

The route to clean growth

Using local industrial strategies to drive change

“green alliance...”



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The views expressed in this report are those of the authors and do not necessarily reflect those of the experts and organisations consulted.

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Contents

Executive summary	2
Introduction	5
Mapping clean growth across England's regions: sector analyses	6
Buildings	7
Energy	13
Manufacturing	19
Transport	23
Land management	27
Four criteria for success	31
Local powers	33
The role of central government	39
Endnotes	40

Local areas have seized the initiative on climate change. Two hundred and thirty local and combined authorities in England had declared climate emergencies by July 2019. The challenge now is for local policy makers to translate this momentum into co-ordinated action across all areas of their local economies, including energy, transport, buildings, land use and manufacturing. Each area is currently drawing up a local industrial strategy and we explain why clean growth must be at the heart of their plans, to attract the industries of the future and build resilience in a world increasingly affected by climate change and environmental decline.

Mapping of the economic risks and opportunities of this transition across England shows variation, both in geography and scale. There are basic actions needed everywhere, to raise the baseline and make existing businesses more productive and resilient. These include the adoption of smarter energy systems, more integrated transport, and more energy and resource efficient manufacturing. On top of that, some areas will have to futureproof key industries like the automotive sector, steel making and livestock farming. Finally, there is the chance to double down on support for the industries of the future, like offsite building construction, carbon capture and storage and renewable energy.

Our consultation, with local government practitioners and other experts, shows that England's largest mayoral regions have, at the most, half the powers they need to transform their economies to meet these challenges. Powers are particularly weak when it comes to manufacturing and land management. However, there are other levers that local areas can employ. They can negotiate local partnerships, capitalising on their existing networks, and they also

have assets, land, buildings, transport and waste systems, which they own or control.

Better resourced local bodies, or those that have already made progress on clean growth, are likely to want more powers devolved to them. But, for others, better resourcing and knowledge will be the critical factors leading to greater action in the short term.

It has taken pioneering local leaders on clean growth, like Bristol, Cornwall and the Greater London Authority, over a decade to reach where they are now. But the increasing urgency to respond to climate change and other environmental challenges means others will have to act much faster.

Empowering local authorities must not come at the expense of national action, which will be especially important for some sectors. Nonetheless, the government should embrace the willingness of local areas to do more and support them in the following ways:

Recommit to green local industrial strategies

A requirement to pursue clean growth should be written into guidance on local industrial strategy so that each area identifies opportunities for low carbon investment. In approving strategies, the government must also consider whether local areas are supporting a just transition to a decarbonised economy.

Provide expert advice and targeted financial support

Support should not end with the publication of a local industrial strategy. The government should collate data on the success of local approaches and publicise the lessons learnt. It should also target support at the earliest stage of strategy development, building on the experience it has gained from the local energy hubs. Match making services should be offered to local areas that want to attract private finance.

Offer new sources of finance

Part of the UK Shared Prosperity Fund should be ringfenced for projects with local public and private investment that can deliver the infrastructure and supply chains necessary for decarbonisation. This match funding would be for local authorities and the private sector to work together on issues such as insufficient electricity grid capacity or poor public transport infrastructure. At the same time, local areas should use the Stronger Towns Fund for capital investment in clean growth-related projects to enhance their ability to raise debt capital and scale up.

Devolve more powers

Local authorities should be given explicit power to set higher standards for low carbon new homes, enabling a faster transition towards the Future Homes Standard and the integration of additional, locally sensitive, requirements. The new standard should apply to all new buildings from 2025, regardless of when they achieve planning permission. It should include requirements to reduce the carbon intensity of building materials and processes. Local authorities should be given more flexibility to modulate business rates and council taxes, in a locally appropriate manner, to encourage and support measures such as improvements to local building stock.

Embed the net zero goal in local planning

In approving future local industrial strategies, the government should seek evidence that the authors have worked with neighbouring areas to co-ordinate around the development of low carbon infrastructure and the management of natural capital reserves. Local authorities should be required to align their plans with the net zero goal and make sure that neighbourhood planning forums also consider this as a priority.

Introduction

Following public concern across the country, local areas are declaring their ambitions to do more to tackle climate change. Two hundred and thirty local authorities in England had declared climate emergencies by July 2019. At the same time, areas are developing local industrial strategies which could be an opportunity to capitalise on clean growth opportunities.

The impetus for clean growth is felt acutely at the local level. From the communities built around fossil fuel-related industries concerned about a just transition, to coastal communities seeing the benefits of the offshore wind success story, the need for proactive strategy is as pressing as it is geographically differentiated. As argued by Localis, in its work on local industrial strategies, the challenge now is to make the best use of local resources and powers to drive change across the country, and more rapidly than before.

We have mapped the economic risks and opportunities associated with addressing environmental issues across England, as that is where local industrial strategies are being developed. We then matched these risks and opportunities against Green Alliance's categorisation of different types of clean growth. This assumes three areas of development:

Raising the baseline

Improvements to existing practices to increase productivity and resilience across the economy.

Futureproof

Protecting the goods and services that businesses and local areas offer against obsolescence or loss of competitiveness in the transition to a low carbon economy.

Double down

Making the most of all the opportunities to support the development of new world class, resource efficient, low carbon industries.

Following workshops and interviews with local government practitioners and other experts, we set out the ingredients here for a successful local approach. This includes what more central government could be doing to bring together the local and national clean growth agendas.

Mapping clean growth across England's regions: sector analyses

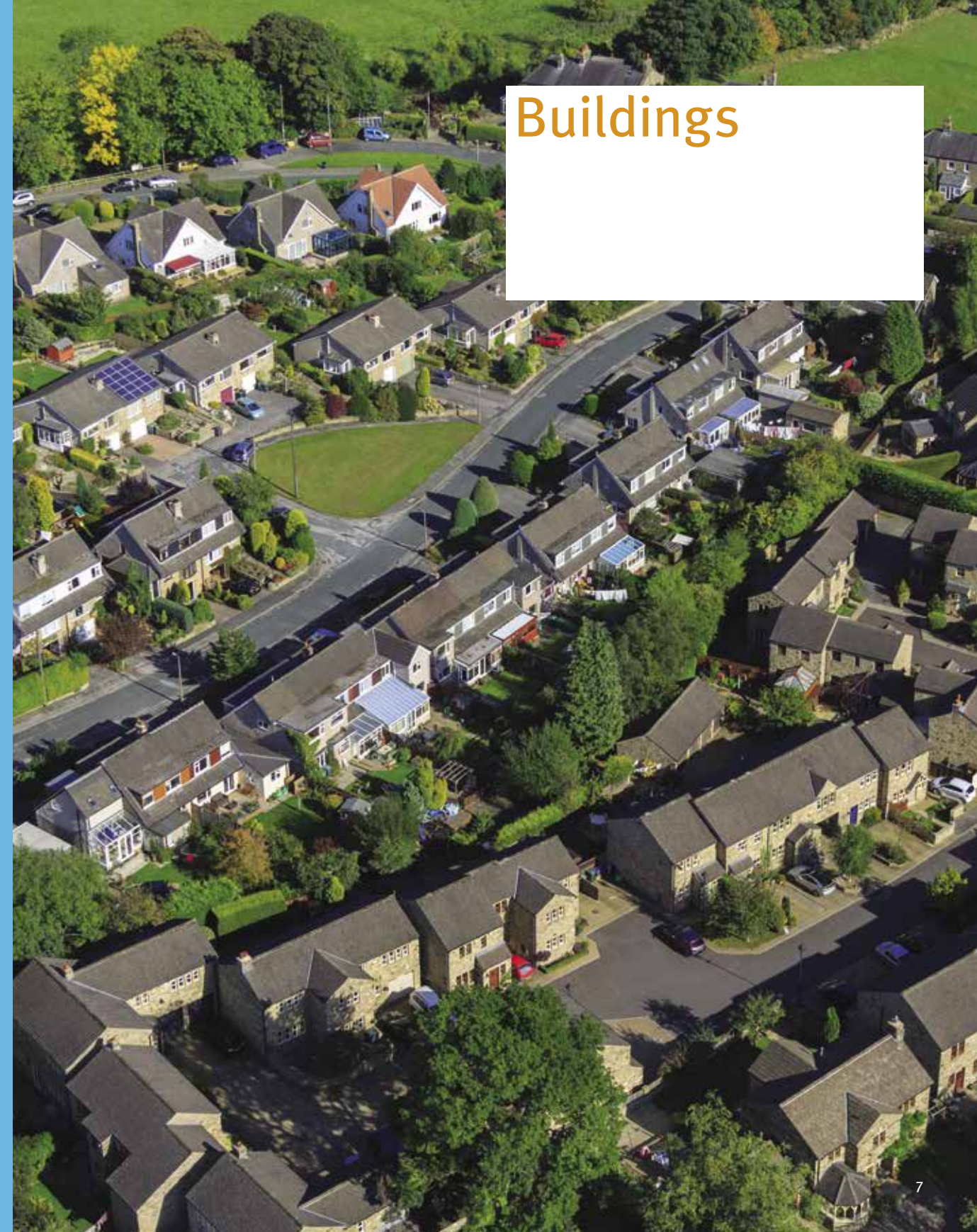
The transition to a more sustainable economy will involve all sectors, from home renovation to major infrastructure projects. In all fields, there will be commercial potential to create and drive new markets, replacing high carbon with low carbon industries. Each local area will have to respond to a unique set of risks and opportunities.

We have taken five sectors – buildings, manufacturing, energy, transport and land management – identified by the government's advisory Committee on Climate Change as requiring significant and rapid change, and looked at how the risks and opportunities within them vary across the country.

Although the waste sector is significant in its own right, for the purposes of this analysis we have incorporated it within manufacturing. Some of the biggest clean growth opportunities for this sector are in the development of a circular economy, where the growth of take back schemes, remanufacturing and service-based business models will have an impact on manufacturing industry.

Matching the opportunities in each sector against the three development areas outlined on page five shows there are some universal actions required but also that some are more appropriate to specific locations around the country.

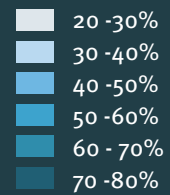
Buildings



Potential for low carbon development in the buildings sector

New build homes are concentrated around cities but there are buildings in need of retrofit all over the country.¹

Housing energy efficiency
Percentage of domestic and non-domestic buildings rated below a C for energy performance

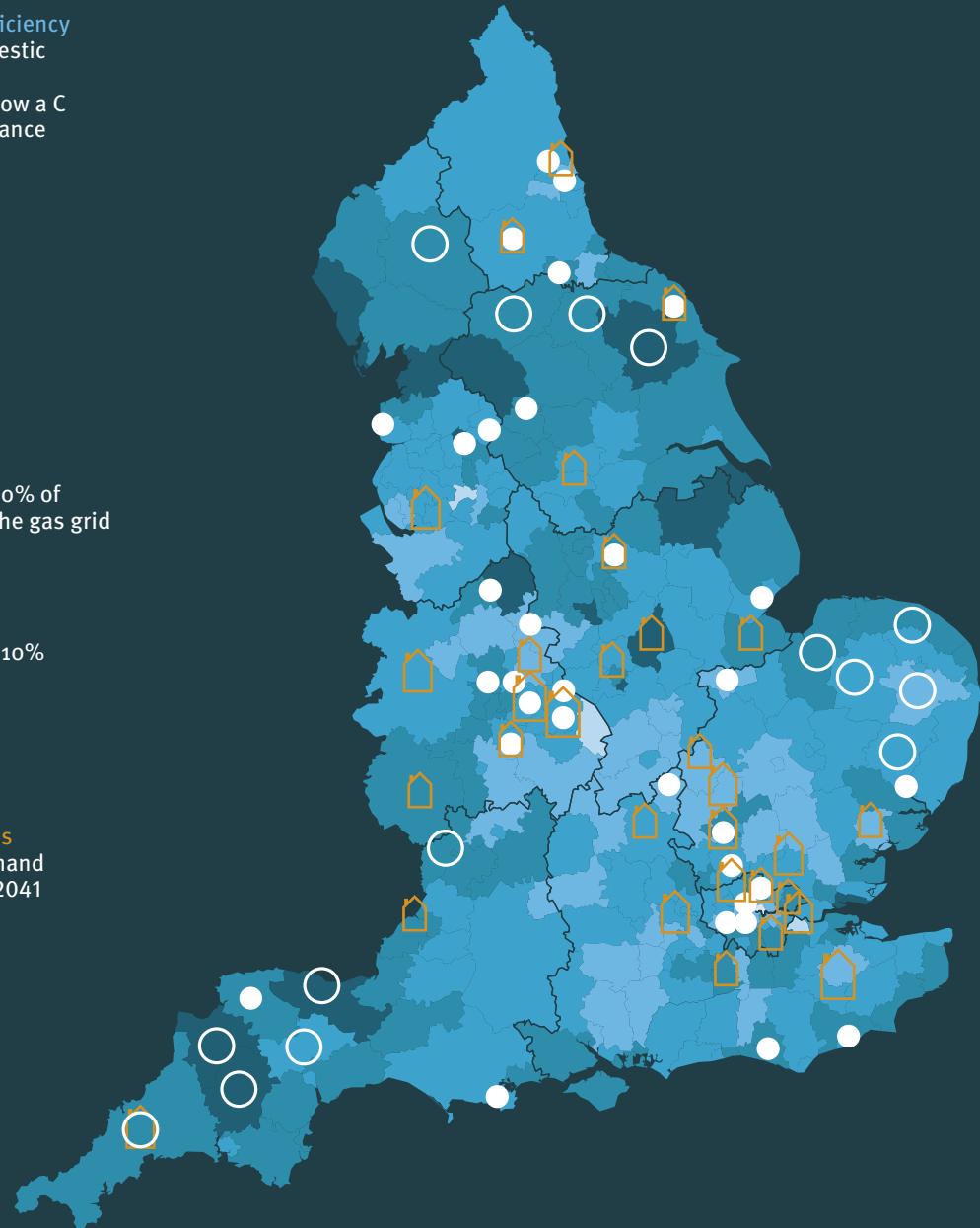


Gas grid
Areas where over 40% of homes are not on the gas grid

Fuel poverty
Districts in the top 10% for fuel poverty



Housing projections
Projected high demand for new homes by 2041 (in thousands)



The number of households in England is projected to increase at 300,000 a year, with particular growth projected in London, the Midlands, Liverpool and Leeds.² Achieving the carbon savings recommended for 2030 will also need a huge roll-out of retrofit programmes to improve energy efficiency in existing homes, including replacing gas boilers.³

Around 65 per cent of homes across England need improvement (ie those with below C grade energy performance certificates), although this figure is around 80 per cent in some areas.⁴ Most of the districts with particularly inefficient buildings tend not to be in the combined authority regions which are better placed to co-ordinate major retrofit schemes. However, the numbers of houses needing retrofit in these areas could offer opportunities for a more comprehensive approach.

Raising the baseline – improving productivity and resilience

Energy efficient buildings improve the quality of life for occupants and cut energy bills, freeing up money for consumers and businesses to spend on other goods and services, boosting the economy. A retrofit programme also provides additional construction sector jobs. A review of over 20 studies found that every £1 million invested in retrofitting homes provides the equivalent of 23 years of full-time employment for one person.⁵

Both retrofit and new build activities are an opportunity to improve the productivity of the construction sector, which has shown little growth in 25 years. Critical to this will be a focus on reducing waste and energy use, to lower costs and make the industry more competitive. Councils have a role to play in helping local businesses and, where they have declared climate emergencies, they will also have the political mandate to act. One option would be to factor resource efficiency targets into procurement contracts. The 70 per cent of English upper tier local authorities that own more than 1,000 homes have a headstart when it comes to both testing and stimulating retrofit solutions and simultaneously encouraging construction companies to cut their waste and energy use.

Futureproof – protecting against obsolescence and uncompetitiveness

The construction sector is a small but consistent part of local economies, providing between two and three per cent of gross value added (GVA) in the English regions and around one to two per cent of jobs. It can also expect continued strong demand.

However, the industry is not in a good position to deliver the efficient buildings the UK needs. The Greater London Authority (GLA) has taken a lead, using its strategic spatial planning powers to set more stringent energy efficiency requirements, but local planners in other areas have been dissuaded by central government from following suit.

The government should ensure that the forthcoming Future Homes Standard generates a ready market for both energy efficiency and lower impact construction methods, using alternative materials such as cross-laminated timber and more resource and energy efficient offsite construction techniques. Councils should also be given the ability to mandate additional locally relevant requirements.

Local ownership of buildings or shares in local housing associations can again be an important lever. All the buildings commissioned by Exeter City Council over the past decade have been built to PassivHaus standards. Worthing Council is using its land to partner with IKEA and construct low carbon modular, factory built homes.⁶ Rural areas off the gas grid, like Cornwall and Wiltshire, should also explore the use of renewable heat sources and consider how demand for them could be met by local suppliers.

Double down – fostering innovation

Offsite construction has the potential to displace a substantial amount of traditional building activity, while supporting the delivery of high quality, low carbon buildings. A concerted move in this direction could lead to greater productivity, with a 3.6 per cent increase in GVA per job, and much of this would be concentrated outside London.⁷ The South East, Midlands or other areas close to centres of projected growth could choose to move first, establishing factories to supply neighbouring areas. A level of 3,000 new homes a year – or the equivalent volume of deep retrofit projects – provides a sufficient market to support a new factory, developing local skills and expertise.⁸



Enhancing building and business efficiency through local taxation

For combined authorities covering regions with a multiplicity of large businesses, business rates could be used to drive clean growth.

Upper tier councils have powers to supplement business rates, with the agreement of local firms, via the Business Rate Supplement Act 2009. This helped the GLA to fund Crossrail.

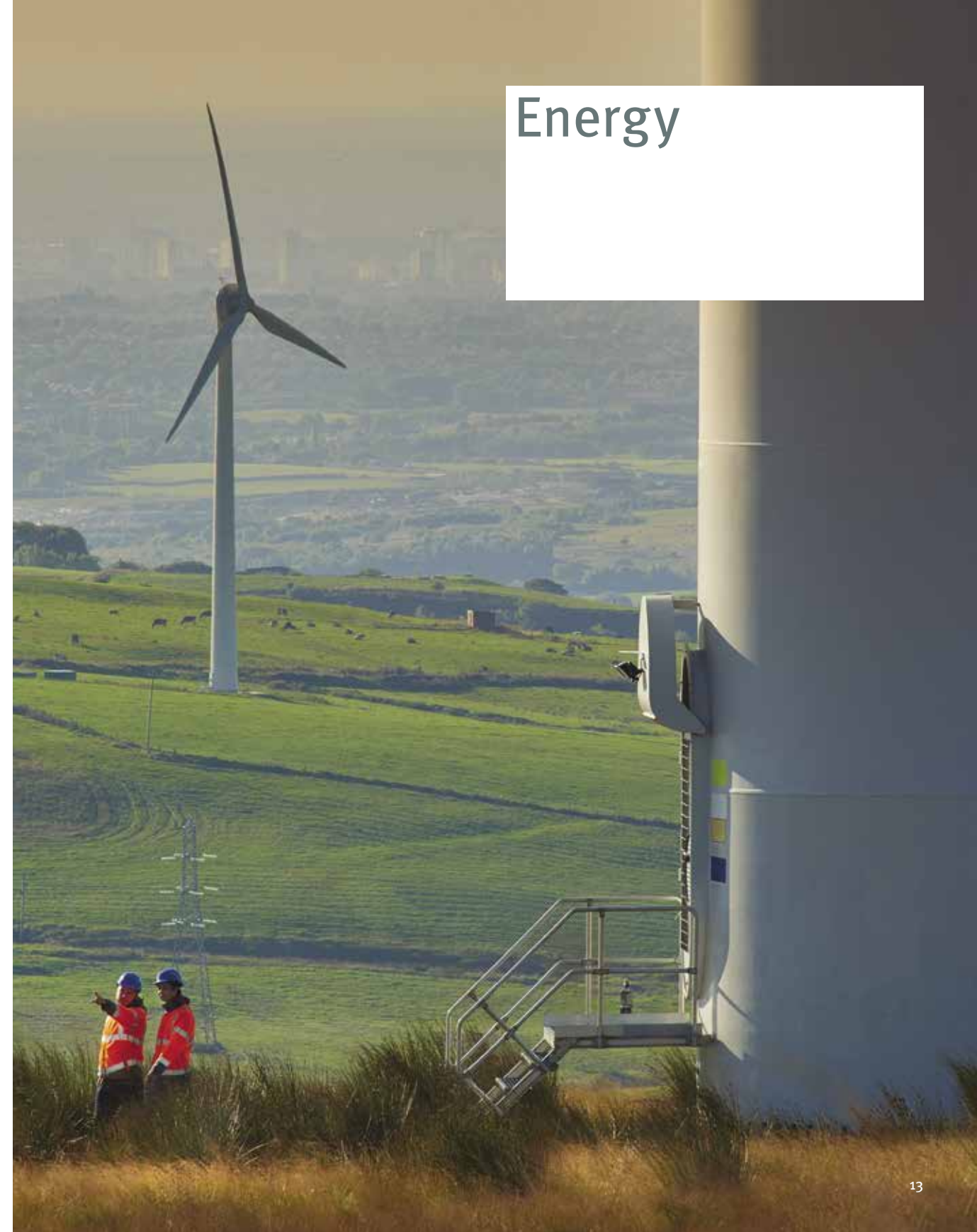
The act allows levying authorities, alone or in collaboration, to raise a business rate supplement to fund local economic development from firms that pass a threshold of rateable value. In the case of Crossrail, the GLA set the threshold so that firms paying over £70,000 in business rates (15 per cent of London's businesses) paid an extra two pence on the pound on rates over that level.

Greater Manchester Combined Authority is considering raising funds for retrofitting commercial buildings through levies on large businesses, on the basis that this will improve sustainability through local supply chains. It would also promote clean economic development by stimulating local demand for sustainable construction. Such measures would be harder for smaller areas to implement under the current rules, as they have fewer businesses.

Balloting for approval of local taxation to drive clean growth has been successful in Boulder, Colorado, where a carbon levy on residential, commercial and industrial accounts, introduced in 2006, raised \$1.8 million in ringfenced clean growth funding. In 2012, after five years of investment in improving efficiency, funded by the levy, 82 per cent of voters approved of its continuation.



Energy



Areas of potential growth in low carbon energy

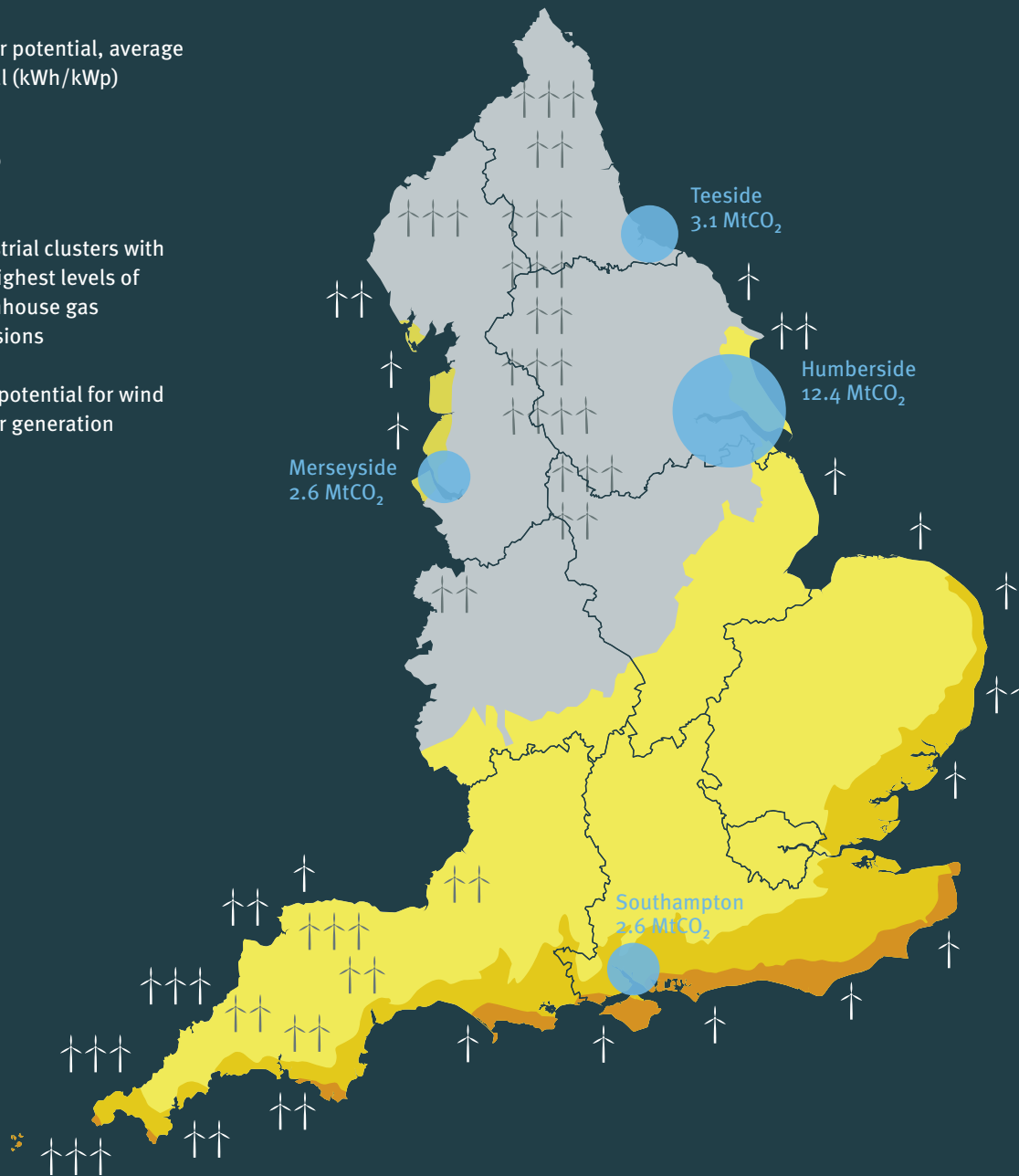
Southern and western areas are better placed for wind and solar opportunities. Industrial clusters are likely development hubs for hydrogen and carbon capture, utilisation and storage (CCUS) technologies.⁹

Solar power potential, average annual total (kWh/kWp)



- Industrial clusters with the highest levels of greenhouse gas emissions

- High potential for wind power generation



The energy sector has been the focus of the majority of clean growth policies to date, but further decarbonisation is required and new business opportunities are emerging. These are particularly significant for areas with more wind and sunshine and around industrial clusters which could form the starting points for a hydrogen network. Offshore wind generation is currently only sited in shallow seas but floating turbines may remove this restriction over time.

Raising the baseline – improving productivity and resilience

Smart energy systems use real time data and controls to optimise the use of renewable energy by linking it to storage and demand response systems. This will increasingly need to be the baseline for energy use as the volume of variable renewable energy supply increases, and as demand grows from electric transport and heating. Smart systems minimise expenditure on new grid infrastructure,. They help to lower connection costs, particularly in areas like the South West and the Midlands where the current grid is struggling to cope, and bring down electricity prices generally.

In some parts of the US, 15 per cent of peak demand is met by digital solutions and smarter systems could save the UK £17-40 billion to 2050.¹⁰ Oxfordshire County Council and Oxford City Council have managed to pull together £40 million between them, including £14 million from the Industrial Strategy Challenge Fund, to trial smart solutions to local grid constraints with various companies and local universities. Oxford City Council has another £41 million to test a 50MW battery system.¹¹

Local areas should also optimise heat use and one approach that councils can influence is the creation of networks, where residual heat from an activity, or a more efficient centralised system, is used to heat multiple properties. These networks meet around two per cent of UK heat demand with regional variation due to a range of factors, including building density, rates of regeneration and local co-ordination. Estimates suggest this could be cost effectively expanded to 14-20 per cent by 2030 and 43 per cent by 2050.¹² The ownership, operation and maintenance of heat networks provides ongoing local economic opportunities, but their development needs to be stimulated by central government funding and heat strategies in local plans. Local areas have invested in projects such as investigating new sources of heat from old mine workings, or developing local heat source maps.

Current distribution of heat networks¹³

Region of the UK	Density of heat networks in different areas (kWt/£m GVA)
East Anglia	0.4
The Midlands	1.4
North East England	1.6
Yorkshire and the Humber	0.0
North West England	1.7
London	1.7
South East England	0.5
South West England	0.5

Futureproof – protecting against obsolescence and uncompetitiveness

Energy supply provides around two per cent of GVA across English regions and the increasingly decentralised nature of energy systems suggests it will continue to be a solid contributor to the economy in most areas. Direct local involvement in clean energy projects and services is an opportunity to help futureproof local energy industries and, potentially, retain a higher proportion of the income they generate in local areas.

For example, Cambridgeshire County Council has invested £10 million in a solar farm that brings in £1 million in revenue a year and Nottingham City Council is saving £300,000 per year from its solar investments. But this kind of investment is rare.

Local authorities are wary of changeable national policies and anxious about private partnerships, with limited expertise or resources to source and manage financing arrangements.

One of the boldest commitments in this area has been made by Bristol City Council, which has collated a series of energy and infrastructure investment opportunities worth almost £1 billion through its CityLeap project. Bundling projects, like energy advice and rolling loans to SMEs, energy efficiency retrofit, smart energy projects and renewables, as Bristol has done, could create a more attractive prospect for the right partner or partners. The Department for Business, Energy and Industrial Strategy (BEIS) is building public sector capacity to bring forward energy schemes in other areas through local energy hubs.

The number of employees working directly in the low carbon and renewable energy sphere is growing faster than the wider economy.¹⁴ However, more could be done to localise supply chains: there will be a small number of local opportunities in the operation and management of assets but there are major opportunities in development and construction. While there is a commitment to increase the proportion of locally supplied components used in the UK wind industry, for example, the current figure is only around 50 per cent and parts produced in close proximity to projects may be lower still.¹⁵ Local government investment could offer opportunities here, allowing councils to extract more local value from projects in their area.

Energy Innovation Zones

The West Midlands is building a case for greater devolution of powers from central government to tackle issues such as the electrification of transport, overly high grid connection charges and low rates of housing energy efficiency retrofit.

The case is being made by Energy Capital, a consortium including the West Midlands Combined Authority, other local authorities, businesses and academics. Part of its work has been to establish five Energy Innovation Zones, each with different characteristics, to experiment with different approaches to energy policy.

These have attracted initial funding, including money from BEIS to look at how to plan locally, ahead of grid constraints, to avoid excessive connection charges. Other areas, like Cornwall, are also beginning to participate.



Double down – fostering innovation

Some areas are particularly suited to certain types of renewables and should find it easier to attract investment. For instance, parts of Kent could generate ten per cent more energy from solar farms, due to higher levels of sunshine, while the South West has roughly 50 per cent more wind than other parts of England.

An important factor in capitalising on local value generated is to ensure renewable supply matches local demand. The UK has been a leader in smart energy systems suggesting that this is a field in which early movers could take advantage of substantial local opportunities.¹⁶

Several regions are also vying to become leaders in hydrogen production and use. The biggest opportunity in this will be for areas that already have hydrogen production or for those where high levels of industrial greenhouse gas emissions and proximity to storage sites make a case for carbon capture and storage infrastructure, which could also be used by plants making hydrogen from fossil fuel. However, so-called ‘green hydrogen’, produced using excess renewable energy, is being investigated as a possibility for energy storage and as another fuel option. This might be an opportunity for areas with high renewables generation and limited connection to the gas grid.



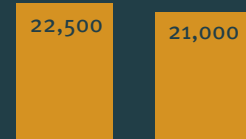
Manufacturing

Potential for clean industrial growth

Energy intensive industries are clustered in specific areas, most of which are bidding to become test beds for low carbon technologies, but moves towards a more circular economy could have benefits right across the country.¹⁷

Areas with greatest potential for new circular economy jobs

Remanufacturing (Gross jobs)



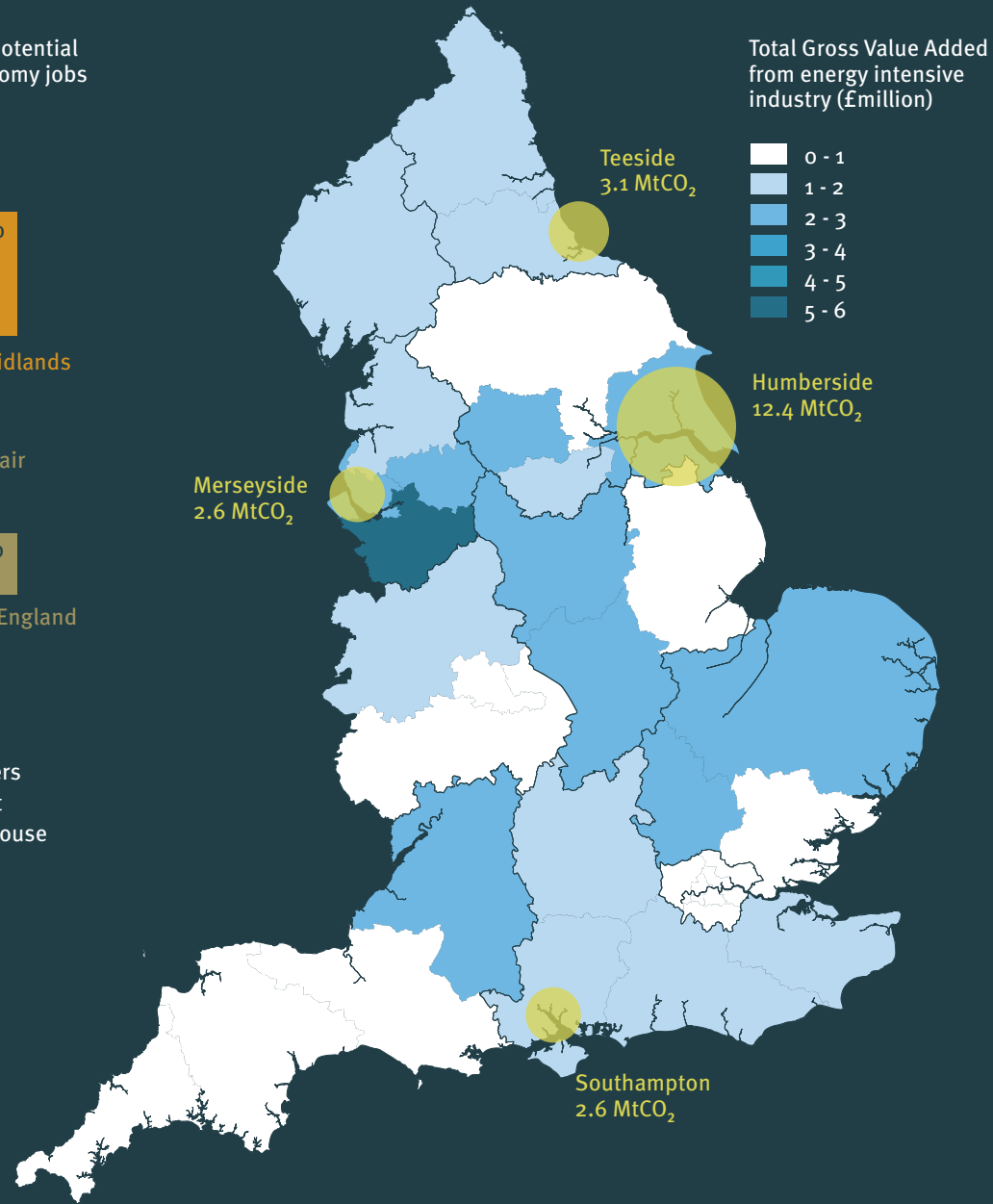
North West West Midlands

Servitisation and repair (Gross jobs)



South East East of England

Industrial clusters with the highest levels of greenhouse gas emissions



Some parts of the country are much more reliant on manufacturing than others. Outside London the contribution of manufacturing to regional GVA is over 15 per cent compared to around two per cent in the capital. All manufacturers will need to become more resource efficient and produce more sustainable goods, but energy intensive industries in areas such as the North East and North West will be particularly challenged by decarbonisation. Some will need support to remain competitive during the transition.

Raising the baseline – improving productivity and resilience

Energy and materials account for half of the average manufacturer's input costs, so improving efficiency will add an estimated £10 billion in additional profits every year and help to close the gap in economic performance between England's most and least productive regions.¹⁸

Greater efficiency in production will also increase resilience to future resource price shocks, including those related to climate change.

Local areas do not have powers to mandate additional resource or energy efficiency in businesses but many provide advice and financial support to SMEs. This could be stepped up to encourage more substantial change and supported by combined authorities through modulated business rates (see page 12).

Futureproof – protecting against obsolescence and uncompetitiveness

Energy intensive industries, such as steel, refining and chemicals production, that also face international competition, are the most likely to struggle to stay competitive during the transition to a low carbon economy. Their markets may also shrink considerably. These industries currently provide relatively well paid jobs in areas such as the North West, Yorkshire and the Humber, and the East Midlands which rank among the lowest for median wage. Each high value job in these industries has also been shown to support up to four more indirect jobs.¹⁹

The three most northern high carbon industrial clusters, highlighted on the map opposite, are the focus of pitches to government for funding under a programme designed to create low carbon industrial clusters by the mid-2020s. But solutions are also needed for industries outside these hubs. One example of council support would be Stoke-on-Trent, which is integrating waste heat from local ceramics producers into district heating, providing a new source of revenue for industry and establishing related training programmes at its local college.²⁰

A strategic solution is to move manufacturing towards more circular business models. These reduce carbon by keeping materials and products in use for longer and provide new sources of income thanks to reuse, remanufacturing and high value recycling. A more circular

economy could create 45,000 net jobs across England (and up to 82,000 with ambitious policy), with the largest growth opportunities in regions like the North West, Yorkshire and the Humber, and the West Midlands.²¹

Continued product regulation, including rules around ecodesign, producer responsibility and recycling consistency, which is essential to this transition, cannot be devolved to the regions. However, local areas should be able to use their pivotal role in waste management and the convening and advisory power of local enterprise partnerships (LEPs) to support change. Councils can also take action through procurement. For example, Bristol's net zero target takes into account the footprint of goods and services purchased in the city which could lead to progress.

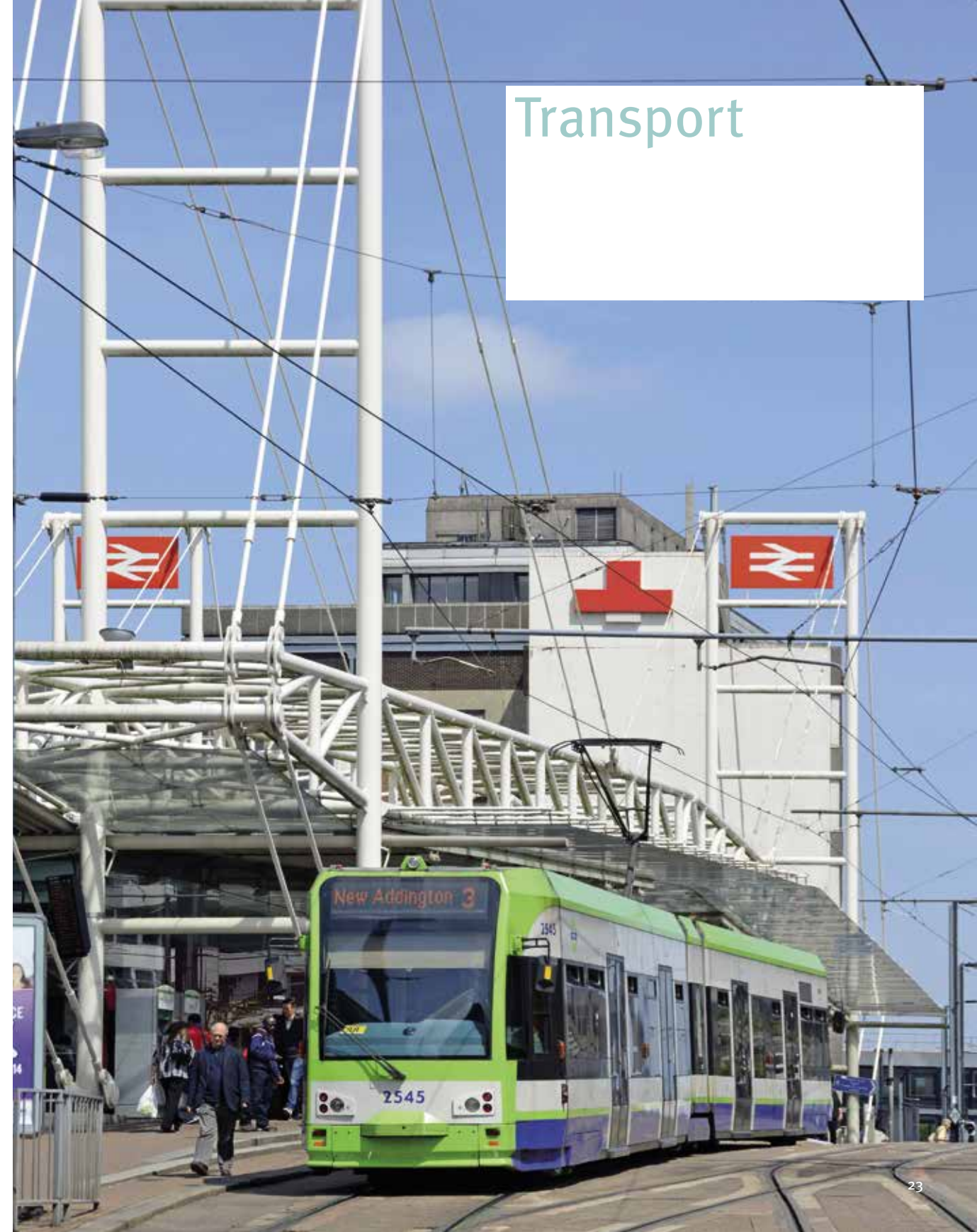
Different circular economy opportunities require a variety of skills and infrastructure and are likely to be concentrated in different locations. Remanufacturing could take place near current manufacturing sites, but reuse will be more dispersed and closer to the location of end users. And, while a reuse sector would mainly rely on low skilled workers, remanufacturing requires higher level skills.²²

Double down – fostering innovation

The roll-out of the technologies being considered for low carbon industrial clusters, including electrification, hydrogen and carbon capture, utilisation and storage (CCUS), could allow new expertise to develop in deep industrial decarbonisation, ahead of other parts of the world. This will enable the subsequent export of low carbon goods and the technologies that help to produce them.

Advocates for building a domestic and industrial hydrogen network in the North West suggest it could generate around 4,500 jobs but some of these would replace existing ones.²³ The transport and storage element of CCUS will also require skills developed for other jobs at risk as the UK winds down its oil and gas production. More widely, estimates for carbon dioxide reuse suggest there is an emerging global market, worth \$6 trillion a year, across fuels, building materials and plastics.²⁴ Local industrial strategies should lead on planning and provide business support to make these clusters transformational.

Transport



Potential for low carbon transport development

While automotive manufacturing is concentrated in a few locations, transport and goods logistics contributes to local economies across the country.²⁵

Car dependency outside London is over double that of the capital

Share of people using a car to travel to work

London
28%

Outside London
69-84%

▲ Areas of most traffic congestion

Local motor vehicle manufacturing as a share of local GVA

Northumberland and Tyne and Wear
3.1%

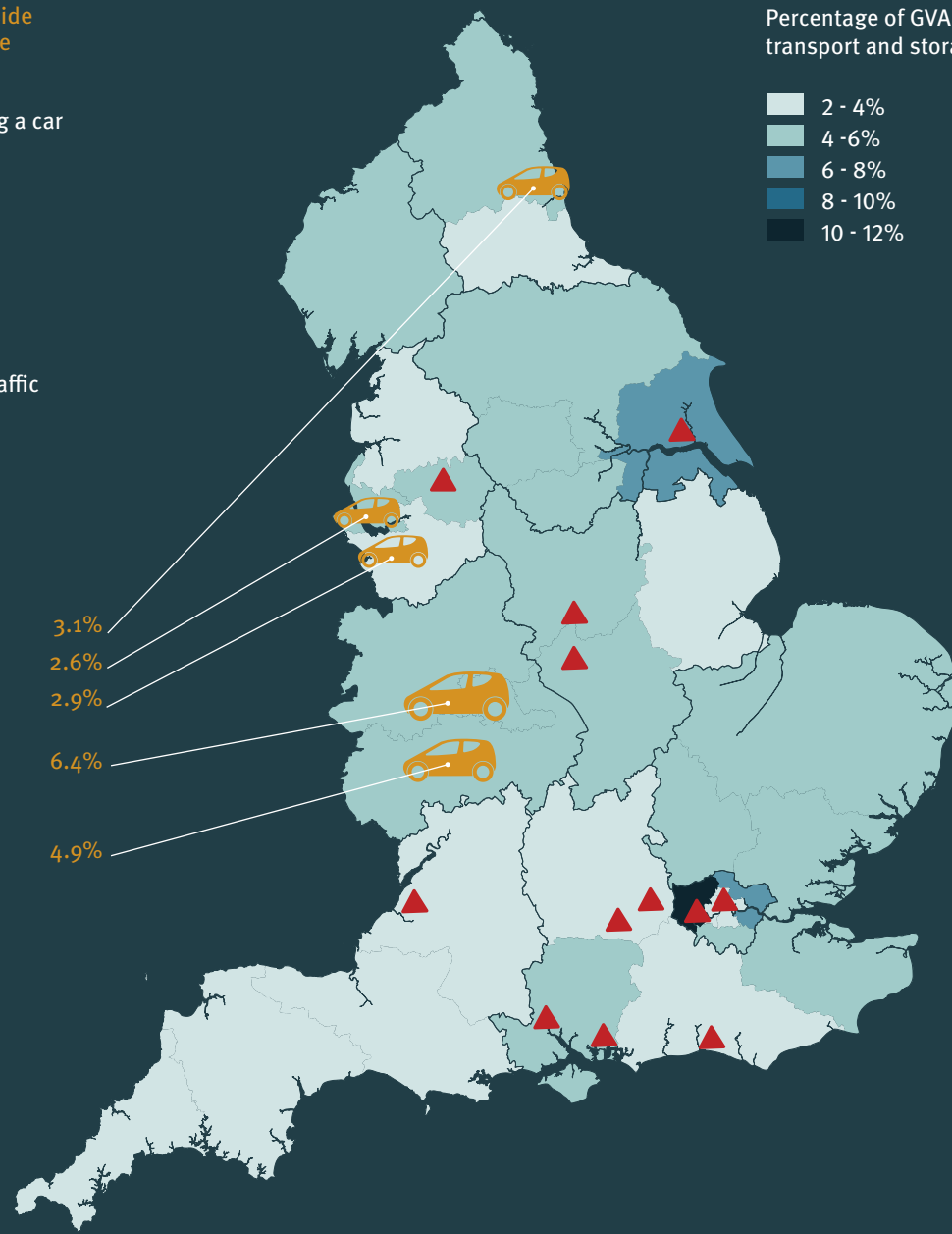
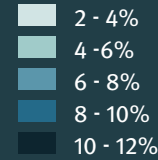
Merseyside
2.6%

Cheshire
2.9%

West Midlands Combined Authority
6.4%

Herefordshire, Worcestershire and Warwickshire
4.9%

Percentage of GVA from transport and storage



England urgently needs a transport system for passengers and goods that dramatically lowers carbon emissions, improves air quality and addresses congestion in urban centres. The promotion of electric transport and alternative fuels can help to address the first two of these issues and could offer opportunities for the struggling automotive manufacturing industry, centred on the Midlands and parts of the north. However, other solutions are needed to tackle congestion.

Raising the baseline – improving productivity and resilience

Cleaner and more efficient passenger transport, including public transport, would not only contribute to more liveable places, but also support greater productivity and help to attract and retain a skilled workforce. London's transport information, provided through travel apps and real time alerts, saves £70-£95 million per year in greater time efficiency, reduced uncertainty and lower information costs. It is also estimated to have increased the GVA of the local tech economy by £14 million a year.²⁶

Some areas outside London are starting to follow suit: for example, the West Midlands Combined Authority is trialling the integrated transport services system Whim and Manchester is developing infrastructure plans to encourage increased public transport use, without growth in car travel. Other options include smart ticketing and vehicle sharing.

Reducing congestion will have a positive impact on buses and road freight, where it is estimated to add 8-16 per cent to costs, and will benefit industries that depend on just in time deliveries. Alongside this there are substantial opportunities for improving urban logistics, which is currently the least efficient part of the freight sector and responsible for the highest levels of emissions per tonne moved. Digitalisation is improving delivery systems and opening up new disruptive markets, including those around sharing vehicles and predicting in advance where deliveries will be needed. However, little attention has been given to how these developments could interact with the local and clean growth agendas.

Councils could play a role in encouraging more efficient logistics systems, by aligning their strategies on transport, housing and employment. Initiatives such as designated truck routes and providing adequate loading zones, as well as road pricing, can help to cut congestion. The National Infrastructure Commission has also begun working with five pilot cities to review options for local innovation, including new delivery methods and the option of overnight freight.

Futureproof – protecting against obsolescence and uncompetitiveness

Switching to smart, integrated transport systems is a huge economic opportunity and could enable the automotive industry to secure a new source of profit from services and adapt to changing consumer attitudes. Mobility services are expected to grow, driven by consumer preference and technology: global profits from services are predicted to be 80 per cent higher than those from car sales by 2030.²⁷

Aside from efficiency improvements, the freight industry will have to transition to zero emissions vehicles to meet future carbon targets. While clean alternatives for HGVs are currently limited, electric vans are already cheaper than conventional vehicles on a total cost of ownership basis. With the support of the BEIS Local Energy Hubs, local authorities could enable the switch to clean vans by facilitating industry collaboration and ensuring investment in the necessary energy infrastructure.

Double down – fostering innovation

Despite having previously been the largest electric vehicle manufacturer in Europe, the UK is now falling behind. Across Europe, battery manufacturing capacity is ramping up fast, but none of the new large scale gigafactories are planned for the UK.²⁸ One plant of this scale could help to anchor domestic production and potentially help to secure 250,000 UK jobs in the sector, which would be especially important to regions with a considerable automotive sector presence.²⁹ Driving this development will require a concerted effort from central and local government.

The domestic automotive industry is adaptable to electric vehicle manufacturing: most UK assembly, which accounts for just under 60 per cent of jobs, involves similar components for electric and conventional vehicles. A further 30 per cent of automotive jobs are linked to parts shared between conventional and electric cars where some retraining is likely to be required. Taken together, around 87 per cent of UK automotive sector jobs could transition rapidly to electric vehicle production.³⁰

A national commitment to phase out new petrol and diesel cars by 2030 would send a clear signal to the automotive sector to invest in electrification, but local bodies can also help to drive the transition, especially if they work collaboratively. Bans on petrol and diesel cars in six Chinese cities have driven 20 per cent of global electric vehicle sales.³¹ UK councils are boosting uptake through public procurement and investing in charging infrastructure but they could also introduce incentives around use, for instance via taxes, tolls and parking charges. They can also attract funding for innovation, as Coventry City Council and its local LEP have done for batteries, to support local manufacturing and reskilling.



Land management

Land use and woodland distribution

Local variations in agriculture are likely to leave some areas more exposed to decarbonisation than others. More trees are needed across England to meet the farming sector's goal of net zero carbon from land use by 2040.³²



Existing woodland in England's regions (thousand hectares)

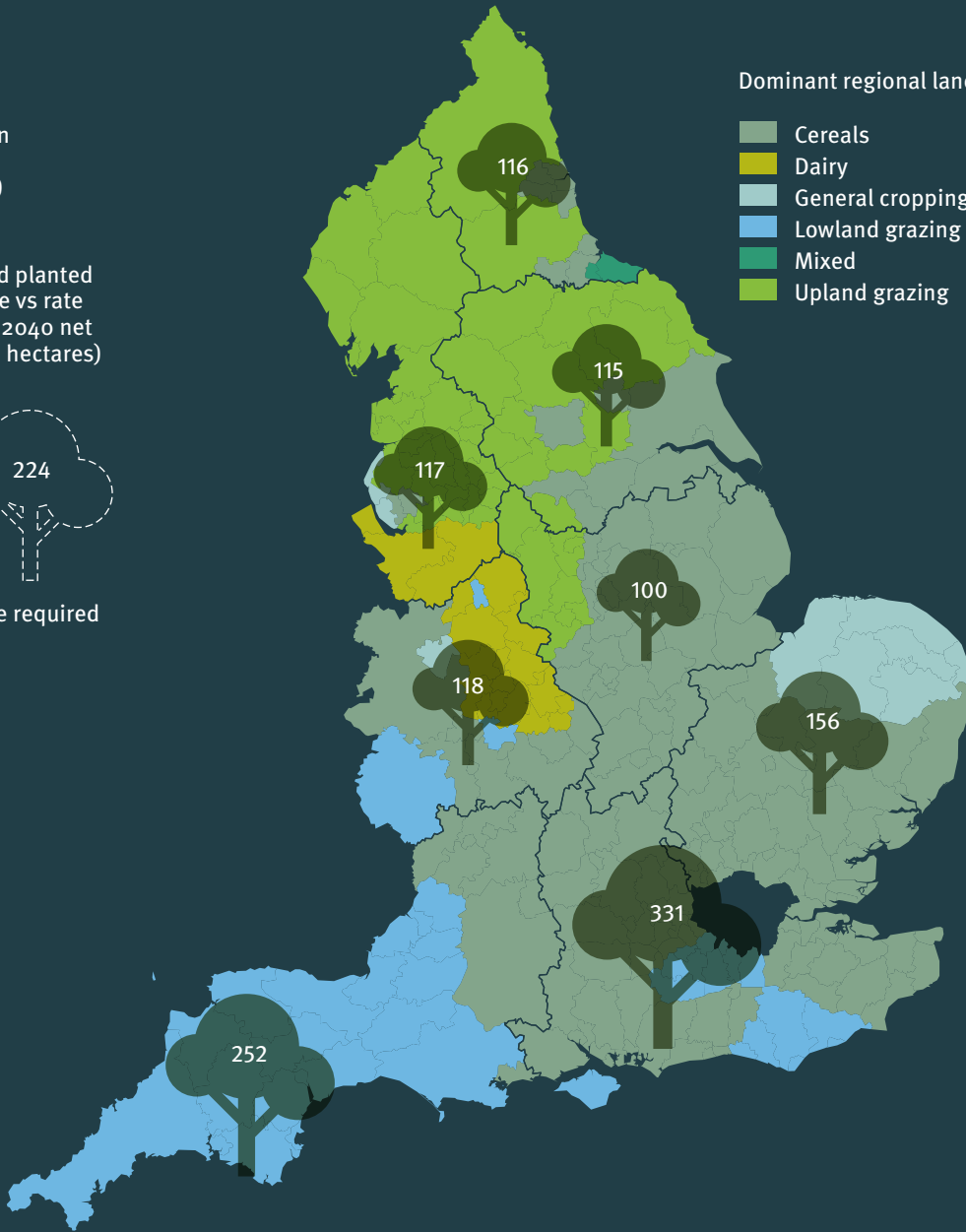
Additional woodland planted by 2030, current rate vs rate needed to meet the 2040 net zero goal (thousand hectares)

15
Current rate

224
Rate required

Dominant regional land use

- Cereals
- Dairy
- General cropping
- Lowland grazing
- Mixed
- Upland grazing



Farming and other types of land use are responsible for over ten per cent of the UK's greenhouse gas emissions and little has been done to reduce this impact. However, all forms of agriculture and land management have a critical role to play in reversing biodiversity losses and considerable additional tree planting will be required across the country.

Raising the baseline – improving productivity and resilience

The farming sector has low productivity overall and unsustainable practices are resulting in soil degradation that could exacerbate this. The adoption of low carbon measures will be important to improve farm productivity and cut emissions from both livestock and arable farming. Many of these measures are cost effective, for example improving soil quality, ensuring optimal use of nutrient inputs and better animal health.

Peatland restoration will also be important. As a result of extensive degradation, lowland peat (most of which is in England) is the source of 40 per cent of emissions from peat, despite only accounting for seven per cent of UK peatland. New forms of farming are required to use land more sustainably.

The post-Brexit incentive system for farmers, currently being developed by government, will be key to changing practices. Local authorities lack powers in this area but can accelerate improvements by providing independent advice and targeted funding for groups of land managers that want to trial more innovative practices. Local authorities could also act as brokers, customers or advisers in new markets for ecosystems services, where land managers are paid by the private sector to deliver services such as improved water quality or reduced flood risk.³³

Woodland cover across England accounts for only ten per cent of land use, and new woodland is needed to sequester higher levels of carbon and restore nature. Previous analysis by Green Alliance shows that tree planting rates of 70,000 hectares per year are needed to meet the farming sector's pledge for net zero carbon from land use by 2040. Local authorities could capitalise on such changes via the local tourism industry. For example, the National Forest, which already supports 5,000 local jobs in tourism, has plans to create and sustain 700 new jobs by 2027.³⁴

Futureproof – protecting against obsolescence and uncompetitiveness

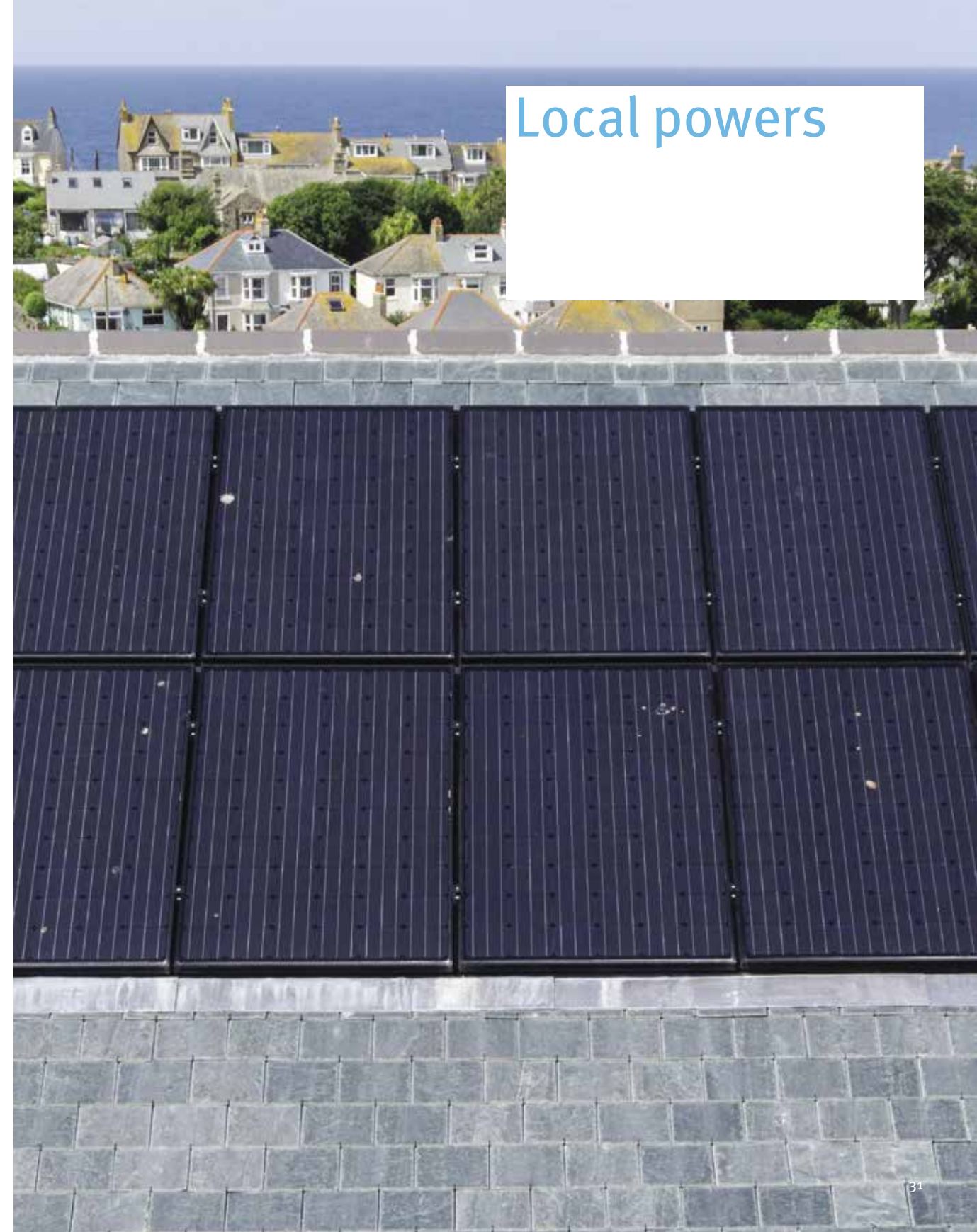
To support a change in diet towards lower meat consumption, which is advised to cut carbon emissions, absolute numbers of farmed livestock will have to be reduced.

At the same time, consumer preference for lower meat consumption, led by younger consumers, is already driving a market for plant-based alternatives. Sales of meat-free products increased 22 per cent between 2013 and 2018 to a market value of £740 million, and this is expected to increase by a further 44 per cent to £1.1 billion by 2023.³⁵

This rise in demand for alternative protein sources offers an opportunity for farmers to invest in crops, such as pulses and soya, in arable focused areas. In addition to health benefits, planting pulses has proven environmental benefits including nitrogen fixation, improved soil condition and water retention. However, insufficient investment in UK pulse growing means current production is limited to only four per cent of arable land and a limited selection of crop types.³⁶ New policy instruments, to encourage breeding and research into varieties suited to the English climate and soils, will be essential to derisk production and realise the full environmental, health and economic potential of these crops.

Double down – fostering innovation

New woodland can provide lower carbon materials for construction, replacing concrete and steel for medium-rise buildings. However, much of the timber currently used in the UK is imported. Cross-laminated timber is particularly suitable for offsite construction and policies to promote it should also consider how to develop local timber supply chains.



Local powers

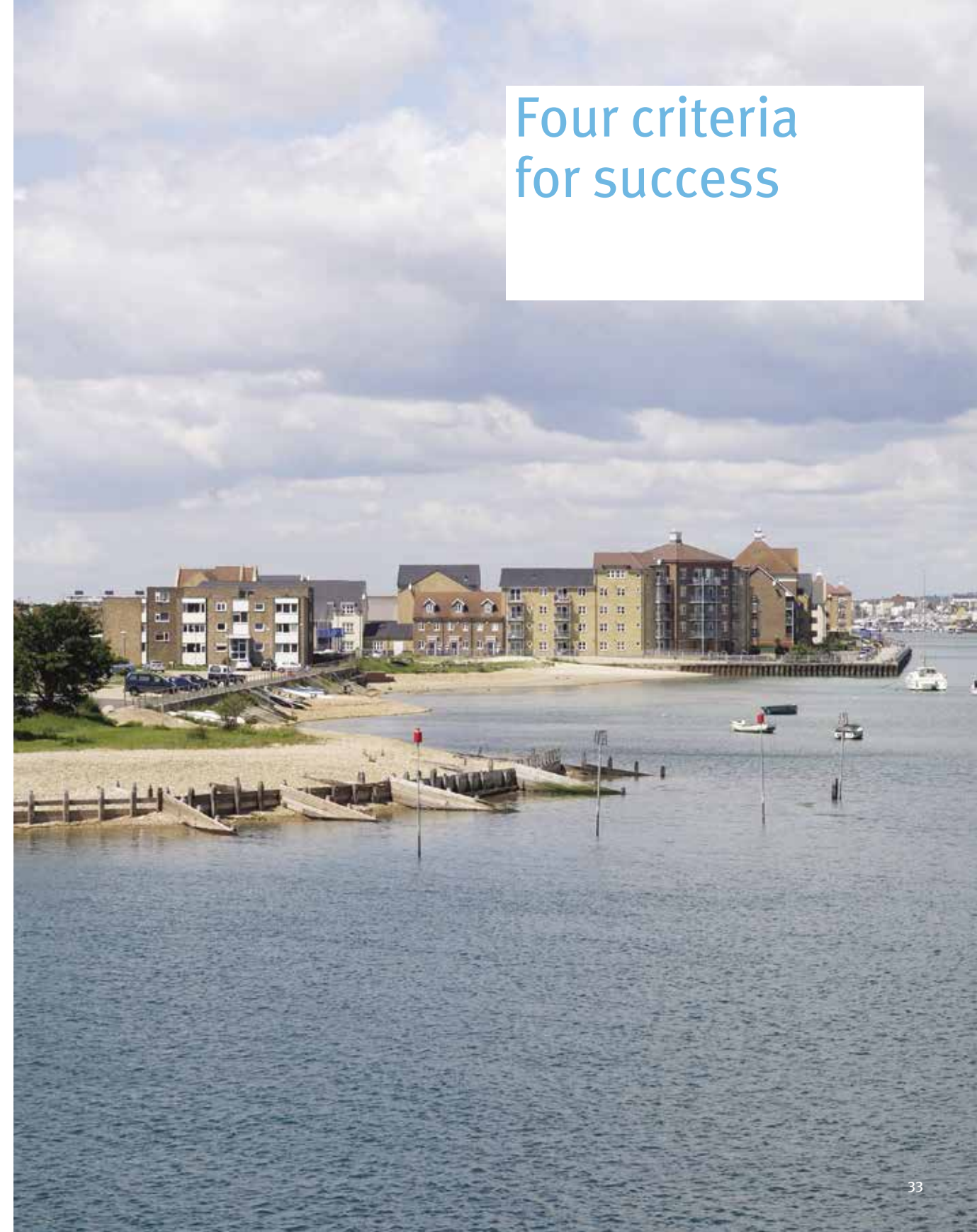
Realising the opportunities we have identified is going to be easier in some parts of the economy than others and for those local authorities with wider powers.

But there are a range of other tools that local bodies can use, including their ability to convene local players, strategic public procurement and through their ownership of assets, such as housing and waste management systems. Below is as an assessment of the potential that exists in the different sectors.

Four criteria for success

Where local areas have the ability drive change

	Buildings	Energy	Manufacturing	Transport	Land use
Combined Authorities	<p>● Strategic planning powers to enable low carbon housing.</p> <p>Resources and co-ordination for retrofit programmes.</p>	<p>● Little control over the energy market and infrastructure but can build infrastructure into strategic plans.</p> <p>Well-placed to drive private investment in emerging technologies.</p>	<p>● Able to work closely with LEPs and direct finance towards emerging technologies.</p> <p>Well-placed to co-ordinate large projects like carbon capture and storage.</p> <p>Lack regulatory powers.</p>	<p>● Relevant powers to set more ambitious standards for electric vehicle adoption and to plan for major infrastructure change.</p>	<p>● Little overlap with rural areas to manage the transition to alternative land management methods.</p>
Unitary, county and district councils	<p>● Some potential to encourage lower carbon housing via local plans.</p> <p>Able to use ownership of land and building stock to boost clean technology uptake.</p>	<p>● Some are encouraging external investment in renewable energy but there is a lack of other levers.</p>	<p>● Little power to co-ordinate major overhauls of industrial practices, although waste management powers and assets could help to drive the transition to more circular business models.</p>	<p>● Could use responsibility for non-trunk roads and fleet ownership to support the uptake of electric vehicles and other, greener transport alternatives.</p> <p>Limited powers to support integrated transport solutions.</p>	<p>● Some planning powers and the ability to use procurement and action on their own land.</p>



There are some excellent examples of best practice in clean growth, in sectors such as energy and transport, but there is still a disconnect between environmental management and wider economic strategy. We have identified four criteria that successful strategies and projects have in common:

1. Collective working

Resources are stretched in local authorities and there is no need to keep reinventing the wheel. There is plenty of existing knowledge that could be shared between similar areas. BEIS's energy hubs, for instance, can provide a vital source of funding to get projects off the ground at scale.

Pooling local skills, powers and resources and working over a larger geographical area can create bigger markets for green goods and services, more substantial support networks and more momentum. This is particularly important for rural areas where there are fewer economies of scale, and where the transition to low carbon could be challenging for those people who are more reliant on cars.

Local areas can also join forces to call for greater ambition at the national level to support their actions, using their soft powers to persuade government to provide more stability and regulatory flexibility in the energy market.

Clean energy and regeneration on the south coast

Shoreham Harbour Regeneration is a long term partnership between local authorities to deliver mixed use developments whilst also carrying out improvements to Shoreham Port on the Sussex coast. The partners are West Sussex County Council, Worthing and Adur district council, the Brighton and Hove unitary authority and the Shoreham Harbour Authority.

It is situated in an area with relatively high demand for new homes, suggesting there could be strategic benefit in developing local expertise in low carbon housing. The area also generates relatively high value from transport and storage, particularly around the port and this could be the basis for other opportunities.

The local partnership between the four authorities, across their geographic and sectoral jurisdictions, is an example of local councils working together with a commercial independent statutory body to deliver housing and regeneration whilst also keeping pace with net zero goals. The pooling of capacity across councils provides more dedicated staff, which is a more cost effective way to meet the partnership's social and environmental outcomes.

The goal is for the revived area to be a renewable energy hub, including the potential delivery of a local heat network using a marine source heat pump located in the harbour, supported by BEIS. This may be extended to Shoreham town centre. The plans also allow for the roll-out of hydrogen infrastructure in the future.

This project fits with West Sussex County Council's wider drive on sustainability, with major clean energy roll-outs in council buildings, homes and schools in recent years.

2. Green economic strategy

Clean growth is not just about solar panels or electric vehicles but a different way of looking at the whole economy. For local authorities this means examining the relationships between sectors within their remit: energy, housing, industry, transport and waste.

Successful areas are those that play to their strengths. They consider the levers they already hold, around procurement, ownership of land and housing, their powers and responsibilities, and the skills they can tap into, based on the composition of their economy. As indicated on page 32, some sectors will be harder to address and will require more imaginative solutions than others.

The West Midlands Combined Authority

The West Midlands Combined Authority was created in 2015 and is centred around three LEPs and seven unitary authorities, with some other local bodies more loosely involved.

There has been a commitment to address a number of environmental challenges, including the classification of environmental technologies as a priority area in the region's 2016 economic plan with a target of £2 billion in additional GVA and 1,000 new jobs by 2030.

Industry in the West Midlands is heavily centred around the automotive sector. The region also has challenges around air pollution and congestion. Ensuring good spatial planning makes it an attractive place to live and invest. There is a wealth of brownfield sites for development.

The local industrial strategy, published early in 2019, is built on a range of previous strategies. It sees mobility as one of four major opportunities for the region to exploit, consolidating on its early lead, supported by government, in areas such as battery R&D and autonomous vehicles, and making the most of the synergies with other developments, such as 5G and digital data and HS2. The aim is for an integrated, clean, multi-modal transport system with the highest electric vehicle adoption levels in the UK.

An existing emphasis on brownfield land development and modern construction methods also continues in the local industrial strategy, with a focus on offsite construction, digital technologies and sustainable building design, support for land remediation and developing a local skills base. Procurement practices will consider environmental value and encourage innovation, especially in construction, digital infrastructure and housing.

3. Delivery focus

To ensure green growth happens, local policy makers need to consider very early in the development of their strategies how they are going to deliver them.

We asked local authorities how they were futureproofing their strategies but there were mixed views about whether this was the right approach when technology and central government policy changes so fast. Instead, they prefer to focus on implementing pragmatic and achievable policies, then taking stock and building further activity based on experience. Delivery breeds delivery: having skills and experience in local teams helps to create momentum and build steady political support.

Cornwall Council

Cornwall has a long track record in realising the potential of renewable energy in wind and solar, as well as a more recent exploration of geothermal energy.

Renewables are a natural fit for a county with some of the highest levels of sunshine and wind in the country. The grid constraints that have proved challenging to making full use of renewable resources could be an opportunity: excess renewable energy is becoming an issue globally and working out how to use this excess productively is an innovation opportunity.

Cornwall is responding by hosting a project testing smart energy solutions and continuing to explore the potential for the production of green hydrogen. Backing this up is a longstanding commitment by the council to deliver on clean energy whilst also driving inclusive growth, codified in policy like the Cornwall Local Plan and the Cornwall Devolution Deal.

The UK's first commercial wind farm was opened in the county in 1991 and the council estimates that, in 2019, around 37 per cent of the area's electricity will be produced by renewables.

Cornwall has benefited from a high level of EU regional development funding. The local plan stresses that residents must have a share in the benefits of the developing local energy economy. To

this end, the council has helped to finance community energy ventures with loans and planning support. One of the more successful co-operatives, with a megawatt of installed capacity, is Community Power Cornwall. This recently acquired West Country Renewables, part funded by the council's Community Energy Revolving Loan Fund, to ensure the benefits of the initiative were retained in the local economy.

With above average levels of fuel poverty and a high number of poorly insulated homes, the council has been investing in energy efficiency retrofit, with a pilot insulation project in Penwithick, targeting the county's many park homes. Also, the county has co-designed, with central government, a more local approach to the nationwide energy company obligation to give it more control over funding. This is a prime example of how local authority ownership of housing stock can drive change.

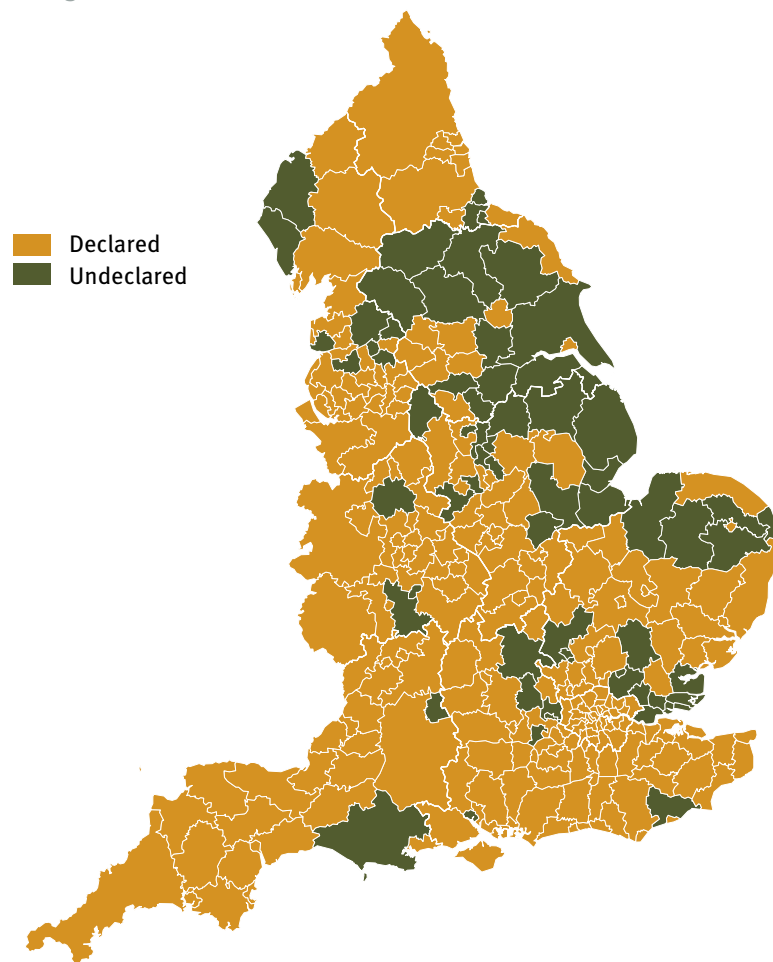


4. Political commitment

Political commitment to the local strategy is an important success factor and will be even more crucial given the scale and rate of change needed to meet the government's net zero carbon by 2050 goal for the economy. Political backing has been easier to achieve in areas with straightforward arrangements of local government and LEP boundaries, and with stable aligned political parties. Bristol, for instance, has taken 15 years to build partnerships, expertise and capacity in the renewable energy sector.

The political mandate is strengthening, with more and more local declarations of climate emergency. This will enable local authorities to be more ambitious, particularly on those areas linked to greater emissions, such as housing and transport. And, judging by the evidence coming from national and local citizens' assemblies, local areas will have a mandate for action.

The majority of councils across the country have declared climate emergencies³⁷



The role of central government

As we have noted, local areas are well placed to deliver particular aspects of clean growth. They can negotiate local partnerships, capitalising on well established links to businesses, local interest groups and education providers, and they are in the front line when it comes to transport and farming. They also have assets, in the form of land, buildings, transport and waste systems, which they own or control.

With the limited bandwidth that exists at present across most policy areas nationally, the declaration of climate emergencies by local authorities is a golden opportunity to shift delivery, where appropriate, to the local level.

However, local leaders face a range of challenges. Some they have in common with central government, for instance choosing between competing clean technologies. Others, such as the complexity of local political boundaries, reduced finance and staffing after a long period of austerity and limited access to policy levers, are specific to regional and local government.

Better resourced local bodies, or those that have managed through strong local commitment to make progress on clean growth, are likely to want more powers. Even the GLA believes it only has powers sufficient to achieve around half of its decarbonisation target. But, for others, there is more still to do with the existing tools at their disposal and new powers will be less of a priority than better resourcing and knowledge.

It has taken progressive local leaders like Bristol, Cornwall and the GLA over a decade to get to where they are now. The imperative to act on climate change and environmental decline means others will have to act faster.

Our recommendations

Recommit to green local industrial strategies

A requirement to pursue clean growth should be written into guidance on local industrial strategy so that each area identifies opportunities for investment. In approving strategies, the government must also consider whether local areas are supporting a just transition to a decarbonised economy.

Provide expert advice and targeted financial support

Support should not end with the publication of a local industrial strategy. The government should collate data on the success of local approaches and publicise the lessons learnt. It should also target support at the earliest stage of strategy development, building on the experience it has gained from the local energy hubs. Match making services should be offered to local areas that want to attract private finance.

Offer new sources of finance

Part of the UK Shared Prosperity Fund should be ringfenced for projects with local public and private investment that can deliver the infrastructure and supply chains necessary for decarbonisation. This match funding would be for local authorities and the private sector to work together on issues such as insufficient electricity grid capacity or poor public transport infrastructure. At the same time, local areas should use the Stronger Towns Fund for capital investment in clean growth-related projects to enhance their ability to raise debt capital and scale up.

Devolve more powers

Local authorities should be given explicit power to set higher standards for low carbon new homes, enabling a faster transition towards the Future Homes Standard and the integration of additional, locally sensitive, requirements. The new standard should apply to all new buildings from 2025, regardless of when they achieve planning permission. It should include requirements to reduce the carbon intensity of building materials and processes. Local authorities should be given more flexibility to modulate business rates and council taxes, in a locally appropriate manner, to encourage and support measures such as improvements to local building stock.

Embed the net zero goal in local planning

In approving future local industrial strategies, the government should seek evidence that the authors have worked with neighbouring areas to co-ordinate around the development of low carbon infrastructure and the management of natural capital reserves. Local authorities should be required to align their plans with the net zero goal and make sure that neighbourhood planning forums also consider this as a priority.

The key to achieving clean growth, whilst reducing regional disparities and delivering on the goals of the national industrial strategy, is to provide the right policies at the right scale. National policy will be critical to realising opportunities across some sectors, especially manufacturing and housing. But the ambition of local authorities should not be limited. The government must set out the route to clean growth, with local authorities at all levels acting to the full extent of their jurisdiction to pursue this and build momentum in a locally specific manner. Now is the time to drive more sustainable forms of business and the new economic opportunities that brings to local areas, raising prosperity and providing more high quality jobs across the country.

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