helped grow the Technology Park and place it in a position of national significance. In addition to bidding for government funding, the council have themselves committed £8.75m investment into the site, which will help fund the development of low-carbon infrastructure and research and development facilities.

Collaborative working has been key to the delivery of the MIRA Technology Institute (MTI), which acts as a skills centre linking up local FE colleges, universities and schools. Working with local FE colleges and universities in setting up the institute has meant that companies set up at the Park can find and develop employees with the required skills locally. It also has allowed companies to upskill existing employees and provide them with continued development. Nationally, programmes facilitated by the council and delivered via MTI, such as Primary and Secondary Engineers, have been transformational in encouraging young people locally to progress into careers in engineering. The Technology Park is a vital part of the local Functional Economic Market Area, which is why strategic coordination is so important between all local state actors. For HBBC, enhanced working with the MTI provides an opportunity to boost local economic growth and enrich the labour market with high skilled jobs for local people. Upskilling the local workforce can happen through continued investment in the site and the MTI, the latter of which is embedded in the council's employment and skills partnership. This means that MIRA can look locally to build supply chains and tap into the potential of the local labour market.

3.5 Recommendations to central government

- Launch a new wave of enterprise zones to help support the transition to net zero in the manufacturing sector whilst also growing regional productivity.
- Attach skills provision to enterprise zones through Local Skills Improvement Plans, ensuring that approval for zones is granted only on demonstration of a viable local skills supply chain for businesses in the target sector.

Green Public Procurement at the local level

Freedom from EU directives and the single market, alongside latest proposed reforms, is a pivot point and represents a critical opportunity to practice public procurement to be more strategic, leave more room for innovation, and become more attuned to the pressing need to achieve net zero. This should encourage all local procurement stakeholders to collaborate and complement each other in working towards a more mutually beneficial and environmentally friendly procurement system that is ethical and transparent. Legislatively, the potential for such a system has been opened up.

Local government has the ability to influence industries that are heavily dependent on public spending – most notably transportation, waste management services, construction, and utilities. However, engaging a complex and often-times fragmented supply chain, particularly in industries that stretch globally, is puzzling. Nonetheless, raising awareness and proliferating training on key principles – such as circularity, efficiency, and making use of renewable energy – are practices that are attainable and come with a wealth of information and support available.

The strategic turn in procurement bolstered by lessons and experiences of the Social Value Act has great potential to deliver real environmental impact at the local level. An increased awareness is developing around the need for a better understanding and management of supply chains, whether locally, regionally, nationally, or even globally, when exploring how local procurement spend can be leveraged to deliver environmental benefits and work towards achieving net zero. In acquiring such an understanding, it is crucial that discussions on the strategy and practice of procurement *and* climate action do not take place in isolation. There must be a more wholesale recognition that the strategic power of public procurement can only be facilitated by broadening the scope beyond the activity of purchasing teams alone.

Embedding net-zero goals in public procurement, alongside social value considerations, has the potential to trigger private investment and new jobs that, in aggregate, will boost local economies. Furthermore, many related short-term costs are expected to become cheaper, as new technologies and more efficient products scale up.

Overall, understanding how to commission for low-carbon outcomes will be key to local authorities having maximum impact with GPP. This will require not only understanding how to put low-carbon evaluation criteria into procurement, but also developing a holistic mindset of what the desired low-carbon outcome is, and then communicating this effectively to all stakeholders involved including contract managers, commissioners, and the supply base. A leading example in this space is Suffolk County Council, who have developed their own Climate Change Commercial Ask.

CHAPTER FOUR

Transport and infrastructure

Transportation exists as one of the primary gears driving social and economic development, itself driven by investment in the physical environment such as infrastructure and mobility[101].

Continued use of transport is vital, not only for everyday mobility but to ensure the connection of human capital, infrastructure, and social capital to contribute to economic development as well as a better lifestyle for residents[102]. There is scope for local action across tiers in this sector - local authorities at the country/unitary level have transport authority status, and those at the district/unitary level have a role to play in terms of planning and the built environment.

101 Bamwesigye et al (2019) – Analysis of Sustainable Transport for Smart Cities
102 Ibid.

Key points

Driving decarbonisation

- Transport is the UK's highest-emitting sector, and decarbonisation will need to be driven both by technological and behavioural change.
- Electric vehicles and innovation in public transport systems can greatly reduce emissions, but encouraging the behavioural change that underlies a modal shift in transport is also required.
- Local authorities have a role to play in both aspects of transport decarbonisation. Across all types of local authorities and geographies, multiple powers and resources exist to help aid a smooth transition.
- However, the disjointed and piecemeal nature of these powers means that authorities must make the best use of their ability to convene and collaborate across different geographies and at different scales in developing an integrated and holistic vision.

Achieving clean growth

- Improving transport infrastructure has been identified repeatedly as crucial to alleviating regional inequality and delivering local growth.
- Increasing active travel has been shown to have benefits for local businesses as well as for health and wellbeing.

4.1 The current national picture

4.1.1 Changing the focus of transport strategy

Sustainable transport has two main dimensions. One attempts to reduce the need for travel through the spatial distribution of land uses so that distances can be minimised or using technology to substitute for travel (for example, through working from home). The other is to ensure that the most efficient form of transport is used, and that any energy needed is provided from renewable or non-carbon-based sources. Currently, the barriers are huge. Tens of millions of cars will have to be replaced requiring an enormous shift in cultural behaviour, with fit-for-purpose infrastructure also required. High-quality walking and cycling routes will need to be provided as alternatives to the car, which will also bring about opportunities to improve air quality, improve health and wellbeing, address inequalities, and tackle congestion on our road.

In recent history, when faced with making decisions between economic and environmental benefits, transport policy has increasingly pursued economic

targets[103]. This is despite claims from governments since New Labour, in power from 1997-2010, that transport would enter a more sustainable 'new realist' paradigm, where sustainability targets would be integrated into transport to replace 'predict and provide' policy which focused on projecting and meeting demand, usually with road infrastructure[104]. Until recently, sustainable transport was underrepresented in policy and only in 2021 was a transport decarbonisation plan[105] produced.

Figure 15. UK transport emissions, 1990-2020
Thousand tonnes of CO_2 equivalent

Source: ONS

The importance of transport infrastructure to economic development is obvious. This has been centred in the government's approach to levelling up, with a focus on achieving the benefits of agglomeration through improved connectivity one of the more consistent elements of an agenda which is often criticised as nebulous. Yet, despite this continued focus on transport as an economic necessity, the

103 Goulden et al (2014) – Beyond 'predict and provide': UK transport, the growth paradigm and climate change

104 Docherty (2011) - The Transformation of Transport Policy in Great Britain? 'New Realism' and New Labour's Decade of Displacement Activity

105 Department for Transport (2021) – Transport Decarbonisation Plan

government have widened the scope of policy repeatedly over the past decade, as a more holistic view of transport decarbonisation has come together through various strategies and policies. The country is now beginning to arrive at a position which centres the need to decarbonise transport as both a necessity and as complementary to the goal of local economic development.

Published following months of delays, the Transport Decarbonisation Plan outlines the government's approach, in terms of timings and technologies, to decarbonising the UK's highest-emitting sector. The plan includes a raft of policies with headline commitments to ban the sale of new diesel and petrol Heavy Goods Vehicles (HGVs) and buses by 2040. Also included are new public consultations on initiatives to reduce emissions from transport, including on the zero emissions vehicles (ZEV) mandate which would see car makers having to produce a minimum number of electric vehicles for sale[106]. Former transport secretary Grant Shapps heralded the plan as "just the start"[107].

In addition to the Transport Decarbonisation Plan, other progress of note has been[108]:

- Publication of the long-awaited National Bus Strategy for England
- Additional support for railway service upgrades and reduced support for new roads (although the government is continuing with its multi-billion-pound roads programme)
- Requirement for all road transport fuel producers to ensure 10 percent of fuels are from bioethanol
- Support for the 2030 phase out of sales of new petrol and diesel vehicles as the government has committed to higher funding of £1.3bn for EV charging infrastructure

4.1.2 Changing transport behaviours

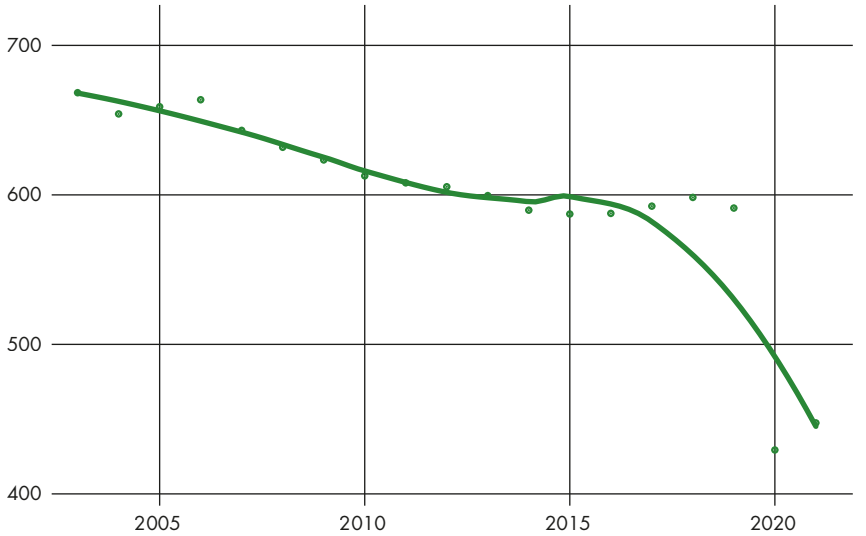
Behavioural change will be a core factor in successfully achieving net zero by 2050. Government, business, and industry interventions to develop sustainable methods of transport are one part of the equation. The other will be interventions aimed at influencing and changing the way people organise and live their lives in a manner that is more conducive to net-zero goals and ambitions.

Behavioural change will be required across a whole range of areas from eating

106 Climate Change Committee (2021) - CCC responds to Government's Transport Decarbonisation Plan
107 Edie (2021) - At a glance: Everything you need to know about the UK's Transport Decarbonisation Plan
108 Green Alliance (2021) – Net zero policy tracker: April 2021 update

less meat, reducing the amount people waste to changing home heating patterns to be more energy efficient. Here, transport behaviour change must be at the forefront. Increasing community understanding of the climate-friendly benefits of active travel, a switch to electric vehicles, and utilising zero-carbon modes of transport for short distances are a few of the initial areas where efforts will need to be focused. However, the task of embedding this change is easier said than done.

Figure 16. Car journeys in England
Average trips per person per year



Source: DTT

In 2021, BEIS commissioned an independent report 'Net zero public engagement and participation'[109], which showed that while public concern for climate change is at an all-time high, this does not translate to committed support for 'the types of changes that may be required to meet net zero'.

Given this, concerted public engagement aimed at an eventual change of behaviour with regards to transport use will be critical. Local authorities are the best suited to breakdown national ambitions around net zero and translate what this means for individual communities based on their unique circumstances.

109 BEIS (2021) - Net zero public engagement and participation

It will be up to authorities, working with local state stakeholders to effectively communicate and bring along residents on the journey to net zero. Giving communities a sense of agency to act on net zero will empower them to make the correct choices, whether that be switching to an electric vehicle or increasing their use of public transport and modes of active travel.

Stakeholders have also pointed to recent changes to the Highways Code as helping encourage behavioural change towards more active travel and making it easier and safer for people who choose to walk or cycle. Presumed liability[110] is at the forefront of these changes, described as a 'golden ticket' in changing the way drivers behave in response to other active travel road users.

Along with increasing the provision of active travel, addressing the significant costs of using public transport has to be a priority if transport behaviours are to be changed. There is an affordability issue with trains and a need to simplify the national ticket system to make train travel cheaper and discourage long distance, cross-boundary car journeys. However, making public transport cheaper should be taken as one aspect of a broader suite of interventions.

It is worth noting that the prize on offer for increased active travel goes beyond the obvious benefits to health and wellbeing associated with higher rates of exercise. A House of Commons Library paper found that the spill-over benefits of increased active travel include a boost to local businesses and assessed the value for money in investing in measures to promote its use as "very high". These distinct local benefits are recognised by residents, until individual responsibility is invoked (i.e. low traffic neighbourhoods), to which there can be considerable pushback. Practitioners have claimed that this is typically due to poor engagement and a lack of information campaigning.

110 ACSO (2021) – Presumed Liability and the Highway Code

4.2 Local authority powers and capacity

Local authority powers and capacity to drive decarbonisation – transport and infrastructure

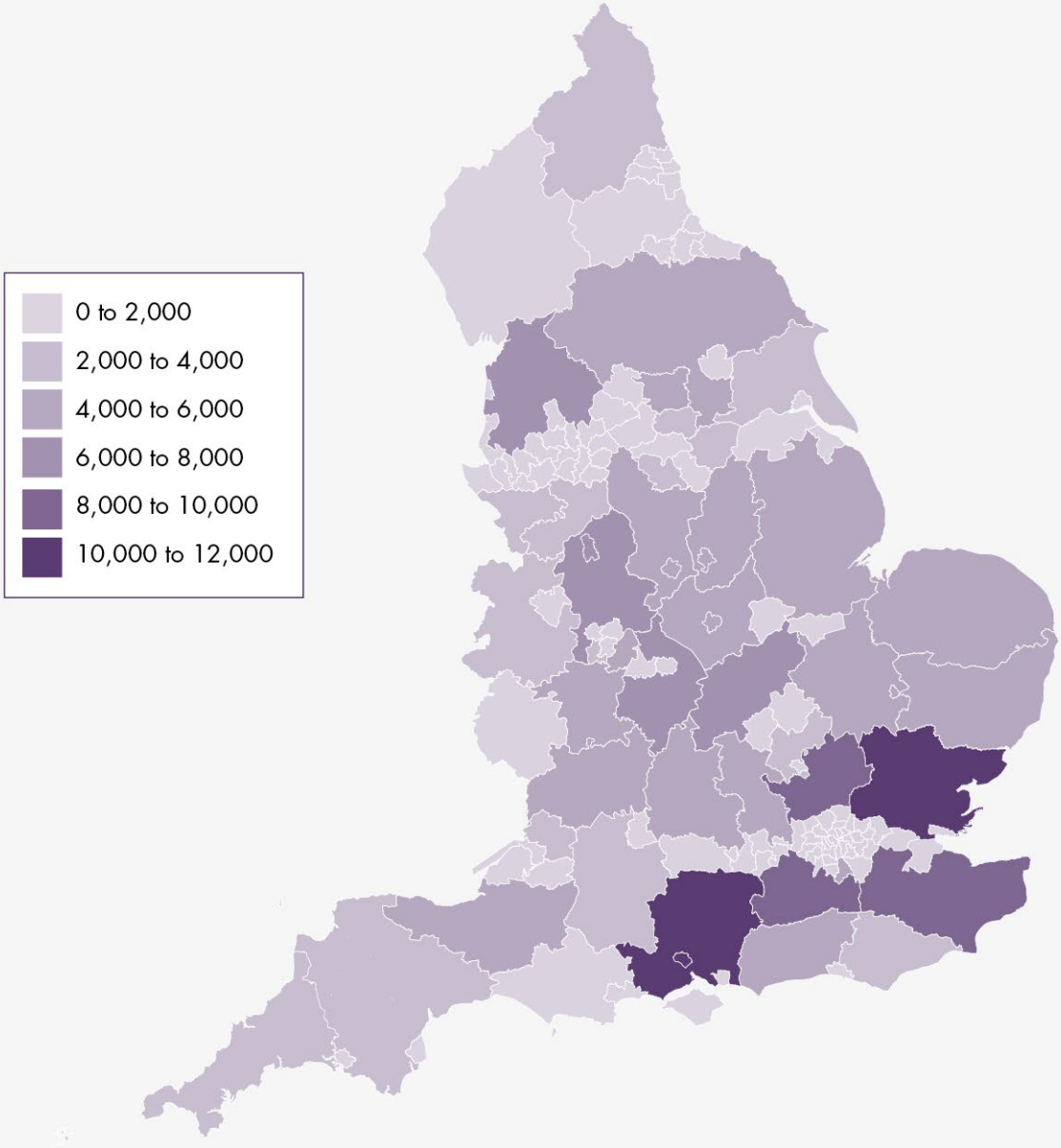
Power	District/Unitary	County/Unitary	LEP
Soft power	• Can launch resident and business engagement campaigns and programmes to promote low-carbon transport.	• Can launch resident and business engagement campaigns and programmes to promote low-carbon transport.	• Can help join up local priorities as members of subregional Local Transport Bodies.
Hard power	• Planning authority status particularly relevant to transport where infrastructure provision around development is concerned. • Can implement Clean Air Zones and Air Quality Management Areas. • Responsibility for managing public car parks. • Can use council-owned land for provision of EV charging points. • Can cut emissions through decarbonising council-owned vehicles.	• Highway authority status gives responsibility for managing most roads. • Decision-making power on transport planning and public transport. • Can use council-owned land for provision of EV charging points. • Can cut emissions through decarbonising council-owned vehicles	

4.2.1 Roads and public transport

Local authorities determine local transport policies and objectives with responsibility for 98 percent of publicly owned roads in England[111]. County councils are the highways authority and hold the funding and decision-making power for transport planning, roads, and public transport. District councils are responsible for parking and development planning. This means that local government has an influence over local provision for bus journeys, walking and cycling, and on-street charging facilities for electric vehicles, providing significant leverage over transport emissions.

111 NAO (2021) – Local government and net zero in England

Figure 17: Road traffic volume (total vehicles, 2019)



Source: DfT

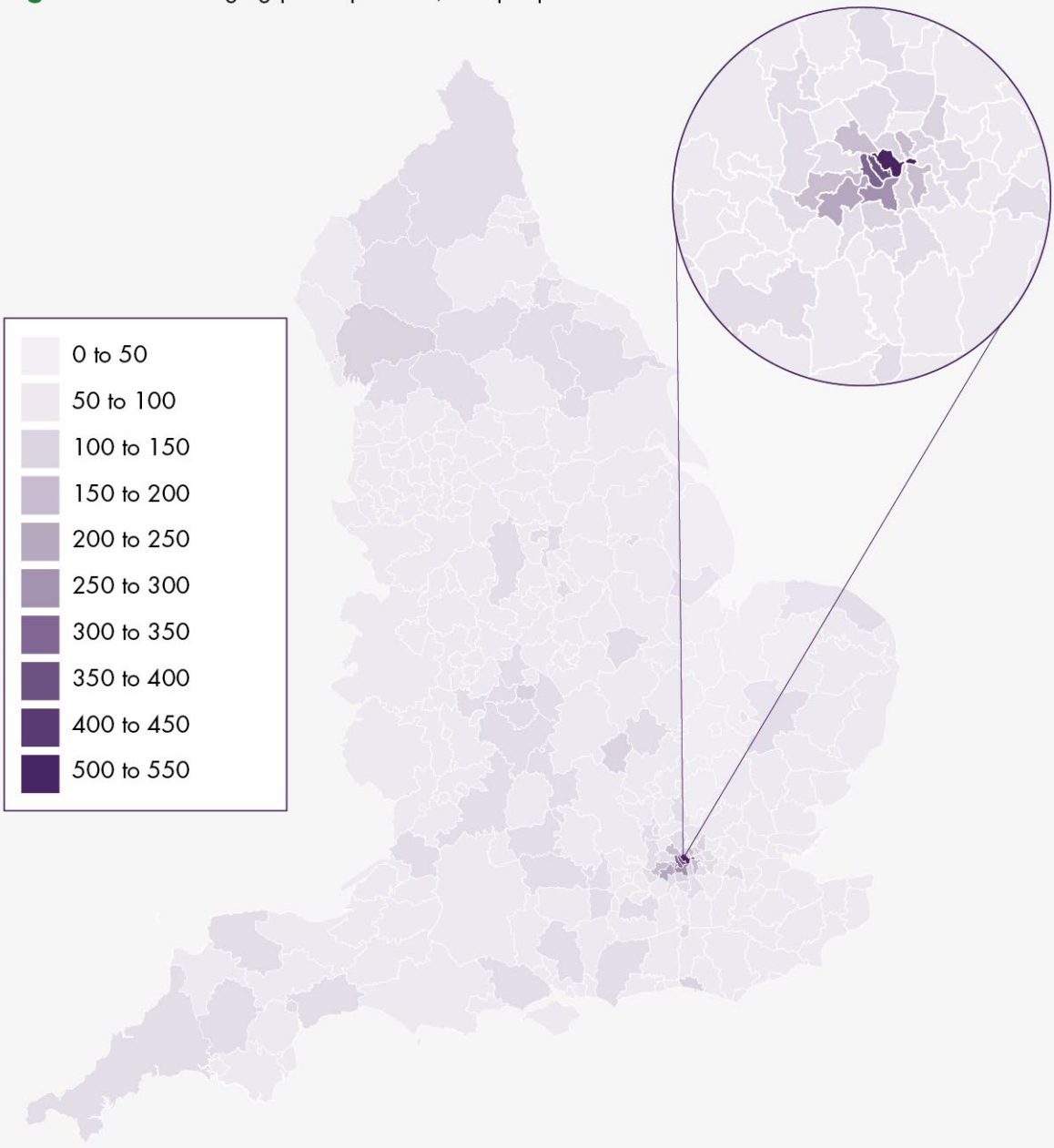
Yet there are limited local authority powers to support integrated transport solutions, so for a system change to be implemented, there needs to be a framework for transport authorities that prioritises carbon reduction, clarifies the sources of carbon they are responsible for cutting; and provides the resources to enable them to act. A piecemeal approach to delivery which does not recognise the complementary nature of national, regional, and local action will fall short.

While local authorities will have to work with limited powers on this agenda, strategic coordination is a key tool that will help bolster action at the local level. A lot of carbon emissions come from long trips going across boundaries, whether for commercial, recreational, or supply purposes, meaning that the decarbonisation of transport must involve cross-boundary working from local authorities. Regional governance organisations, such as sub-national transport bodies (STBs), combined authorities, or local enterprise partnerships (LEPs), can facilitate this, as well as working towards producing data on where emissions are most acutely present in regions and localities.

Electric vehicle take-up

The public sector, and in particular local authorities, will have a central role in ensuring that the infrastructure required for electric vehicles (EVs) is delivered across the country to meet the needs of communities and ensure uptake. There are a number of factors that make local authorities well suited to act on EV uptake, particularly in the provision of EV infrastructure. For example, a consideration for local authorities of all configurations will be the use of council land. This could prove to be a significant contribution to increasing the provision of charging points across a locality.

Figure 18: EV charging points per 100,000 people



Source: DfT

With regards to county councils, their function as a highways authority means that they can plan for charging points and other needed infrastructure at key points across public roads within the county area. Here, close alignment and working with constituent districts as well as public sector partners will be necessary to ensure that the maximum amount of local knowledge is fed into decisions on the location and specificity of infrastructure.

District authorities can also use their functions as a planning authority, and their local plans, to mandate charging points in new development schemes, both commercial and residential. They can also be mandated in new council developments. Partnership building and strategic planning is another strength of local government that can be used to bring local state stakeholders together to work on increasing the uptake of EV's and increasing the provision of related infrastructure. For district councils in ownership of car parks, it will be relatively easy to dedicate a portion for EV charging.

Resident engagement on the uptake of EVs is something local authorities can all take a lead on, using their position as the most trusted form of government to drive the awareness of impeding government deadlines on EVs as well as the importance of switching to EVs for the wider net-zero agenda.

Decarbonising heavy goods vehicles (HGVs)

According to statistics from the Department of Business, Energy and Industrial Strategy (BEIS)[112], HGVs accounted for 18 percent of road transport emissions. This makes HGVs the second biggest contributor of road transport emissions, which itself accounts for 91 percent of all transport emissions. Therefore, the decarbonisation of HGVs will be an equally important policy agenda on the road to net zero. The Department for Transport (DfT) acknowledge this, especially how action is needed to reduce the impact of the freight system on carbon emissions while equally ensuring the continued flow of goods along the supply chain of sectors of the UK economy.

Here, there are several initiatives that councils can take to lead at the local level in this decarbonisation process. Recognising this, DfT have published a local authority toolkit[113] which outlines the powers, capacities, and actions available to authorities. Actions covered by the toolkit include decarbonising council owned fleets and setting standards for the use of zero-emission fleets

112 Department for Transport (2021) – Transport and environment statistics: Autumn 2021

113 Department for Transport (2022) - Decarbonising road freight, servicing and deliveries: local authority toolkit

when procuring. Engaging the local freight sector will be important in raising awareness and growing support for the decarbonisation and use of electrified fleets. This is something all local authorities can do and will help in developing an understanding of the needs of freight and HGV operators.

The role of bus transport

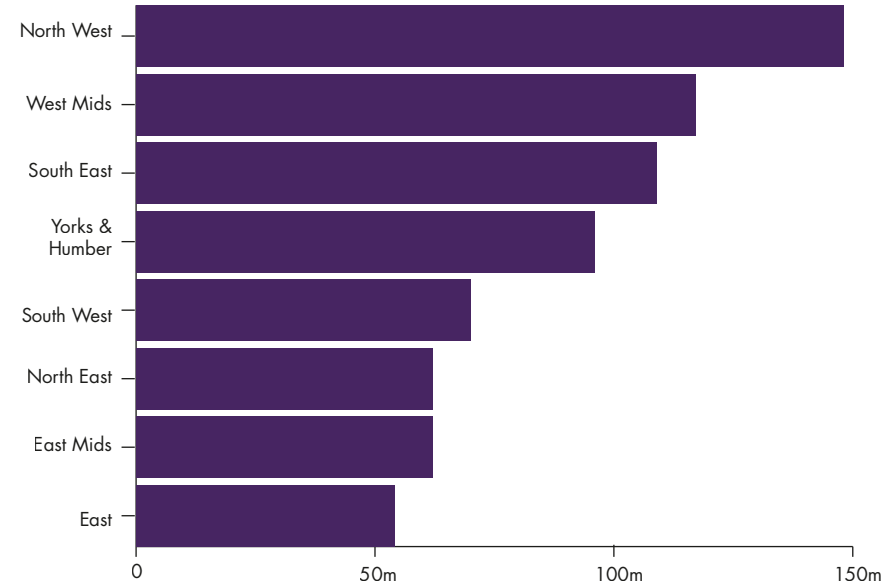
Buses form a core aspect of public transport and are an important way to reduce the amount of car dependence and ownership across the country. In the National Bus Strategy for England[114] emphasis has been placed on decarbonising and electrifying bus transportation. The strategy comes alongside a £3bn investment in bus services that will entail increasing the capacity and skills of local transport authorities, increasing zero-emission vehicles, and investing more in comprehensive services.

The Transport Act 1985 has been cited[115] as a barrier to comprehensive action at the local level. This is because the act deregulated buses, which has meant local transport authorities have relatively few powers to act, especially on aspects such as bus routes. A consequence of the deregulation of buses has been that no authority, apart from London and a select few cases across England, has retained control over services. This means that they are in competition with private operators who run services on a demand-led basis. Therefore, if a certain route is not proving profitable it could be cut, which will have negative consequences for certain demographics in rural areas at risk of isolation.

However, other pieces of legislation supporting authorities to act on increasing bus transportation usage have been introduced in recent years. For example, the Bus Services Act 2017 has allowed transport authorities to form Enhanced Partnerships with bus operators that detail things such as timetables and register bus services. The National Bus Strategy places an expectation on these partnerships to produce detailed Bus Service Improvement Plans. A large part of BSIPs is transport authorities and bus operators setting out plans for the decarbonisation of existing fleets. Local transport authorities can also work to bring these plans into wider decarbonisation plans for the local area.

114 Department for Transport (2021) – Bus back better
115 UK 100 (2021) – Power Shift

Figure 19. Bus journeys by region, London not included



Source: DfT

4.2.2 Influencing powers

Given their responsibility for over 98 percent of public roads across the country, and their respective roles as transport and planning authorities, county and district authorities will naturally have extensive responsibility when it comes to enacting the behavioural change required in increasing active and sustainable transport. This is a key goal of government as captured in multiple transport strategies over the last few years and seen through the creation of Active Travel England.

Government have launched an active travel local authority toolkit[116] that identifies actions councils can take. Alongside the development of plans around sustainable transport infrastructure, a key action is enacting behavioural change in residents. This can be done through effective communication strategies, the implementation of behavioural change interventions, and using their role as local leaders to lead by example and embed active travel in corporate strategies and offer active travel schemes to staff. District councils can also use their parking powers to repurpose

116 Department for Transport (2022) – Active Travel: local authority toolkit

parking spaces for EV charging and cycle parking and can alter parking charges to encourage the use of public transport. Low Emission and Clean Air Zones and Air Quality Management Areas can be implemented to reduce polluting traffic. Looking at the potential found in young people to drive the agenda, authorities can partner with schools and colleges to develop cycle schemes.

Relatedly, borough, county and unitary councils can work with businesses and other local state stakeholders to implement cycle sharing schemes in their localities. Public schemes are already well known and extensively used in cities across the UK including in Belfast, Cardiff, Glasgow, and London. But more recently there has been an expansion of these schemes in towns such as Watford[117] where Beryl Bikes were launched in March 2020. On the other hand, districts can work with local stakeholders, including county partners, to implement Local Cycling & Walking Infrastructure Plans, as is happening in Three Rivers District Council[118]

Behavioural change away from car dependency is something that can be embedded into local plans by local planning authorities. This is a key method through which to mitigate and lower carbon emissions in the area. When developing their plans, authorities should give prioritisation to developments that focus on enhancing active travel in town centres and high streets. They can also put in measures to ensure that transport and public health policies are thought of holistically in a joined-up manner. As will become increasingly important, planning authorities can also consider and plan for EV charging infrastructure within their local plans.

117 Watford Observer (2020) - New 'cheap and sustainable' bike scheme launched in Watford
118 Three Rivers District Council - Three Rivers Proposed Cycling and Walking Infrastructure Plan

4.3 Achieving clean local growth in transport and infrastructure

Opportunities	Barriers
• Local authorities can achieve **meaningful community engagement** on transport and decarbonisation, two issues which impact everyone, through things like citizen's assemblies. • Strategic use of a range of powers alongside public information campaigns can help **incentivise active travel** to the benefit of local health and wellbeing as well as decarbonisation. • **Joined-up procurement, planning, energy, and highway strategies** can be used to greatly simplify the roll-out of electric vehicles, easing the transition for the public.	• Whilst capital funding can be obtained for many decarbonisation solutions, **the revenue funding gap** of local authorities remains a significant barrier to running services once the initial capital injection has been obtained. • The piecemeal devolution landscape across England makes **comprehensive integrated transport strategy** difficult in many parts of the country.

Creating market conditions for clean local growth in transport and infrastructure

Local authorities have a strong role to play in providing market confidence and bringing in the investment needed to accelerate the decarbonisation and clean growth of their local economy. Creating the right market conditions for clean local growth in the transport and infrastructure sector will entail:

- Increasing the provision of EV charging points on council owned land including in public car parks.
- Using local planning system, including through the local plan, to develop and deliver active travel schemes in local centres as well as setting stringent targets for developers and related stakeholders to follow.

- Working with neighbouring local authorities and other local state stakeholders at an appropriate level on joint strategies to facilitate the decarbonisation of transport and roll out of electric vehicles.
- Local authorities using their role as a trusted broker to launch resident and business engagement campaigns aimed at encouraging a shift to low-carbon and active travel transport options.

4.3.1 Encouraging cultural change

Meaningful community engagement will be a vital first step in enacting cultural and behavioural change in residents. However, for this to have any real impact it will be vital that engagement isn't done in a superficial manner or as a tick-box exercise. If a move to sustainable and active travel is the overarching objective, the importance of this needs to be effectively communicated to residents. At the same time, the concerns of residents need to be heard and they must feel that they are being taken along on the journey.

Clear communication with the general public and concise messaging is a key ingredient to meaningful engagement. Creating the steps to get to net zero and demonstrating the community's role in the process is of utmost importance. Breaking the journey down and explaining how each project and development in the local area will contribute to the transition will help bring the public on board as well as give an understanding of their priorities. Tailored messaging is also crucial in demonstrating the benefits of net-zero projects in a way that is relatable to the community. Regarding active travel, communicating the wider health advantages such as cleaner air and increased green space of developing less car reliant neighbourhoods will be a big part of increasing their appeal.

There are a number of local authorities already leading the way on meaningful engagement. One example is Oxford City Council, who held the UK's first citizens' assembly on climate change[119] in September 2019. It consisted of 50 randomly selected residents of the city representative of its demographics. A key focus was on how the city should reduce emissions from transport and better enable active travel across Oxford. However, the key to its success has been in the city council taking forward recommendations advanced by citizens and implementing them in their Economic Strategy, climate change, and sustainable travel plans. This has given a sense that residents are active stakeholders in the future of their place and has helped facilitate behavioural change more easily.

119 Oxford City Council (2019) – Oxford Citizens Assembly on Climate Change

Babergh & Mid Suffolk District Council have used extensive public engagement when developing and delivering their Local Cycling and Walking Infrastructure Plan as a way of encouraging increased active travel. The engagement aspect of the plan involved collecting over 1,800 responses to a tailored survey. The end result has been a list of prioritised infrastructure schemes that the council is now working, alongside partners at the highways authority, to progress and deliver. As part of their LCWIP, the council is actively utilising their existing communication channels to promote and raise awareness of national and regional campaign messaging relating to the health, wellbeing, and environmental benefits of walking and cycling.

Another form of encouraging behavioural and cultural change is through 'nudging'. This refers to the tweaking of the decision-making environment to encourage certain behaviours over others[120]. Certain advantages to this approach include potential cost savings for the local authority through preventing long term adversities as well as improving the quality of life for people who are making positive decisions for themselves. For example, nudging people to quit smoking reduces costs endured by local healthcare providers and enhances the ex-smoker's quality of life. The Smarter Travel Sutton[121] initiative is an early example of local policy that helped change travel behaviours. Run in the latter half of the 2000s, it employed a mix of marketing and travel planning to reduce the amount of car usage in the borough. The 'nudges' that were employed to encourage cycling included interventions such as placing cycle stands in car parks and enacting workplace travel plans for council staff that incentivised them to walk or cycle to work twice a week. A key result achieved from this initiative was a 75 percent increase in cycle traffic at counter locations.

The role of local authorities in kickstarting a change toward active travel has been recognised through their ability to influence planning and to take a strategic view of travel infrastructure in the local area in a manner that connects residents to services and amenities. District councils, in their capacities as local planning authorities, can use the planning system to their advantage and instil behavioural change. The nudges enacted by Sutton Borough Council, such as placing cycle stands in car parks, could not have been possible without going through the planning system.

By taking a holistic view of the interaction between physical and travel infrastructure in a place and how best to plan these in a way to incentivise

120 London Councils (2011) – Making Behavioural Change work for Councils
121 NSMC – Smarter Travel Sutton

active travel, local planning authorities are able to lead the change needed in residents. Examples here could include pedestrianisation of the high street, increasing the amount of separate cycle lanes in town centres, and creating low traffic neighbourhoods that could support the eventual creation of 20-minute neighbourhoods.

One thing that will boost these efforts would be the NPPF being clearer on creating walking and active travel environments and how these link to site allocations. Sustrans have been keen advocates for creating and maintaining these spaces[122] and have been working with local authorities, putting together their evidence base at the local plan level to see how best they can create such environments. It will be important to consider issues such as where site allocations are for developments in relation to walkability and the potential for sustainable travel links in order to help encourage cultural change via the planning system.

4.3.2 Decarbonisation by mode of transport

All modes of transport need to decarbonise, no matter the scale and complexity:[123]

- Cars – the mode of transport with the highest greenhouse gas emissions and the starting point on the journey to decarbonisation, to be solved through increased uptake of EVs and associated infrastructure
- HGVs – decarbonisation of HGVs will scale up the demand of electricity either for the use of vehicle charging or production of green hydrogen
- Buses – the bus sector is expected to decarbonise quickly and is currently undertaking trials using both electric and hydrogen technologies. The sector can expect to see charging hubs at depots as operators decarbonise their fleets
- Rail – will continue to see further electrification across networks. Hydrogen and battery technology rollouts will help to decarbonise more rural areas where electrification has not been possible
- Maritime and aviation – expected to be the last sectors to decarbonise as they require significant investment and sustainable fuels. Ports and airports across the UK can be utilised as charging hubs for road and rail.

For local authorities in England, the main policy levers are around cars, HGVs and buses. While action is happening at pace with each of these modes of transport, there are a few broad challenges that need to be addressed. A critical

122 Sustrans – Streets for everyone
123 National Grid (2021) – Grid Guide to the Decarbonisation of Transport

challenge for the deployment of decarbonisation technologies and provisions is that each local government organisation typically approaches procurement in isolation. If local authorities are all approaching decarbonisation of transport, or its constituent aspects, differently, this seriously impacts the efficiency of its roll out.

As such, guidance is required to help different types of local authorities better understand how they should approach the decarbonisation of transport, covering important aspects such as the procurement process. Guidance to this end should be the result of research into the similarities, differences, and challenges for both urban and rural areas.

Elsewhere, decarbonisation necessitates better demand management for England's roads. Despite the great work done by regional transport bodies such as Transport for North, they lack decision-making powers to enact strategy and demand management mechanisms. Sub-national transport bodies have an important role to play in managing demand for roads but need more facilitation and decision-making powers to be effective. Fast-tracking their statutory basis, as well as devolving more decision-making powers down to them, will be key aspects of unlocking the potential of sub-national transport bodies and having them work with local authorities to enact change.

Cars and HGVs

Aside from ensuring that policies and plans support walking, cycling and public transport, local authorities can contribute to the decarbonisation of road vehicles through promoting EV uptake, which can be promoted by installing charging points, particularly in rural authorities.

For example, Horsham District Council have released an Electric Vehicle Charge Point Strategy[124] that outlines the vision of the council regarding charging infrastructure. Overall, its aim is to ensure the provision of infrastructure that allows EVs to form part of a low-carbon transport solution for the district that reduces carbon emissions locally while improving air quality for residents. The council acknowledge their role in increasing the uptake of EVs, but at the same time do not envisage that they will themselves provide all the infrastructure. Rather, they can help kick start the market, especially where it is less likely to be commercially attractive to install charging points.

The most common challenges identified included reluctance to switch to EVs owing to range anxiety and concerns over the availability of charging points –

124 Horsham District Council (2020) – Electric Vehicle Charge Point Strategy

particularly for those with no off-street parking. In addressing these concerns, the main focus of the strategy has been to install charge points in car parks in locations where residents cannot charge at home owing to not having off-street parking. It is envisaged that these will form residential charge hubs for overnight parking with the ability for visitors to use them to top up their vehicle during the day. These hubs will also incorporate smart technology and will eventually use renewable energy.

Brighton and Hove City Council[125] have already installed over 200 charging points across the city as part of their ambition to become net zero by 2030. The council have noted that the key to its success in doing this has been partnership working as well as getting funding applications and procurement processes correct. They also cite their relationship with campaign group Electric Brighton as important to its success. They helped the council develop an online mapping tool that helped identify the demand for EV infrastructure and where this demand was located.

Looking at barriers, the LGA released a report[126] aimed at better understanding the roles, responsibilities, and capacity of local authorities in delivering EV infrastructure. It found that while there is a significant commitment to deliver the infrastructure, there are substantial barriers that impact their full ability to do so. A factor impacting the ability to act at pace is that, until recently, the role of local government in the delivery of EV charging infrastructure has not been made clear by a coherent strategic direction at the national level. Currently there is no statutory duty on local authorities to plan and deliver it – although it is now being considered by government[127] who have launched the Electric Vehicle Infrastructure Strategy[128] that has begun to address many of these concerns.

One aspect of EV infrastructure that will have to be addressed soon is its appeal as an investable proposition. In urban areas, its case is much easier to make, given the higher appeal and density of electric vehicles in cities than in the countryside. As such investing in charging infrastructure is seen as lucrative for private investors. However, this is not the case for rural parts of the country, where there are simply not enough residents to match a similar level of demand. However, meeting the government targets of a full switch-over to EVs by 2035 hinge on the provision of green technologies across all of England, not just urban areas.

125 Patrol (2020) – Local authorities 'leading the charge' on EV infrastructure provision
126 LGA (2021) - Scoping the role of local authorities in the provision of electric vehicle charging infrastructure
127 Local Gov (2021) – Councils face legal obligation to plan and deliver for EVs
128 Department for Transport (2022) – UK electric vehicle infrastructure strategy

Finally, the decarbonisation of HGVs and encouraging an uptake of an electrified fleet will be equally important as personal vehicles. This is something many local authorities are aware of and actively working on. For example, the London Borough of Hackney adopted the use of low-carbon renewable biofuels as early as 2008 and is now in a position to run 198 vehicles on 100 percent renewable biofuel from hydrotreated vegetable oil (HVO). When tested for NOX emissions, savings between 28 to 69 percent were confirmed. Elsewhere, Babergh District Council is one of the first rural district councils in the country that has switched its entire fleet to HVO. It is estimated that the switch will eventually lead to a CO_2 emissions reduction of 90 percent and NOX emissions reduction of 30 percent.

Buses

There are examples of success where local authorities have worked to decarbonise bus transportation. In York, the council worked with their bus operator First Bus to launch the largest Zero Emissions Bus park and ride fleet across the UK. It was introduced with help from the government's Ultra Low Emission Bus Scheme, with an initial fleet of 21 double-deck electric buses. Advantages of the buses include having a 160-mile range as well as not needing to be charged during the working day.

More recently[129], the council has been awarded £8.4m by the DfT to support the purchase of an additional 44 buses. This is in addition to £10m being provided by First Group. The new funding comes from the government's Zero Emission Bus Regional Area (ZEBRA) scheme. After the fleet is delivered, York will have 77 zero-emission buses, which is expected to reduce carbon emissions in the city by 2,300 tonnes per year.

Government have stated[130] that local transport authorities will have an important role in accessing funding for zero-emission bus fleets and the required infrastructure that is needed. Additionally, while lower tier authorities, including districts and boroughs, do not have formal power in transport planning, they can work with their transport authorities to decarbonise existing fleet. Elsewhere, they will have an essential role to play in the procurement of zero-emission buses and in supporting the provision of infrastructure that will be required.

Resulting from the austerity programme pursued since 2012, transport has been one of the main local services that has had its budgets cut for revenue support.

129 Green Car Congress (2022) – City of York awarded £8.4m to support purchase of 44 more electric buses

130 Department for Transport (2022) – Zero emission buses: local authority toolkit

Conversely, investment through capital budgets has substantially increased with major new investments such as Crossrail and Thameslink. Concerns remain about the ability of local authorities to deliver sufficient walking and cycling infrastructure – there is necessity for revenue and not just capital funding. These barriers have been recognised – DfT is developing plans to reform local transport funding, and in July 2020 announced a new funding body and inspectorate, Active Travel England, to better enable local authorities to achieve the government's ambitions for local transport, including net zero.

Local authorities in areas with greater devolution of integrated transport powers have shown what is achievable where a holistic vision can be provided. Greater Manchester[131] secured £35.8m funding through the ZEBRA scheme for the introduction of 170 zero-emission buses. The funding came as a result of a partnership and joint bid being submitted by Greater Manchester Combined Authority, Transport for Greater Manchester, Stockport Council, and Stagecoach Group. The funding won will also be topped up by £12.5m from the combined authority. This has been viewed as 'a major boost' to the region's ambition to deliver on its integrated transport network called the Bee Network as well as reach net-zero carbon emissions by 2038. The buses are expected to start running from Stockport from 2024.

Population sparsity and existing funding mechanisms are other barriers. Regarding the former, many areas do not have the sufficient amount of people to make bus services profitable for operators. This has led to a significant number of services being permanently cut at the expense of communities. Regarding funding, it has been noted that the current Bus Service Operators Grant undermines fuel efficiency and efforts for electrification as it repays fuel duty spent.

131 SMMT (2022) – Industry reacts to zero- emission bus funding package

4.4 Case study: Staffordshire County Council

Over the last two years, Staffordshire County Council led the SIMULATE[132] (Smart Infrastructure & Mobility Urban Laboratory and Test Environment) Live Lab, which was an infrastructure partnership designed to accelerate innovative solutions in air quality and intelligent mobility within the county. It was part of the first phase of the ADEPT Smart Places Research Programme[133] that was a two-year, £22.9m project funded by the DfT that ran until June 2022. The ADEPT programme has supported eight projects to introduce digital innovation across areas including transport and highways maintenance.

SIMULATE has acted as an accelerator programme and through it, Staffordshire County Council partnered with key stakeholders including infrastructure support provider Amey, Keele University, and Connected Places Catapult to engage with SMEs on innovative solutions to the challenges faced by the council in urban air quality and mobility. Amey as a strategic partner worked in an integrated manner with Staffordshire County Council not only to help lead the SIMULATE bid and secure funding from the ADEPT Programme, but also with engaging the SMEs. Working with them to showcase and bring forward their solutions was seen as important given how a lot of innovation sits at this level.

SMEs could submit their bids to SIMULATE for up to £100,000 with proposed solutions to core mobility challenges identified by the Live Lab. Four unique challenges[134] were highlighted. The first, 'Clean Community', looked at how to facilitate active travel within a small urban community and remove the requirement of car travel for two-mile journeys to and from the community. The second, 'Dynamic Connections', looked at integrated connectivity between urban and rural areas. The third, 'Rapid Transit', looked at the provision of rapid transit between rural areas of the county and to urban settings in

132 SIMULATE Live Lab – Homepage
133 ADEPT – Live Labs – Transforming Local Places
134 SIMULATE Live Lab – Mobility Challenges

a commercially viable manner. The final one, 'Behaviour Change and Integration', looked at how to overcome the barriers that prevent uptake of sustainable transport in the rural parts of the county.

SIMULATE received over 130 applications from SMEs across the country of which 10 were selected. An example of an SME addressing the mobility challenges includes Urban Electric and MEV. They submitted a joint bid that comprised of 'pop up' electric charging points which integrate back into pavements when not in use, as well as the trialling of electric car share next to these charging points. In a rural context this solution has significant appeal given their ability to be integrated into the local landscape. Thus, addressing resident concerns regarding their aesthetic appeal. Overall, the trial has been a success in terms of the operability of the charging points, and the prototype is now being developed. Staffordshire County Council are also looking at where this solution fits into the delivery of EV charging infrastructure within their wider EV strategy currently being developed.

The other example is Liftango who delivered research into local mobility requirements and formulated a blueprint for demand responsive transport across Staffordshire. Work has looked at how a demand led service to bus travel in rural areas can better aid connectivity in a cost-effective and climate-friendly manner. Such a service would see a shift away from empty buses running on a schedule through multiple communities to one which runs only to those who pre-book it and wait at a virtual bus stop.

SIMULATE is a rare example of an accelerator programme that sits within the local government sector and is being led by a local authority. Amey have been working with more of their local authority partners to help get them involved in such innovative propositions, however a leading challenge identified in doing so has been a lack of readily available funding. Nevertheless, the success of SIMULATE demonstrates the unbound potential for local innovation through effectively working with SMEs and should give inspiration to other local authorities to do the same.

Its success did not come without certain challenges. The COVID-19 pandemic was an immediate obstacle that the partnership had to contend with. This had an impact on working with the SMEs who were putting bids in, given that everything had to move online at a critical moment of idea development. Relatedly, the nature of SMEs means that they are working with small teams and limited resources in various parts of the country. Coupled with COVID-19 restrictions, this made face-to-face engagement difficult, which had an impact on the ability to embed confidence.

Regarding the testing of transport solutions across the county, behaviour change and resident engagement remained a significant challenge. Understanding what the solutions looked like at scale and the effect this could have in a model shift away from high-carbon transportation relied on being agile and responsive to feedback – something that itself relied on effective engagement. However, issues around low rates of responses to surveys and focus groups were reported. To get around this, incentives had to be put in place to attract people.

4.5 Recommendations to central government

- Bring forward a new Transport Act:
  - Create a legal framework for integrated transport strategies across the country with carbon reduction targets and responsibilities.
  - Give councils powers to incentivise bus operators to decarbonise through local regulation.
- Create a mechanism to increase transport revenue funding to local authorities proportionate to the percentage of local public transport which is net zero.

Strategy and action for local Green Public Procurement

A key factor in the design and implementation of successful GPP strategies is assigning competent and well-informed staff to internal procurement function – with relevant resources devoted to their support. Acquiring these sorts of personnel need not be a recruitment process. Rather, time and resources are best invested in the design and internal proliferation of thorough training and the use of external support networks and bodies of information.

Regarding training, this ought to be thought of as having two successive stages. First, the main aim of training should be to raise awareness amongst those in a local authority responsible for procurement of the value of a more socially conscious, greener procurement system. The goal here is for those responsible to embrace a new mindset and eagerness of evaluating environmental performance alongside evaluations of social value, price, and quality. This can be assisted and facilitated by dedicated cultural and inter-organisational campaigns, involving those with a stake in respective local procurement systems.

Once this change in perspective has been accomplished, training can then move to its second phase which is learning best practice, key approaches and internalising the value of GPP across departments – solidifying a link in mindset that spans across a local authority's strategy and functionality.

Adopting external guidelines and making use of the network of support and information already out there on GPP and industry-specific supply chains should be grounded in a strong, collaborative relationship between all internal departments – particularly those most responsible for purchasing and dealing with environmental issues. Doing so facilitates the development and integration of net-zero and 'clean growth' criteria into contracts. Improving organisational and functional links between departments sets a precedent that can then be communicated outward to suppliers and respective markets.

A local authority can set a sourcing emissions standard, and other ambitious reduction targets, and, once personnel are in place and training is at an advanced stage, communicate them with – preferably local – suppliers. The standard can then be integrated into individual contracts and performance tracking made publicly available.

It is important that, in the pre-procurement stage, the market is engaged with early and that key environmental outcomes are communicated – with those who a) are local and b) have a positive environmental record being prioritised in considerations of each contract. Engaging with major and local suppliers on more of a partnership basis can also allow for the mutually assured goal of net zero to be worked towards in a more wholesale, strategic way – even outside of individual contracts. This would be part of a more fundamental shift in the mindset of a contracting authority towards genuine engagement with procurement markets to develop ecosystems of advocacy, best practice, certification, and greener industry standards.

Furthermore, contract management must be structured in such a way to track the environmental performance of each contract with ease. This includes embedding KPIs and other environmental provisions as part of a contracting authority's social value priorities.

CHAPTER FIVE

Land management

England is at a crossroad for the governance of land and the natural environment. Actions for addressing and adapting to climate change, achieving food security, and tackling the biodiversity crisis are all embedded in and depend on how land is managed. So far, existing government policy and targets have failed to handle many of these complexities of land, farming[135], and the natural environment.

Local authorities are a key stakeholder in the management of land. While they have a range of powers, levers, and influence over land use and related emissions through land ownership and development planning, the primary opportunity for local government in this sector is in providing strategic overview through their convening and advisory powers.

135 Environmental Audit Committee (2021) - Biodiversity in the UK: bloom or bust?

Key points

Driving decarbonisation

- Due to the historic undervaluing of the ecosystem services provided by natural land, the UK is the most nature-depleted nation in the G7 and faces multiple climate change-related crises around resilience if land use is not reformed.
- Multiple competing interests must be navigated to drive decarbonisation at both the national and local level, with issues such as biodiversity, food security, and flood risk management all being areas of concern for national resilience.
- Local authorities must take a holistic view of the issue and work with landowners, the local agricultural sector, communities, and businesses to alter land use in a way which is sustainable and efficient.
- Piecemeal and overlapping government policy initiatives, alongside a lack of hard powers and dedicated revenue funding streams, stand as the key barriers to a holistic local approach to decarbonisation across land management.

Achieving clean growth

- Biodiversity net gain can improve the quality of life and environment in areas, as well as helping to reach net zero, and increase the attractiveness of a place's 'offer'.
- Greater flood resilience is crucial to avoiding major economic damage in many parts of the country.

5.1 Current national picture

The Committee on Climate Change (CCC) 2018 report on land use highlighted the crucial role of land in providing essential ecosystem services such as food, clean water, timber, as well as natural climate mitigation and adaptation through sequestering and storing carbon and protection from natural hazards such as floods, pests, and diseases. These essential ecosystem services that land provides do not have a private market. As such, their positive impacts are not priced-in and are under-supplied by the market. This has led to historic and ongoing degradation of land, soils, water courses, and a loss of biodiversity[136]. If land continues to be used unsustainably, as it has been in the past, it will not be able to support future demand for settlements or maintain current per capita food

136 Climate Change Committee (2020) – Land use: Policies for a net zero UK

production. Nor will we be prepared for the warming climate.

For several decades, agricultural policy in the UK had been dominated by the European Union's Common Agricultural Policy (CAP). The CAP emphasised food production and led to a distorted set of uses for land that did not reflect the need to mitigate climate change and reduce the stresses on environmental ecosystems that climate change is causing. Leaving the EU represents an opportunity to overhaul land use to ensure that it contributes to the UK's net-zero emissions ambition and gives priority to climate mitigation. As part of its efforts, the government has designed and implemented frameworks to replace the former subsidy arrangements under the EU's Common Agricultural Policy.

The Agriculture Bill set out provisions to transition by 2028 from the CAP subsidy scheme based on land area in agricultural production towards payments for public goods. On 11 November 2020, it was granted Royal Assent and became an Act of Parliament[137]. The Environment Act 2021[138] sets out a new regulatory framework for environmental improvement targets, plans, and policies. The Environmental Land Management scheme (ELMs) will be important in signalling not only an intention to break away from the damaging practices of the CAP but also to support farm businesses in adopting sustainable land management practices[139].

However, there are significant levels of uncertainty within the farming community and the proposals have faced substantial criticism from a wide range of conservation, farming, and political organisations[140][141]. Farmers have cited a lack of access to capital and uncertainty as the biggest barriers to making environmental improvements. At the same time, recent crises at the heart of government have led to doubt over the future of the scheme itself, which was under review by the Truss administration[142]

Positively, some progress has been made towards decarbonising the agriculture and land use sector with a series of announcements to ensure environmental protection and restoration. In 2018, the *25 Year Environment Plan* (25 YEP) set out the government's ambitions for the natural environment under separate policy

137 DEFRA (2020) – Agriculture Act 2020
138 DEFRA (2021) – The Environment Act 2021
139 Green Alliance (2021) – Net zero policy tracker: April 2021 update
140 DEFRA (2020) – Environmental Land Management: Policy Discussion
141 Green Alliance Blog (2020) – We need to reset the role of ELMS
142 The Guardian (2022) - Former environment secretary urges successor not to drop nature-friendly farming scheme

areas[143] . Under the Environment Act 2021, the Secretary of State must prepare an 'environmental improvement plan' that outlines ambition to improve the natural environment within a minimum timeframe of 15 years, with the 25 YEP being the first one. While this is an encouraging step, recent government failure to publish required nature recovery targets by the 31 October 2022 deadline has jeopardised meeting the first review of progress of the environmental improvement plan[144].

Further recent progress includes[145]:

- The new £10m Natural Environment Investment Fund to mobilise investment in nature restoration.
- £640m Nature for Climate Fund, to support afforestation projects and peatland restoration in England[146]
- The launch of an improved Countryside Stewardship Scheme in 2022 to reward farmers for public goods, like good soil management and habitat creation from 2024. These have now been succeeded by the Local Nature Recovery scheme[147]
- A policy paper published by Defra outlining the Sustainable Farming Incentive (SFI) scheme which will encourage land management that delivers for nature, helps reduce emissions, and increases carbon storage.
- An Office for Environmental Protection (OEP)148, created in November 2021 under the Environment Act 2021. Its mission is to protect and improve the environment by holding government and other public bodies to account. Its activities include scrutinizing the environmental improvement plan, environmental law, advising government, and enforcing against failure to comply with law.

143 DEFRA (2018) – A Green Future: Our 25 Year Plan to Improve the Environment
144 The Wildlife Trusts (2022) - The Wildlife Trusts call on Office for Environmental Protection to investigate the Government's missed Environment Act targets
145 Green Alliance (2021) – Net zero policy tracker: April 2021 update
146 RSPB - Written evidence submitted by the RSPB to the Environmental Audit Select Committee's inquiry on 'Biodiversity and Ecosystems'
147 DEFRA (2022) – Local Nature Recovery: more information on how the scheme will work
148 Office for Environmental Protection – What we do

5.2 Local authority powers and capacity

Local authority powers and capacity to drive decarbonisation – land management

Power	District/Unitary	County/Unitary	LEP
Soft power	• Can engage with and consult local farmers on land use management. • Can use convening power to bring together the local agricultural sector to share best practice.	• Can engage with and consult local farmers on land use management. • As education authority, can use their convening power to help create training pathways for local agriculture. • Can use convening power to bring together the local agricultural sector to share best practice.	• Can ensure representation of agriculture in Skills Advisory Panels.
Hard power	• Can use planning powers to facilitate decarbonisation processes for farmers, particularly those in conservation areas. • Can build adaptation to climate scenarios into local plans and planning decisions. • Can embed nature recovery and biodiversity into future local development through land allocations and development conditions	• Can drive good practice through ownership of county farms • As lead local flood authorities, can ensure climate scenarios are factored into local flood risk management strategies.	

5.2.1 Local government and agriculture

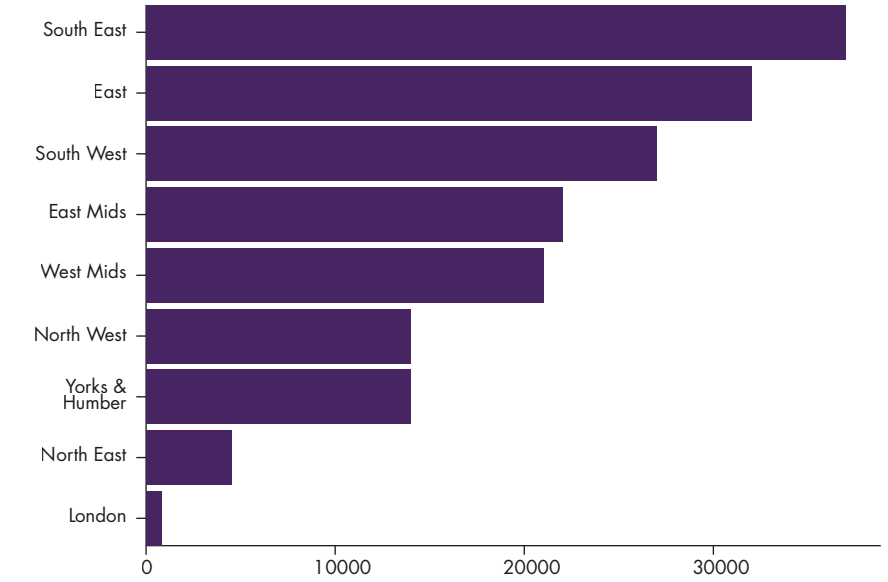
The agricultural sector is largely governed and influenced by central government and the policy direction set at a national level. As the sector response to government's plans for the Environmental Land Management scheme demonstrate, there is increased unhappiness with certain aspects of national policy. This makes local government action on the ground all the more important in demonstrating support for local farmers and the wider agriculture sector.

District, county, and unitary authorities can support their local agricultural sector through engagement. Particularly, involving farmers with policy formation and decisions in areas that directly affect them. For example, with regards to carbon offsetting it has been argued[149] that authorities need to work closely with farmers on initiatives such as tree planting, especially when looking in the longer term at the management of these trees and how best to utilise land available. This close collaboration will be important in finding a mutually-beneficial solution that doesn't force farmers into a binary choice of utilising their land solely for offsetting or agricultural production purposes.

There are numerous ways through which local district, county, and unitary authorities can engage with their farming community. Working with bodies such as the National Farmers' Union can help gain a better understanding of common concerns and how best to tackle them. This will be particularly useful in council areas with large numbers of private farms. The NFU have developed a guide[150] to help show where the largest challenges are and how local authorities can help tackle them locally.

149 Policy Interview
150 NFU – Net zero & agriculture

Figure 20. Jobs in agriculture



Source: Business Register and Employment Survey

As the agricultural sector prepares itself for the transition to net zero, there will be a focus on certain areas, including developing locally sustainable models of food production. Rural authorities can use existing powers and capacities in areas such as public procurement to encourage and propel this. For example, by using their procurement strategies to reflect an emphasis on buying and using locally-sourced produce, they can help support the growth and promotion of sustainable models of local food production and kick-start the development of a market for it.

Embedding sustainability in local food production will involve reviewing the suitability of current agricultural and farming buildings, as well as developing new state of the art facilities. However, farms in conservation areas or Areas of Outstanding Natural Beauty might face hurdles in doing this when placed against more stringent planning regulations. Therefore, local planning authorities can use their powers to help ease and facilitate the process for farmers. Another straightforward way that rural authorities can help their local agricultural sector can be through supporting, either financially or a commitment to closely work with, those farmers who are showing a shift to decarbonised agricultural practices. Doing this will highlight their role as champions of local innovation.

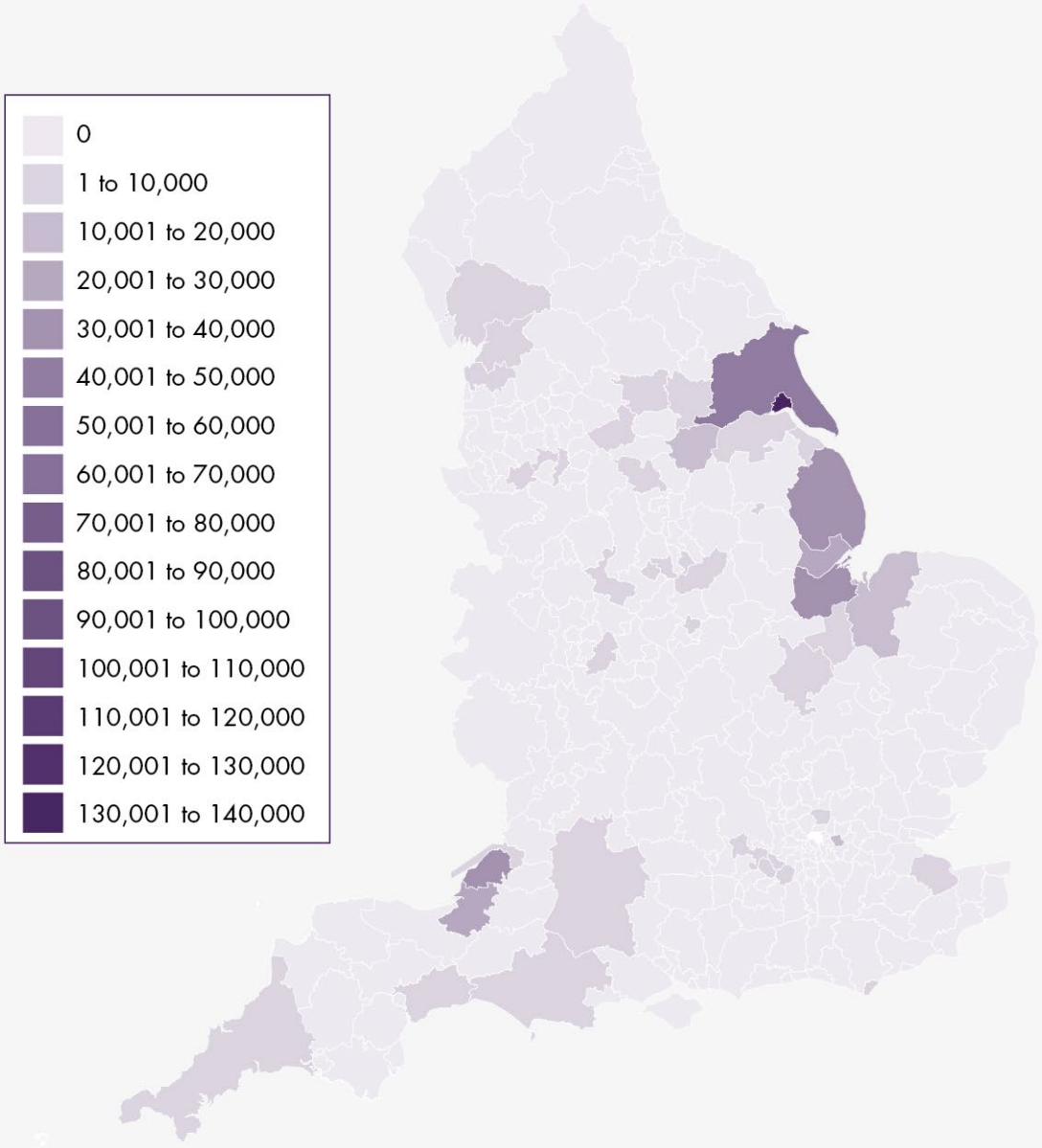
Finally, skills and training in the agricultural sector will become increasingly

important as new agricultural technologies and practices embed themselves in the sector. Here, rural authorities can collaborate with skills providers to create training and educational opportunities for the local labour market. They can work with the local agricultural sector to hold networking events for local farmers looking to learn and adopt new technology and practices.

5.2.2 Climate adaptation

As well as decarbonisation, local authorities across the country have a crucial role in adapting to and mitigating against the impacts of climate change which are already being experienced and will continue to increase in severity for years to come under any emission scenario. The UK is already experiencing hotter, drier summers and colder, wetter winters, with these changes likely to intensify in the coming years. The suitability of local infrastructure for prolonged dry spells and heatwaves in the summer alongside an elevated flood risk in the winter is, therefore, of great concern to national resilience.

Figure 21: Properties at risk of flooding (risk >0.1%)



Source: National Audit Office

Local government powers to boost resilience range from general actions like ensuring the risk profile of council property and assets in the face of climate change is fully understood, to policy of direct consequence like ensuring that Local Plans and planning decisions take future climate scenarios into account. This is particularly important in councils where a large proportion of land is on floodplains, which are often in the East of England and in coastal regions but can also be found surrounding rivers in all regions of the country. In many cases, these authorities are in the difficult situation of having to meet challenging housing targets by building on floodplains due to the lack of an alternative. In these instances, the Local Plan and the local planning department rely on flood impact assessments, which are required in areas marked as at-risk of flooding by the Environment Agency.

Local authorities at the county/unitary level have the added responsibility of being the lead local flood authority for their areas. This places them in charge of maintaining a register of flood risk assets, keeping up-to-date emergency response plans, and coordinating flood risk management across the wider local state. Importantly, these authorities are also empowered to take the lead on community recovery in instances of major, disruptive flooding. Put in place through the Flood and Water Management Act 2010, these measures also include the production of a Local Flood Risk Management Strategy, setting out how the council intends to reduce and respond to instances of flooding in the area.

Local flood authorities therefore take the lead on Flood and Coastal Erosion Risk Management (FCERM), an increasingly important area of policy in response to climate change. In the past three years, the Environment Agency have published both an FCERM strategy and an accompanying Action Plan, involving £860m of investment into over 1,000 flood defence schemes. The action plan recognises the role of councils in using planning authority status, as well as lead local flood authorities, in increasing resilience, through formal policy as well as working in partnership with local stakeholders.

5.2.3 Nature and biodiversity

Biodiversity net gain (BNG)[151] is an approach to the development of land that attempts to improve the natural environment from the state it was in before. BNG is a significant aspect of land management and has been a focal point for environmental policy in recent years. Naturally, local authorities will have a role in enhancing the local natural environment and enacting the policies to do

151 PAS – Biodiversity net gain for local authorities

so. Recently, powers have been made available to local government and place stakeholders giving them greater capacity to act in this area.

Local Nature Recovery Strategies (LNRS)[152] are a flagship government policy established through the Environment Act 2021, the purpose of which is to help reverse an ongoing decline of nature and biodiversity in England. They will act as a country-wide system of spatial strategies that will establish priorities and map proposals for action to drive natural recovery across specific localities. Government anticipates there will be 50 LNRS that will cover the entirety of England with no gaps or overlaps. The environment secretary will appoint a 'responsible authority' to lead on its production in the designated area, which in most cases will be the local authority. However, it is not clear as yet what tier of local government is preferred to lead on the LNRS development.

The LNRS will be evidence-based, locally-led, and will require strategic collaboration between local nature and agricultural stakeholders - including farmers - to create a network of shared plans that can be delivered by the public, private, and voluntary sectors. Each strategy will have an obligation to consider priorities for local nature and biodiversity recovery, map the most valuable nature assets, and outline specific proposals for achieving local environmental improvements. So far, there have been five LNRS pilots. What is clear so far is that local authorities will have to use their strategic planning and coordination powers to the full extent if the initiative is to be a success.

In addition to the rollout of LNRS, the funding available to local authorities provides an avenue through which to lead on nature and biodiversity recovery. The £6m Trees Call for Action Fund[153] was launched in November 2021, which gives grants of between £250,000 to £500,000 to projects across England that are managed by partnerships of environmental charities, not-for-profit organisations, local authorities, and landscape bodies. There is also the Local Authority Treescapes Fund[154], which similarly supports tree planning and natural regeneration in non-woodland areas. For the period 2022/2023 £5.4m is being made available, with the government expecting up to 100 grants of between £50,000 to £300,000 being made available to local authorities that are working with climate NGOs, community groups, and volunteers.

Finally, the planning system can be used by local planning authorities to embed nature recovery and biodiversity in the ongoing development of a locality. This

152 DEFRA (2021) – Local Nature Recovery Strategies: how to prepare and what to include
153 DEFRA, Forestry Commission (2021) – Extra funding to create jobs, expand woodlands and protect trees
154 Forestry Commission (2022) – Local Authority treescapes Fund

is something acknowledged by government and the rollout of the LNRS, where a main objective of the pilots has been to see where they can fit into existing spatial planning tools such as the Local Plan. Stakeholders have also been examining what role design codes can play in linking nature recovery to placemaking and the design of the local built environment. The RTPI[155] have argued that, with the increased importance of design codes following the revision of the NPPF in 2021, they can help drive clean growth if used properly and frontloaded in the development process. This can ensure that considerations around nature recovery can be locked in from the beginning.

5.3 Achieving clean local growth through land management policy

Opportunities	Barriers
• Councils can improve resilience and community engagement through empowering communities at-risk of flooding by working with flood action groups. • Long-term planning can **create a pipeline of projects to boost resilience**, bringing in multiple parts of the local and regional economy and public sector. • The Local Nature Recovery Strategies pilot programme demonstrated the potential for **bringing together stakeholders from across society to work together on biodiversity** at the local level.	• The issue of **piecemeal and overlapping policy directives** from central government can lead to inefficient carbon offsetting and conflicts between goals of sustainable food production, nature recovery and biodiversity. • Sustained flood-resilience is difficult due to the lack of a dedicated revenue stream for resilience and adaptation. • Considering the severity of the issue, councils are under-powered to act on privately-held flood defences in poor condition.

155 RTPI (2022) – Cracking the Code: How design codes can contribute to net-zero and nature's recovery

Creating market conditions for clean local growth in land management

Local authorities have a strong role to play in providing market confidence and bringing in the investment needed to accelerate the decarbonisation and clean growth of their local economy. Creating the right market conditions for clean local growth in land management will entail the need to:

- Embed nature recovery and biodiversity in future local development and the Local Plan.
- Convene with agriculture, natural realm and affected local state partners to better understand how to incentivise innovation in the decarbonisation of land use.
- Work with farmers to understand the potential for land use management and alternate uses of land including possibilities around renewable energy generation through solar panels.
- Commit dedicated support to agriculture workers and farmers in helping them scale up low-carbon practices.

5.3.1 Decarbonising agriculture

The guidance[156] set out by the NFU sets out its aspiration for net zero against three pillars that include reducing emissions through productivity, carbon storage, and the role of renewable technology in the agricultural sector. The process of decarbonising agriculture will require the development of effective land management policy that speaks to each one of these areas in a holistic manner.

However, a barrier in the face of developing such an approach is that often policies dealing with biodiversity net gain and carbon offsetting advances these issues at the expense of agricultural production, which inhibits the use of land to its full potential.

Taking a holistic approach to land management policy will be vital for local government to adequately lead on the decarbonisation of agriculture at the level of place. How this looks will be different across the country. For example, in the South East of England, where land availability is already constrained, focus needs to be directed at how best to unlock land to increase production whilst respecting the need to use farm land for carbon offsetting.

156 NFU – Net zero & agriculture

5.3.2 Flood and coastal erosion risk management

For local authorities, applying risk management against flooding and coastal erosion means action on a range of timescales and working with multiple different partners. On the one hand, there is the need to deal with risks in the short term and with the immediate and sustained responses to actual occurrences of flooding. On the other, there is the need to work with leading scientific institutions and industrial sectors such as housebuilding and utilities to model different scenarios and build long-term resilience into local planning.

The most important stakeholders on the ground are of course the communities who live in areas at risk of flooding. In at-risk areas, local flood authorities are working to ensure that communities are informed of plans and processes which might impact them in the event of a flood or better protect their area in the long term. Many such communities have self-organised into Flood Action Groups, supported as a network by the National Flood Forum, an organisation founded in 2002 to help communities in speaking out on flooding. It is important that all local authorities affected by flood risk engage with these groups, especially the lead local flood authority. In March 2021, Cambridgeshire County Council approved funding for a Community Flood Action Programme, including a series of projects across the county to increase resilience. Part of the remit of the programme is to support local people in establishing action groups and producing community flood plans. This kind of action empowers communities and helps move away from a paradigm where policy around resilience is something that happens "to" rather than "with" communities.

Given the complexity of the partnerships required and dramatic scale of the issue, a long-term project pipeline is crucial. In Somerset, the devastating flooding of 2014 led to the formation of the Somerset Rivers Authority, where the county council as lead local flood authority worked with districts and a broad range of other stakeholders in producing a twenty-year plan to increase flood resilience across the county. As of summer 2022, the partnership was still meeting regularly and overseeing the delivery of the plan. This is despite multiple changes of government and massive global instability in recent years, showing the stability that can be provided by the local state if partners are well-coordinated under an agreed long-term vision. On the coast of the South West, a similar approach has been taken by the council of Bournemouth, Christchurch, and Poole in the establishment of a 'centre of excellence' for Flood and Coastal Erosion Risk Management. This follows years of collaboration across the wider area, formalising the FCERM partnership into an independent body to devise solutions to build resilience across the area using multiple public and private sector actors.

Despite the increase in policy focus on flooding which brought about the FCERM Strategy and action plan, there remain significant barriers to local authority action which require a step-change from central government to address. The need for long-term financial surety and dedicated revenue streams remains a central issue. The disconnect inherent in a policy where capital injections for flood defences are supplied without revenue-funding for their maintenance is a major obstacle to building resilience identified by local government stakeholders[157]. This problem is exacerbated by the fact that many flood defences are in private hands, with very poor available data on the condition of this vital infrastructure. Even in cases where the working condition of privately-owned flood defences is known, councils have no power to compel landowners to address the issue[158]. These twin pressures leave councils with limited resources to maintain public defences and almost no resources to ensure the good working order of those in private hands.

5.3.3 Driving biodiversity and nature recovery

The Local Nature Recovery Strategies, if done properly, have the ability to cover the need of involving each main agricultural stakeholder, including local farmers, to deliver a truly holistic plan for land management. And already, the experiences of the five pilot projects give an insight into what works as well as lessons learnt.

The five pilot tests were conducted by Nature England and included the Greater Manchester Combined Authority, Buckinghamshire County Council, Cornwall Council, Northumberland County Council, and Cumbria County Council. The pilots were carried out from mid-2020 and concluded in May 2021, with the experiences of these councils helping to inform the regulatory framework of the strategies to ensure consistency in their rollout.

According to the principal advisor for the LNRS at Natural England[159], the experience of piloting the strategies has been overwhelmingly positive. All councils showed enthusiasm and dedication to making a success of it. In terms of lessons learned, it has been highlighted that owing to how new the policy is, the strategies can look very familiar in places, especially in evidence collection and mapping of priorities. However, a strength of the policy that is already becoming apparent is in its ability to bring together planners, farmers, protected areas, residents, and local climate NGOs to establish a locally-led collaborative process.

157 LGA (2019) - LGA response to draft National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England

158 The Guardian (2021) - Revealed: a third of England's vital flood defences are in private hands

159 Nature England (2021) - Shaping the future of Nature Recovery: Developing Local Nature Recovery Strategies

At the same time, transparency and consensus in decision-making will need to be baked-in from the beginning in overcoming difficulties and differences of opinion. And relatedly, more work needs to be done to understand how LNRS can link with and complement other plans and spatial strategies – particularly Local Plans.

Alongside LNRS, there are other examples of district councils acting on their own volition to drive biodiversity and nature recovery. Folkestone and Hythe District Council have been encouraging biodiversity through grounds maintenance within the district area. The district's grounds maintenance team works to encourage wildlife and minimise the team's climate impact. The district is home to some rare habitats and species, such as the short-haired bumble bee, late spider orchid and turtle dove. Folkestone and Hythe's green infrastructure strategy is being updated with climate change as a major cross-cutting theme. The strategy will tackle five main areas: biodiversity, access, health, blue infrastructure (such as rivers, canals and ponds), and landscape character. An action plan is currently being drafted which will go out to public consultation.

5.4 Case study: Cornwall

Cornwall Council are a leading example of an authority that has successfully managed to devise land management policy which concurrently responds to the three aligned challenges of the climate emergency, the ecological emergency, and the need to adapt to a changing climate. The council were the first in the country to declare both a climate emergency in January 2019, and an ecological emergency in November 2021. The latter being led by the Cornwall & Isles of Scilly Local Nature Partnership.

Utilising its relevant functions and statutory duties the declaration of both emergencies has allowed the council to take a holistic approach in responding to the three aligned challenges. This led to the development of the environmental partnerships and climate change service which has oversight of the agenda leading on cross cutting projects aimed at addressing the climate and ecological emergencies.

Work to date includes the implementation of the Carbon Neutral Cornwall Action Plan[160] that looks at how to fully decarbonise the county by 2030, working with the Local Nature Partnership in the development and implementation of the Local Nature Recovery Strategy[161] and the creation of the Forest for Cornwall.

The Forest for Cornwall[162] is a project born out of the Carbon Neutral Cornwall Action Plan and has been highlighted as a leading example of how a single project can deliver multiple benefits for Cornwall and its residents. Based on carbon sequestration, its aim is to develop a forest covering 8,000 hectares (two percent of Cornwall's land mass) with trees and hedges to absorb carbon from the atmosphere. This will also have significant benefits for the council's wider approach to nature recovery and biodiversity along with creating natural flood management solutions.

160 Cornwall Council (2022) – Our Action Plan
161 Cornwall Council – What is a Nature Recovery Strategy?
162 Cornwall Council – Forest for Cornwall

Key to the success of the council's approach has been the ability to work at a higher strategic level of spatial planning. As a unitary authority, with statutory duties as the local flood authority and local planning authority, Cornwall Council has been able to look at where synergies and opportunities lie in developing projects such as Forest for Cornwall that deliver results across a range of challenges from carbon mitigation and nature recovery to adaptation and resilience.

This is exemplified by their Climate Emergency Development Plan Document[163], which brought together a wide range of issues including biodiversity net gain and allocation of land for renewable energy and was compiled using this level of strategic thought and engagement with communities and key sector representatives. Having a greater oversight, whilst being able to utilise local knowledge intelligently, will allow for the development of schemes that will have meaningful impact.

Another advantage of being a unitary authority is in the scale of bodies being contiguous with one another. For example, the Local Nature Partnership, Local Enterprise Partnership, and council can come together easier. This does not mean to say that it is simple, there are many complexities that need to be faced. However, strategic working together across sectors has allowed a number of initiatives to be tested across Cornwall that have resulted in it having a number of progressive land management policies.

For example the innovative Lagas[164] project, which provides a mapping tool that details the Cornish landscape and environment. It maps a range of different land management related issues all integral to the transition to net zero ranging from Net Gain Zones to future farming opportunities that could be pioneered across the county. Lagas supports the council's Environmental Growth Strategy and helps provide the framework for local action.

It also aids increased strategic working between local partners on issues such as nature recovery as it helps illustrate what needs to be done and who can play their part in making a success of projects. Lagas has been used to facilitate the development of an investment programme for nature recovery and provide investor confidence. It helped map out £40m worth of investment opportunities the council has developed with partners across the county, all of which deliver against the pilot Local Nature Recovery Strategy.

While the climate change development planning document will establish planning policies on renewable energy, biodiversity net gain and green infrastructure, their refreshed Local Transport Plan and Plan for their Places show how they are embedding nature within broader spatial strategies and policies. Cornwall Council will also be the Responsible Authority for the region's Local Nature Recovery Strategy and having been selected as one of five pilot regions they understand how this will strengthen local action, help guide development through things like Biodiversity Net Gain, guide agri-environment funding, and shape wider investment to support their climate and environmental ambitions.

163 Cornwall Council – Forest for Cornwall
164 Lagas Cornwall – Homepage

5.5 Recommendations to central government

- Reaffirm support for nature recovery and the protection of the environment in planning regulations.
- Give councils power to act on privately-held flood defences
- Create a comprehensive, cross-departmental national land management framework – so that councils and landowners are aware of the different options for decarbonisation and how these aggregate to a national reduction in emissions.

6. Recommendations summary

General

- The government must fully recommit to net zero and, responding to the Supreme Court decision of July 2022, produce a detailed and costed strategy for achieving decarbonisation of the economy.
- Given the fraught economic situation and lack of available extra funding from the exchequer, central government must launch a comprehensive review of the fiscal mechanisms available to local government to fund decarbonisation and clean growth projects.

Housing and the built environment

- Raise the standards for net zero local plans in the revised National Planning Policy Framework:
  - Make specific reference to the targets agreed to in the Paris Agreement and the role of local planning in achieving the goal.
  - Include a requirement for emission reduction targets at the local level.
  - Set targets for green and blue infrastructure provision.
  - Set requirement for inclusion of low-carbon heat technologies in new developments.
  - Set stringent mitigation obligations for new developments.
- Produce a long-term plan for building stock decarbonisation with regional breakdowns of supply and demand for retrofit.
- As part of the overall measures to bring down energy costs and support people through the cost-of-living crisis, government must find and set aside money for a long-term retrofit programme, to give industry the confidence needed to ramp up investment in the necessary skills and materials.

Energy

- Commit to renewable energy and abandon plans to further extract fossil fuels from the North Sea.
- Produce legislation to bring forward the Local Skills Improvement Plans as laid out in the Levelling Up White Paper, with an emphasis on the delivery of new green skills for retrofit.

- Produce a comprehensive legal framework for Local Area Action Plans, as was scoped by Ofgem and BEIS in late 2021.

Manufacturing

- Launch a new wave of enterprise zones to help support the transition to net zero in the manufacturing sector whilst also growing regional productivity.
- Attach skills provision to enterprise zones through Local Skills Improvement Plans, ensuring that approval for zones is granted only on demonstration of a viable local skills supply chain for businesses in the target sector.

Transport and infrastructure

- Bring forward a new Transport Act:
  - Create a legal framework for integrated transport strategies across the country with carbon reduction targets and responsibilities.
  - Give councils powers to incentivise bus operators to decarbonise through local regulation.
- Create a mechanism to increase transport revenue funding to local authorities, proportionate to the percentage of local public transport which is net zero.

Land management

- Reaffirm support for nature recovery and the protection of the environment in planning regulations.
- Give councils power to act on privately-held flood defences
- Create a comprehensive, cross-departmental national land management framework – so that councils and landowners are aware of the different options for decarbonisation and how these aggregate up to a national reduction in emissions.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