
Local leadership
to transform our
energy system
Scottish & Southern
Electricity Networks
regen
transforming energy

Contents

Foreword

The Decade to Make a Difference series

The UK's commitment to net zero carbon requires a transformation in the way in which energy is generated, distributed and consumed. This paper on the role of cities and regions in reaching our net zero commitment is part of Regen's Decade to Make a Difference series. We are publishing this series of thought-provoking papers throughout 2020 to look at the challenges and solutions that would deliver transformational change across the energy system. Our Decarbonisation of Heat paper was published in March 2020, with further papers planned on the themes of renewable electricity, low carbon transport and energy efficiency.

The Decade to make a difference series

Hazel Williams,
head of delivery, Regen

Paper author:

This paper brings together the insights and knowledge I have gained from 12 years of working with local government and the public sector on low carbon issues, backed up by interviews with leading public sector experts. My aim is to inspire all those working in local government to take action on energy issues and for the UK government to put in place the conditions to enable that action to have the greatest possible impact.

Scottish & Southern Electricity Networks

Working with local communities and commerce is fundamental to our business. Local knowledge and insights have contributed to improved performance and our understanding of how net zero outcomes can be achieved. We recognise the potential that could be unlocked by empowering local authorities through Local Area Energy Plans (LAEPs).

Bringing together network operators, local authorities, communities and wider stakeholders, LAEPs bridge the gap between ambition and action. By collaborating to clearly set out local energy needs, investments can be better targeted to keep costs down, whilst helping to accelerate the transition to net zero. Fairness must be embedded in this shift with access to opportunities shared and costs distributed equitably.

This is an important and timely contribution to the debate on delivering net zero and securing a green recovery. Now, it is imperative that - as we turn ideas into solutions - we put communities and rapid action at the heart of policy, whilst avoiding any proposals that add unnecessary cost, bureaucracy or disruption to this critical transition.

Stewart Reid, head of future networks,
Scottish and Southern Electricity Networks (SSEN)

> 2019 was the year of unprecedented global climate emergency activism...

2020 as a turning point for the energy transition

> Covid-19 has been a terrible tragedy, but the economic recovery from it gives the UK a chance to grow back in a way that is fit for the low-carbon future to which it aspires, and that can benefit from the industrial and economic developments that this future offers. It would be a double tragedy from the Covid-19 nightmare if this opportunity were missed.
>
> Committee on Climate Change (2020) Costs and Benefits Advisory Group supplementary report

2019 was the year of unprecedented global climate emergency activism, culminating in widespread school strikes and civil protests. The UK government responded by setting a transformational net zero carbon goal. By early 2020, two-thirds of UK local authorities had declared a climate change emergency, with declarations also made by organisations ranging from the UK Parliament to town and parish councils.

2020 was due to be the year that these public organisations made the shift into emergency mode: committing resources to taking decisive action towards achieving their net zero carbon goals. We originally planned this Decade to Make a Difference paper to support that shift from talk to action, to set out what localities can and should do to tackle the climate emergency.

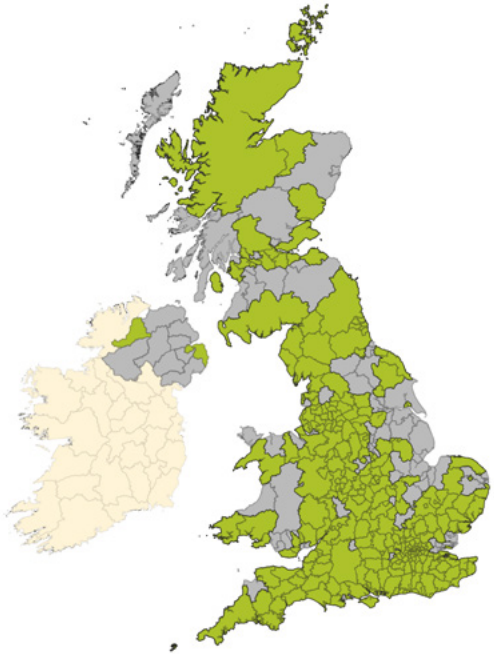


Figure 1: Local authorities that have declared a climate emergency
Data from ICEF

But 2020 has brought a global crisis of its own: a pandemic that is far from over. An immediate crisis with tragic consequences for many people and their families and with far-reaching consequences for the economy and our ways of life. Local authorities have been pulled into a different type of emergency, refocussing their efforts and budgets on immediate health, social and economic needs.

With lockdown in the UK starting to be eased and thoughts turning to how to support economic recovery whilst keeping communities safe, there has been much discussion of needing to "build back better" through a green economic recovery. There is a recognition that we need a more resilient economic system that focuses on the health of our environment, on wellbeing and improving quality of life, rather than just Gross Domestic Product.

This paper, therefore, now how has a wider remit: how can we harness the locally led energy transition to bring the skilled jobs, investment and resilience that the economy needs and put the country on course to achieving a net zero carbon society?

> This crisis offers us a once-in-a-lifetime opportunity to rebuild our economy in order to withstand the next shock coming our way: climate breakdown. Unless we act now, the climate crisis will be tomorrow's central scenario and, unlike Covid-19, no one will be able to self-isolate from it.
>
> Statement from a group of leading bankers, including Andrew Bailey, governor of the Bank of England

> ...harness the locally-led energy transition to bring the skilled jobs, investment and resilience that the economy needs and put the country on course to achieving a net zero carbon society.

Photo credit: SunGift Energy

Why local authorities are critical to driving the energy transition and a green economic recovery

In this Decade to Make a Difference paper, we argue that local authorities have a key role in the energy transition and delivering a green recovery. The UK will not achieve its net zero ambition without government leadership and the active engagement of the people and organisations living and working within each of the UK's nations, cities and regions.

With a democratic mandate to work for the good of the people they serve, powers to levy taxes, and knowledge of their communities, local and combined authorities are uniquely placed to lead a net zero transition that offers local jobs and investment opportunities and creates a healthier community, natural environment and a fairer, more equitable society.

However, that is not to say that local authorities can do it alone; they need to create effective partnerships with the energy networks, local communities, Local Enterprise Partnerships (LEPs) and the private sector, as well as to work across authority boundaries to amplify their plans and influence. In short, local government must lead a coherent, urgent, co-ordinated approach to energy system transformation that drives action by bringing together businesses, key agencies and local communities.

> Some local authorities are bringing forward decarbonisation ambitions and strategies that go further and faster than the UK government. Such local leadership could help Great Britain as a whole to learn what works best and to develop supply chains.
>
> Ofgem Decarbonisation Action Plan, February 2020

Local leaders are trying to tackle the climate emergency at a time when they are facing unprecedented challenges responding to the pandemic and huge pressures on their budgets. They will only be able to rise to these challenges with much greater powers, funding and resources. This paper also, therefore, sets out a major programme to devolve powers and funding on energy to the great cities and regions of the UK.

Ashden's Climate Action Co-Benefits Toolkit covers the wider benefits for local areas of leading the transition. It includes inspiring case studies on the broad benefits of energy efficiency programmes, as well as on other action areas.

Image credit: Ashden

Where should local leadership come from?

Local authorities range from small district councils, to county councils and unitary authorities. In some areas, these local authorities are brought together with overarching mayoral combined authority or a city region structures. In other areas, county councils or Local Enterprise Partnerships may be supporting local action on energy. Given this diversity of local and regional organisations, we will need leadership and collaboration right across every level of local government.

The most effective local authorities develop their own strategies for delivery that are highly adapted to their local circumstances. Differences between areas, such as demographics, local government structures, energy resources, housing stock, landscapes or economy mean that diversity of approaches to transforming our energy system is vital: there is no one-size-fits-all recipe. However, there is an enormous amount of experience and expertise from those at the forefront of action that can be drawn on.

The structure of this paper

We have divided this paper into three sections. **Section A** looks at what local government can and should do to lay the foundations for leadership. **Section B** identifies the key pillars of locally led transformational change. **Section C** looks at some of the different approaches to delivering energy projects.

Figure 2, Regen's "net zero city hall" sets out how these sections fit together in the structure of the paper.

In each sub-section, we have set out the measures required by central government to enable local leadership to tackle the climate emergency and support a green recovery. Pages 12 and 13 summarise the headline recommendations for central government.

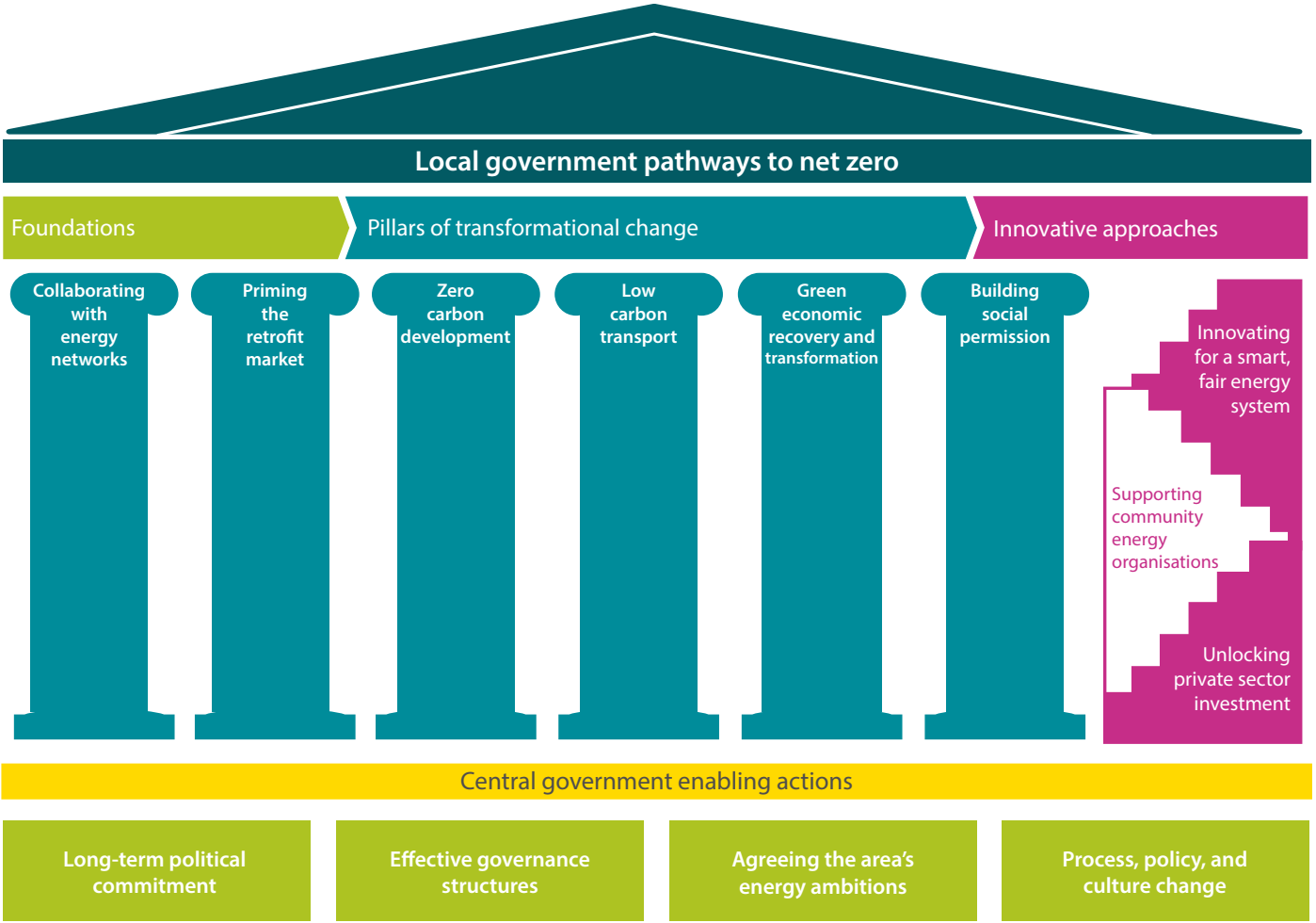


Figure 2: Regen's net zero city hall

Summary of recommendations for government

1. **To release local leadership across the whole of the UK:** Introduce a new statutory duty for local authorities on net zero energy, with appropriate funding, resources and reporting to deliver against it. The funds raised through new carbon taxes or current environmental levies on energy bills should be ring-fenced and allocated to local authorities to lead action on energy issues.

2. **To unlock local authorities' role in energy network planning and investment:** Establish a formal governance role for UK regions over the future of critical energy infrastructure, including delegated powers from the regulator, to guide the networks' investment planning, appraisal and delivery processes.

3. **To enable local roll-out of energy efficiency measures:** Give control of retrofit funding, including ECO, to local government.

4. **To enable true zero carbon new development:** Raise the ambition of the Future Homes Standard to be net zero compliant and allow local authorities the freedom to be more ambitious than the national decarbonisation timetable in setting their local plan policies for new homes and commercial developments.

5. **To deliver a low carbon transport system in the context of Covid-19:** Offer guidance and significant funding to local authorities through the creation of a funded low carbon transport plan that balances the need to keep people safe from Covid-19 with the need to decarbonise transport.

6 **To support a green economic recovery and transformation:** Focus economic recovery on the energy transition, which offers skilled jobs, world-leading research opportunities, and high value capital investment, as well as progress towards net zero carbon emissions.

7 **To build social permission for radical change:** Develop a national net zero carbon strategy and use it to drive regular communications on climate issues and policy development.

8 **To enable local authorities to invest in the future energy system:** Include energy projects as a suitable category in future lending terms for the Public Works Loan Board and reverse recent interest rate increases to enable local authorities to continue to access low cost investment finance for energy projects.

9 **To enable local authorities to support community energy projects:** Issue guidance for local authorities on how to set up new Power Purchase Agreements to fund new community energy projects.

10 **To support the development of smart local energy systems:** Introduce shared network access for local projects in the current Ofgem review of network access charges and press ahead with mandatory half-hourly settlement of electricity to support smart energy tariffs.

> The most effective local authorities develop their own strategies for delivery that are highly adapted to their local circumstances.

Photo credit: Bristol City Council

A

Section A: Foundations of local leadership

Section A sets out what local government can and should do to lay the foundations for leadership to decarbonise our energy system:

- Securing long-term political commitment to resourcing and funding energy action.
- Creating effective governance structures that drive local action.
- Agreeing the area's energy ambition.
- Undertaking a programme of fundamental process, policy and culture change to embed net zero objectives.

The foundations of local leadership on energy

For the many local authorities that have declared a climate emergency or are working towards net zero carbon ambitions, the obvious question is what next? How do we turn this into action? Many local authorities or regions rush straight into commissioning studies on potential pathways to net zero carbon emissions. However, achieving the scale of change required to reach net zero whilst also responding to a global pandemic requires a more fundamental shift in the foundations of how local authorities organise themselves, work with their communities and allocate resources.

Key central government enabling action: a new statutory duty on net zero energy

Local authorities have statutory duties to plan and deliver critical infrastructure such as housing and highways for their communities, meaning they have considerable expertise in these areas. However, a lack of a statutory role on energy has meant that, unless there is local political leadership driving activity, authorities have had much less involvement in planning and delivering our critical energy infrastructure and many areas have failed to invest in developing the necessary internal expertise.

A blueprint for a new statutory duty on net zero energy

A statutory duty on net zero energy would ensure every area puts in place the resources and builds the expertise required to play a leadership role on energy. The detail of the statutory duty would need to be developed, but could focus on setting up local governance structures to create and deliver a local net zero energy plan.

Such a new responsibility can't be delivered with the current funding model of drip-feeding limited pots of central government money through competitions and funding rounds that tend to be won by those already at the forefront on energy. A more radical shift is required to ensure all areas have access to consistent funding to develop internal expertise and for local delivery programmes.

The funds raised through any new carbon taxes or current environmental levies on energy bills should be ring-fenced and allocated to local authorities to lead action on energy issues, including action to ensure a just transition, such as on energy efficiency, fuel poverty and equal access to low carbon technologies.

Local authorities should put strong foundations in place

Regen's experience working with local government for over 15 years and interviews for this paper revealed four essential foundation stones that those leading on energy have put in place:

1. Long-term political commitment to resourcing and funding energy action.
2. Effective area-wide governance structures that drive local action.
3. An agreed level of ambition on energy for the area.
4. Tackling the climate crisis as a central theme of the organisation's aims and culture.

1. Securing long-term political commitment to resourcing and funding energy action

A feature of all the local areas in the UK at the vanguard of the energy transition is strong political leadership. This leadership has enabled the resourcing and growing of a dedicated energy team with the expertise to work across the council and with partners to reshape the energy system.

In these times, any investment is challenging. However, proactive local authorities have been able to lever in central government funding and develop projects, business models and, in some cases, organisations that have created significant income streams. Innovative authorities are developing new approaches all the time.

Warwick District Council: proposals to use local powers to raise climate change funds

Warwick District Council planned a public referendum on 7 May 2020 on whether to increase council tax to pay for a £3 million Climate Action Now progamme – a move which would have been a UK first. Due to the Covid-19 pandemic, the decision was made to cancel the referendum and proposed rise of around £1 per household per week, with plans to review it again in next year's budget.

Local authorities in England have the General Power of Competence, meaning that they are limited in what they can do only by what is legal, their budgetary and resourcing constraints, political will and their imaginations. Scottish and Welsh local authorities have an equivalent general "well-being" power.

Nottingham's workplace parking levy

Nottingham City Council's workplace parking levy requires employers with more than 11 parking spaces to pay a levy to the council. This money is then fed back into initiatives within the Council Local Transport Plan, such as extensions to the tram. In its first five years, the scheme generated around £44 million.

Public Power Solutions

Public Power Solutions is a wholly owned subsidiary of Swindon Borough Council. It works with private landowners and public sector organisations throughout the UK to deliver renewable energy projects and waste solutions. An example of their work includes the first solar farm funded by council-backed solar bonds sold to the public.

> Radical decarbonisation requires the engagement and participation of all key public and private organisations and communities across an area.

Photo credit: Public Power Solutions

2. Creating effective governance structures that drive local action

A net zero energy system cannot be achieved by a local authority or any one organisation working alone. Radical decarbonisation requires the engagement and participation of all key public and private organisations and communities across an area (as well as action by national actors and central government).

A local authority's unique role puts them in an ideal position to set up appropriate governance structures to create the buy-in and participation necessary to make a net zero energy system a reality.

If these boards are to be effective in driving real change across an area, they need to sign up and capture the attention of leaders from organisations whose primary interests are not energy or climate related: for example, senior representatives from industry, from private sector organisations including representatives of small businesses, from consumer groups and from organisations supporting vulnerable people.

The aim of the board should be to inspire, enable and monitor the development of an action plan that creates partnership projects and supporting actions that will deliver transformative changes to the energy system. The governance board should work at an appropriate geographic scale for the area, usually this is at a county, combined authority or city region scale.

Regional collaboration

Where local authorities work together effectively across boundaries at a sub-regional or regional scale with a shared level of ambition to tackle the climate emergency, greater momentum on the energy transition can be achieved.

Effective combined authorities and city regions can pool resources, share evidence, set joint planning policies and joint transport plans, and use their combined voice to influence government policy and agree devolution deals that focus on the energy transition and the green economy.

The electricity and gas networks have a pivotal role in providing, maintaining and planning an area's energy infrastructure. Engaging the local network operators is critical to creating an effective governance structure.

Welsh Government Energy Service: Creating regional governance structures and energy strategies

The Welsh Government Energy Service (WGES) provides financial and technical support to the public sector and community groups on renewable energy and energy efficiency projects. In 2019 and 2020, WGES has been working with stakeholders from the four regions of Wales to develop regional energy strategies. Each strategy's priorities and level of ambition has been established through engagement with local stakeholders, backed up by modelling on the pathway to achieving net zero. Regional governance boards with broad representation from across each region's public, private and community sector are being established to take ownership of delivering the strategies.

Photo credit: National Trust (Afon hydro)

Manchester's pioneering climate governance arrangements

Over the past decade, leading organisations in Manchester have recognised the need for collective, city-wide action to tackle climate change. The approach has led to the creation of the Manchester Climate Change Partnership and the Manchester Climate Change Framework (2020-2025).

The Partnership currently has around 60 members, across 10 sectors, with responsibility for over 20% of Manchester's direct CO_2 emissions. Its members also have reach into the remaining 80% of emissions through their staff, students, customers, tenants, football fans, theatre-goers, worshippers, and others.

The Partnership led on the development of the Framework, which rather than being a Council-led plan, is an overarching structure. The aim is to inspire and enable each and every organisation in Manchester to develop their own net zero plan to plug in to the Framework.

3. Agreeing the area's energy ambition

Two thirds of local authorities from across the UK have declared a climate emergency, with the vast majority setting a net zero target date. These vary widely in their scope and in the deadline selected, with the most ambitious declaring that their area will be net zero carbon by 2025. **Table 1** sets out some of the benefits and pitfalls from three common approaches to setting a local target.

No area is an "energy island"

Achieving a net zero energy system does not mean that an area needs to create an "energy island" where 100% of local energy demand is met from local sources 100% of the time. Creating energy islands would be a hugely expensive and inefficient way to run our energy system.

Instead, the area should consider how it, as part of an integrated UK energy system, can optimise the use of its renewable energy resources and maximise local benefits.

Approach to setting a target	Benefits	Pitfalls
Option A: Detailed analysis and engagement on setting an appropriate target for the area.	Robust analysis means that the target is **stretching but not unachievable or overly dependent on factors outside** of the area's control. A target development process provides an opportunity to engage with local people and organisations on the need for radical change and to develop a shared action plan.	**Too much navel gazing.** Taking the time to calculate and agreeing exactly the "right target" can absorb time and resources, delaying action.
Option B: Subscribing to an ambitious date to achieve area-wide net zero carbon e.g. 2030, on the basis of ambition rather than evidence.	Can give a **clear indication of the political will and the need for urgent action.** Avoids waiting for 'magic bullet' of new technology – requires immediate, urgent, known actions.	Setting a target without a plan **can be seen as unrealistic and tokenistic** leading to inaction rather than galvanising activity.
Option C: Setting a target for the decarbonisation of the local authority's own estate only	The target relates to actions within the **local authority's direct control**	**Insufficient impact:** Own estate emissions represent **only a very small percentage of an area's emissions** and so the impact of this type of target is limited.

Table 1: Potential benefits and pitfalls of different approaches to target setting

Regen's view is that the most suitable approach is option A, setting a stretching but achievable target, backed up with public engagement and strong political commitment to invest the necessary resources and drive change. Even more important than agreeing the end goal is to set short-term, achievable interim sectoral targets that allow progress to be effectively measured.

To avoid wasting limited time, target setting processes should run parallel with action planning and programme delivery. No local area will have all the answers at the start, but it is important to get in place a local net zero action plan that can be refined and developed.

To ensure the local action plan is addressing the main challenges, it is useful to get an idea of the baseline energy consumption, local emissions and indicative decarbonisation pathways. Regen has worked with many local authorities on pulling together this evidence – Figure 3 shows the key areas addressed in our work with South Gloucestershire Council.

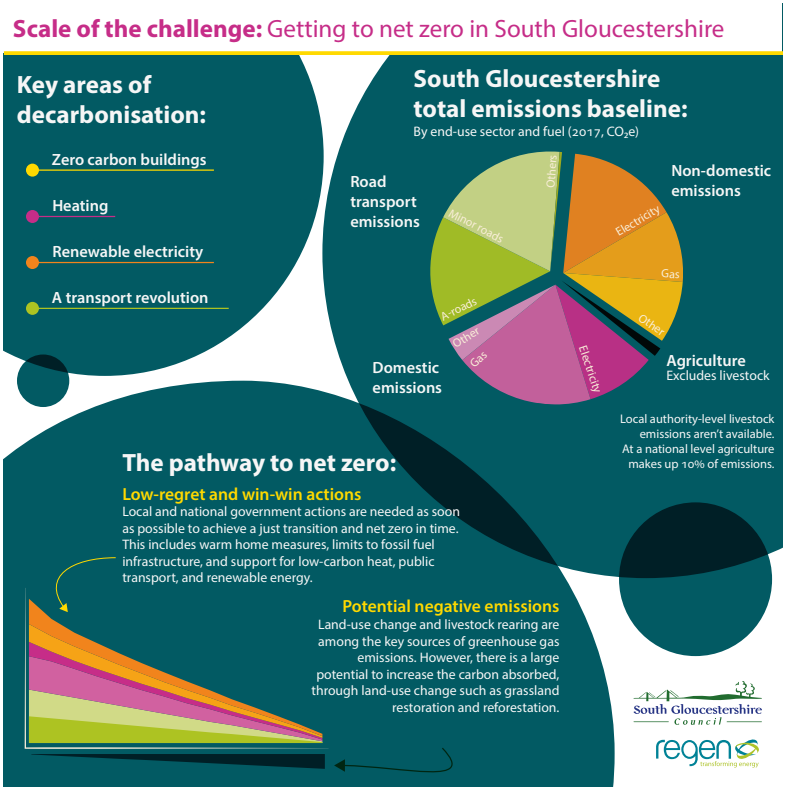


Figure 3: Example of baseline and pathways study

4. Undertaking a programme of fundamental process, policy and culture change to embed net zero objectives

A net zero energy system will not be achieved through a business-as-usual approach. Local and combined authorities need to reset their decision-making processes so that every decision, on planning, education, economic development or even procurement of social care, contributes to achieving net zero. Embedding net zero into all local government decision making processes needs to be supported by policy changes, staff and councillor training, and culture change.

For example, reprioritising local planning policy to plan for and deliver a net zero energy system is essential. The local plan should set out a vision for a net zero carbon future for the area, showing how it will deliver zero carbon developments, support the decarbonisation of existing buildings, facilitate new energy infrastructure, renewable generation and flexibility, and create a decarbonised transport system.

Local policy also needs to allow planners to refuse high carbon projects. Recent decisions, such as the rejection by North Somerset Council of Bristol airport's expansion plans as incompatible with the Council's climate emergency declaration, show the shift taking place.

Aligning decision making

Bath & North East Somerset Council has added a criteria to their decision making report template to ensure that every proposal is aligned with their Climate Emergency commitments. The council is now looking to create a carbon literacy training programme and toolkit for officers so that they can assess the carbon impacts of every decision in an informed and consistent way.

Planning decisions in a climate emergency

East Devon District Council turned down an application for a gas peaking plant in early 2020. The decision notice gives the reason for refusal as "by reason of its reliance on gas to generate electricity, the proposal fails to minimise the use of fossil fuels and reduce carbon dioxide emissions."

The decision was overturned at appeal by the Planning Inspectorate, based on the inspector's reading of the National Planning Policy Framework. The case demonstrates how local political will to tackle the climate emergency is not being supported by national policy.

Summary: The foundations of local leadership on energy

Key points for local areas:

1. **Long-term political commitment to resourcing and funding energy action:** Dedicate a team with access to long-term budgets to work on energy. Consider innovative approaches to raising funds.

2. **Effective governance structures:** Get the right cross-area governance in place to drive forward action across the locality– a net zero energy system cannot be achieved by local authorities alone.

3. **Agreeing the area's energy ambition and action plan:** Agreeing a stretching but achievable target is helpful to the extent it can be leveraged to drive forward action, but it is only a first step. A deliverable action plan with buy-in from across the community, owned by a local energy governance structure, is key.

4. **Undertaking a change programme to embed net zero objectives:** A net zero energy system is not possible under a business-as-usual approach – a cross-organisational and indeed cross-area reset of all priorities and activities is needed.

Central government enabling actions:

1. Introduce a new statutory duty for local authorities on net zero energy, with appropriate funding, resources and reporting to deliver against it. The funds raised through new carbon taxes or current environmental levies on energy bills should be ring-fenced and allocated to local authorities to lead action on energy issues.

2. Ensure that achieving net zero is a central objective of all national policy and guidance for local areas. For example, Regen's partnership project Planning for a smart energy future for the Royal Town Planning Institute sets out how planning can be brought into sync with a net zero future, requiring both proactive local policy-making and revised national guidance.

3. Provide incentives for local authorities at the forefront, e.g. those winning national funding competitions, to actively share knowledge and expertise with other authorities.

B

Section B: The pillars of transformational change

Section B sets out five key pillars of transformational change where local leadership can make a real difference to decarbonising our energy system:

- Playing a collaborative role in energy network planning and investment.
- Decarbonising buildings through priming the retrofit market.
- Setting local zero carbon development planning policies.
- Developing an integrated, low carbon transport system.
- Achieving a green economic recovery and transformation.
- Building social permission for radical change.

Playing a collaborative role in energy network planning and investment

The UK's energy infrastructure is owned and operated by gas and electricity network operators, who are regulated by Ofgem. Planning our local energy infrastructure should not be left to energy networks alone. A closer working relationship between local authorities and energy networks is critical to planning and delivering investment to unlock an equitable, net zero energy system.

Key central government enabling action: establish a formal governance role for UK regions over the future of critical energy infrastructure

Regen's 2019 Energy Networks for the Future paper called for the introduction of a governance role for UK regions to support the energy network planning process. The make-up of regional governance structures could be flexible depending on the region and potentially linked to or based around the local governance boards discussed on page 12.

A blueprint for local government collaboration on network planning and investment

Regional energy governance bodies, which could be defined by regional licence areas or based around Local Enterprise Partnerships or the emerging city regions, should be established. The aim is to create a collaborative structure to help networks to develop and evidence their network investment plans, as well as monitoring investment performance and outcomes against regional objectives. This approach would help build public trust, engage local stakeholders and also allow the networks to leverage the investment potential of regional economic plans and industrial strategies.

The regional governance body would work with the energy networks on the development and delivery of the Local Area Energy Plans in the region, ensuring that each plan is actively implemented and monitored. The regional governance body should have a formal role in providing evidence to support and influence investment priorities set by the networks. This would require some delegation of budget oversight and performance monitoring responsibilities, which are currently centralised in Ofgem. For example, the regional governance body could have a role in developing strategic investment proposals, or in approving the investment budget adjustments made by the networks.

Local authorities should play a collaborative role in energy network planning and investment

Local authorities should develop a strong relationship with the energy networks to align local ambitions and network planning, including:

1. **Participating with the development of the Distribution Network Operators' (DNOs) Distribution Future Energy Scenarios**
2. **Collaborating on local area energy planning**
3. **Exploring opportunities for strategic investments to unlock network constraints**

1. Participating with the development of Distribution Future Energy Scenarios (DFES)

All DNOs now produce local future energy scenarios to understand the potential future changes in energy generation and demand on a spatial basis in their licence areas. The results are used to help plan investment in their networks.

The creation of the DFES provides a route for local authorities to get involved, to understand and influence network planning and to access valuable data. Regen has produced DFES studies for Scottish and Southern Electricity Networks (SSEN), Western Power Distribution, UK Power Networks and Wales & West Utilities. Local authorities are invited to take part in stakeholder engagement events and are contacted to check that their local plans for new developments are accurately represented in the analysis. Figure 4 shows the role of the DFES in network investment planning.

SSEN working collaboratively on network planning

In 2020, SSEN plans to build on its engagement with local authorities and other stakeholders, through the Regional Energy System Optimisation Planning (RESOP) project.

SSEN will work with local authorities and other stakeholders to identify the impact of their plans on the energy networks and the role of low carbon technologies in managing this impact. The aim is to support delivery of local objectives and to identify the need for network investment.

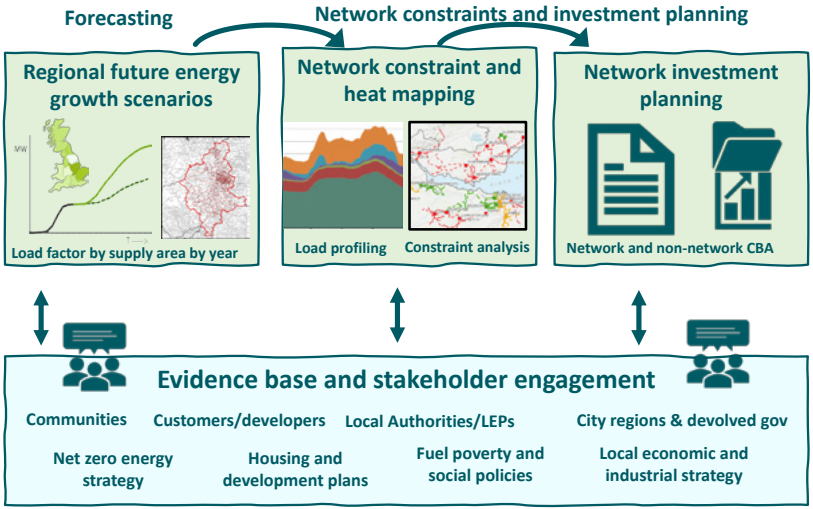


Figure 4: The role of the DFES in network investment planning

2. Collaborating on local area energy planning

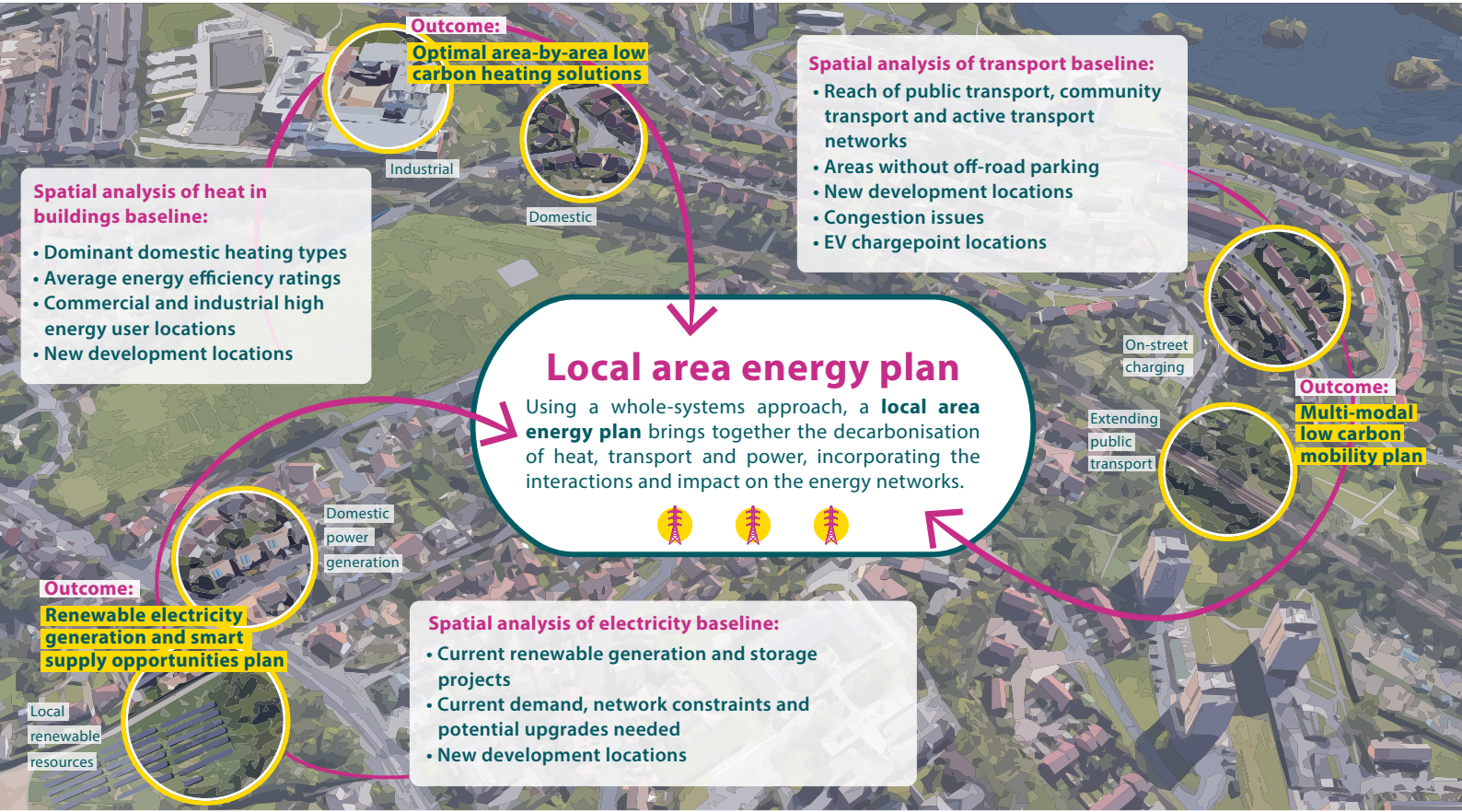
Local Area Energy Plans (LAEP) are needed if there is to be real integration of an area's energy ambitions, local planning policy and energy networks' strategic planning processes.

A LAEP is a mapped plan that identifies the detailed route to decarbonising the energy system in a local area, taking a whole system approach. It is starting to gain traction as a concept, with Ofgem's latest RIIO2 business plan guidance referring to LAEPs as a positive route for DNOs to engage with local areas, and the Committee on Climate Change's 2020 Progress Report recommending that the Ministry of Housing, Communities & Local Government supports local government involvement in LAEPs.

The plan's development needs to bring together key stakeholders for the area, critically including gas and electricity network operators, to agree on the optimal, long-term spatial energy solutions for an area.

The Energy Systems Catapult has trialled an approach to Local Area Energy Planning in Bridgend, Bury and Newcastle. Its approach focused on optimising infrastructure for decarbonising heat.

What should a local area energy plan involve?



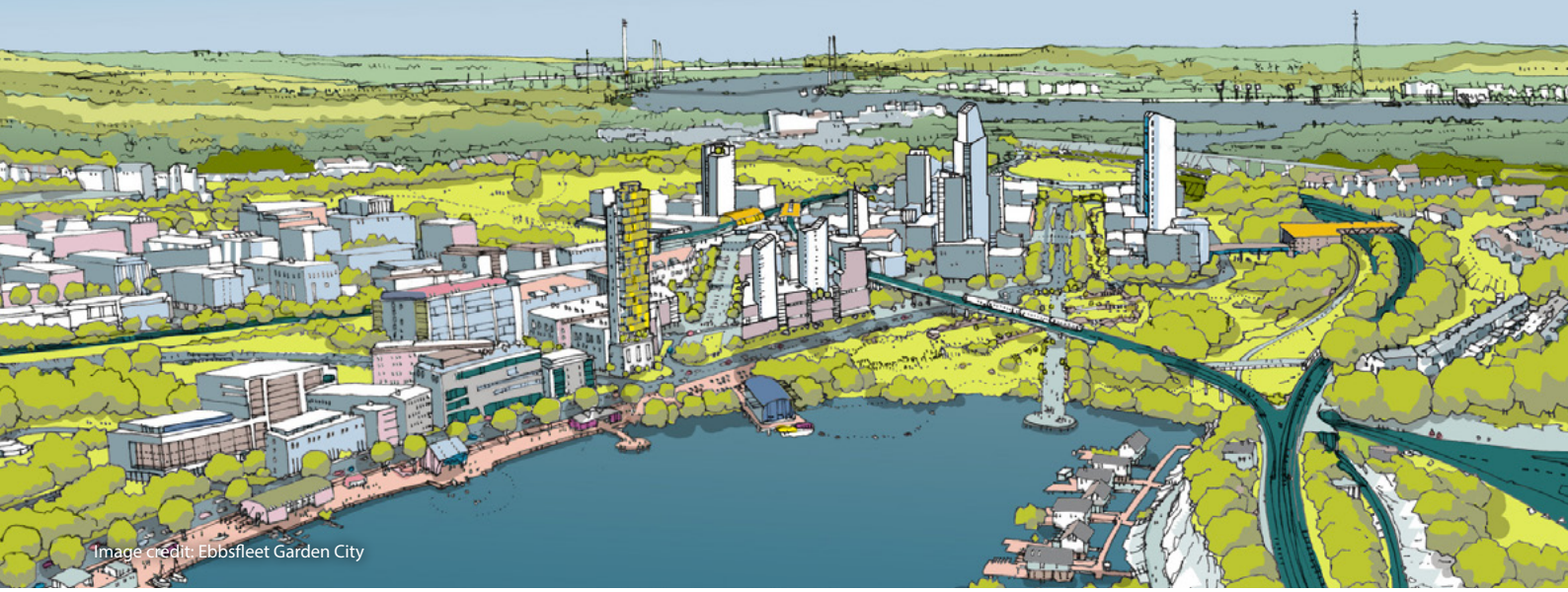


Image credit: Ebbsfleet Garden City

3. Strategic investment to unlock network constraints

Local areas and regions cite electricity network constraints as a key barrier to their net zero plans. Under current rules, new customers connecting to the energy network face much of the costs of any reinforcements they trigger. This approach makes strategic investment in network capacity challenging.

There are opportunities for public sector investment in network upgrades to unlock new renewable generation opportunities; the evidence base for this type of strategic investment could come from a LAEP process. One approach is to lead a consortium approach, bringing together developers to invest in reinforcement to enable their projects to connect to the network.

Another model is for a local authority or local enterprise partnership to act a "super-customer" and paying for a strategic network upgrade to unlock new capacity that could then be refinanced by future energy generators, developers and demand customers. A similar process has taken place in Kent, where the Ebbsfleet Development Corporation was set up by the UK government and local partners to provide the utility infrastructure to a new large-scale housing and commercial development with multiple property developers as the end customers.

Summary: Taking a lead role in energy network planning and investment

Key points for local areas:

1. Local areas that want to engage on a strategic basis with network operators should find an open door. Ofgem is strongly encouraging DNOs to engage positively with local areas, through the DFES and LAEP processes, and DNOs are proactively seeking opportunities for collaborative working.

2. A key step is to invite network operators to sit on the local governance structures established to guide an area's net zero energy plans.

3. Further current opportunities include engaging with the DFES process and partnering on innovation projects.

4. Creating a local area energy plan could be transformational to creating an agreed spatial approach for the energy future of an area.

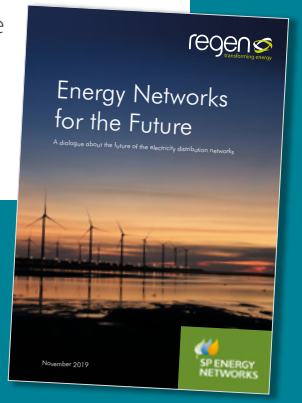
5. Opportunities for public sector investment in network upgrades can be discussed with DNOs.

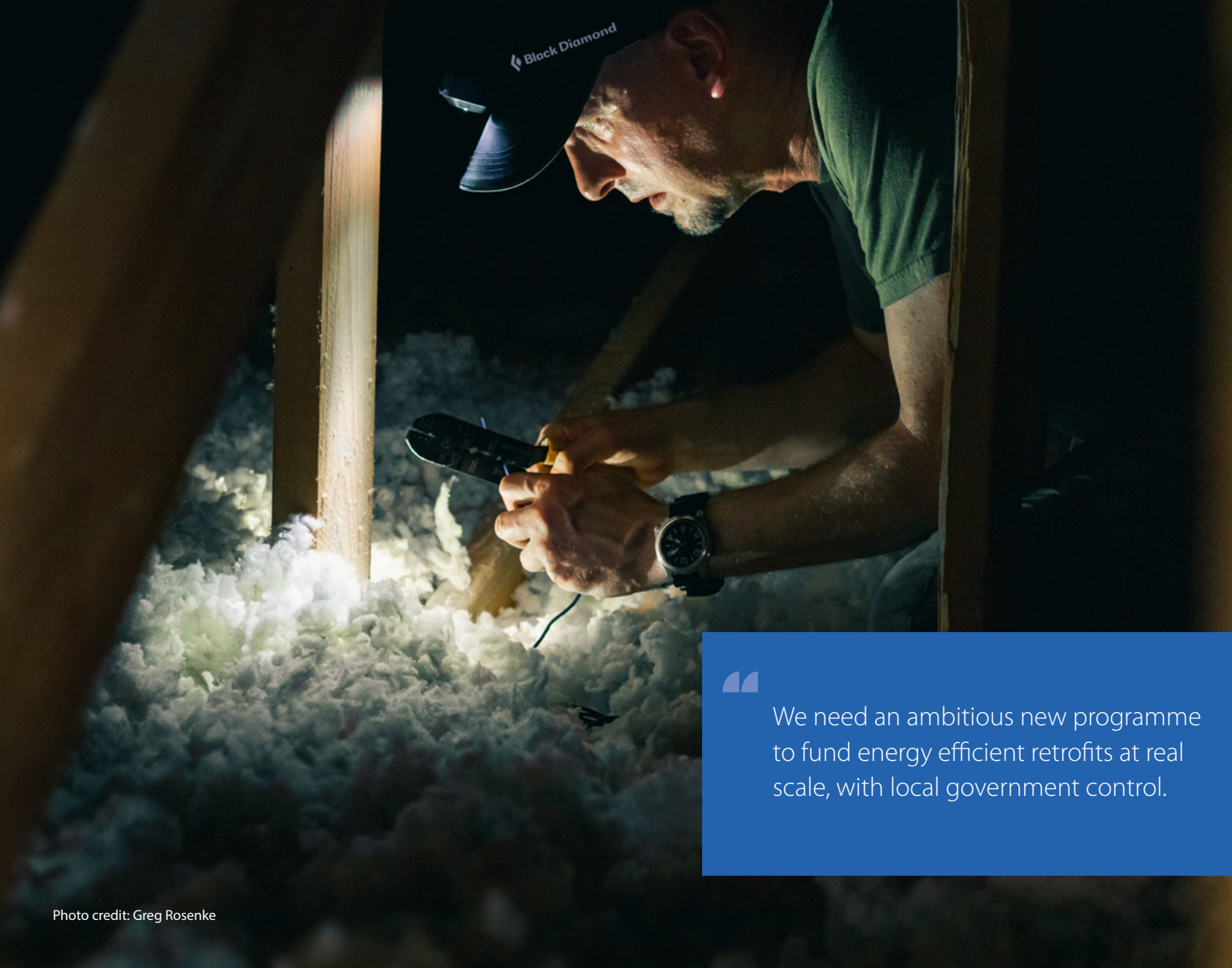
Central government enabling actions:

1. Establish a formal governance role for UK regions over the future of critical energy infrastructure, including delegated powers from the regulator, to guide the networks' investment planning, appraisal and delivery processes.

2. Provide central guidance and funding to support a comprehensive programme of local area energy planning. A national net zero strategy will be key to supporting local areas to understand the national policy context in which local technology choices are to be made.

3. Enable network operators to make strategic investments in network capacity in line with the plans and priorities set out by local authorities.





> We need an ambitious new programme to fund energy efficient retrofits at real scale, with local government control.

Photo credit: Greg Rosenke

Decarbonising buildings through priming the retrofit market

The UK's inefficient and leaky homes are one of the biggest net zero challenges – as well as major contributors to fuel poverty. Over 80% of the homes of 2050 are already built[1]. Achieving net zero will require the complete decarbonisation of the UK's building stock. An absence of national leadership means that there is an opportunity and need for local areas to drive action through retrofit programmes.

Key central government enabling action: an overhaul of energy efficiency funding

At present, funding for energy efficiency programmes is predominately collected through a levy on all electricity bills and distributed by energy suppliers through the Energy Companies Obligation (ECO) scheme, a scheme that has consistently failed to deliver at the scale required[2]. To move from historic low installation rates to the level needed to achieve net zero, we need an ambitious new programme to fund energy efficient retrofits at real scale, with local government control.

A blueprint for overhauling funding for energy efficiency

Regen's Decarbonisation of Heat paper sets out the case for transforming environmental levies currently collected through electricity bills into a carbon levy on all electricity and heat consumption. The impact would be to incentivise the use of lower carbon fuels.

In addition, with this paper, we are recommending that all energy efficiency funding is controlled through local or regional governance arrangements. Local and combined authorities have an intimate knowledge of their local areas and could effectively target funding to the housing stock and occupants in greatest need. Unlike energy suppliers, local authorities also have the motivation to do an effective job of rolling out measures.

1 Committee on Climate Change (2019) UK Housing - Fit for the Future www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf
2 Regen analysis of National Statistics, Household Energy Efficiency Statistics, headline release January 2020, www.gov.uk/government/statistics

The West Midlands Combined Authority (WMCA) is negotiating with central government through its second devolution deal for a local approach to energy efficiency funding. It is negotiating to allow its Energy Capital programme to take control of ECO revenues raised from local electricity bills. It estimates that this amounts to £40 million of spending that using its local knowledge, it could direct into appropriate energy efficiency schemes.

The Chancellor's announcement in the summer 2020 statement of £3 billion in funding for decarbonising buildings is a promising start, although it is significantly less than the £8.66 billion per year in public capital investment that the New Economics Foundation is calling for every year from 2020 to 2024. Its six-month delivery timescale is also insufficient to have a significant impact, either on the rate of deployment or on creating new skilled jobs in the supply chain. A long-term, sustained approach to funding retrofit measures is needed, with local government taking a lead role in its targeted delivery and associated support for the supply chain to access opportunities.

A long-term, joined-up approach to tackling energy efficiency in Scotland

The Scottish Government's Energy Efficient Scotland Route Map is a 20-year programme, with actions aimed at making Scotland's existing buildings near zero carbon by 2050. It includes targets for improving EPCs for different types and tenures of buildings, with these ratcheting up over time.

Initiatives to reach the target include significant investment through programmes aimed at householders such as Home Energy Scotland, and support for business consumers through 'Resource Efficient Scotland'. The Scotland Government is currently consulting on measures to accelerate energy efficiency deployment in the difficult owner-occupier sector. There is also strong action at a city and regional level, with local authorities being supported by the Scottish Government to draw up Local Heat and Energy Efficiency Strategies.


Photo credit: Energiesprong

Energiesprong: a new approach to tackling and financing whole house retrofit

Whole house retrofit means tackling all the retrofit needs of a property at once, rather than with an individual measure approach. The cost has been prohibitive to date, but new financing models are starting to unlock the market. An example is Zero Energy Building Catalyst (ZEBCat), which is a three-year programme being led by Devon County Council. The project aims to complete the whole retrofit of a group of homes in two locations in Devon through the Energiesprong approach, as well as a business support programme managed by Regen for enterprises in Devon.

Local authorities should prime the retrofit market

Local authorities are well placed to deliver funded energy efficiency programmes and many have had some experience of working with suppliers on targeting ECO funding. To shift energy efficiency and low carbon heat delivery up a gear, local authorities need to take a more strategic approach that tackles demand and supply side issues. Actions should include:

1. **Using local data to create a mapped improvement strategy and target:** Bringing their knowledge of the local area's housing stock together with guidance from energy experts, local authorities should create a spatial strategy on how to improve EPC ratings across the area. Local authorities' data on vulnerable households should be used to target improvements for those in fuel poverty.
2. **Value the co-benefits of energy efficiency:** Co-benefits include fuel poverty reduction, physical and mental health improvement, improved education performance and reductions in unemployment, sickness rates and excess winter deaths. There is also potential for significant job creation, and where local firms are supported to access the market, this can result in high local economic value retention rates. These co-benefits can far outweigh the cost of the programmes.

Regen's baseline analysis for South Gloucestershire Council showed that 56,000 homes in the area need to be improved to EPC band B or above for the area to be on track to achieve net zero.

EPC band	2017	2030	Estimated net change in no. dwellings
A	0%	19%	21,180
B	25%	56%	35,210
C	26%	23%	-2,760
D	33%	2%	-35,865
E	13%	0%	-14,030
F	3%	0%	-3,070
G	1%	0%	-660

3. **Create significant demand signals for the local SME market:** Demand signals are the single most effective route to encouraging SMEs to invest in upskilling and accreditation. Local authorities should work together across boundaries and with the wider public sector to send strong signals to the market about their plans to invest in measures for their own buildings and social housing stock, with clear quality standards specified, such as PAS2030 or using retrofit coordinators. To provide an effective demand signal and retain economic value in the local economy, procurement processes need to be appropriate for local SMEs.

4. **Produce guidance for homeowners and tenants:** Local authorities should take a lead role in providing homeowners and the private rented sector with energy efficiency guidance and access to available funding. People find it hard to trust adverts they receive from supply chain firms or energy companies. Working with community energy groups can be an effective route to communicating about energy efficiency to householders.

5. **Work with skills providers and offer business support programmes to SMEs:** When deployed in conjunction with significant demand stimulation programmes, business support programmes can enable local SMEs to upskill and access new market opportunities.

Retrofitworks: a not-for-profit supporting local retrofit delivery programmes

Retrofitworks is a not-for-profit multi-stakeholder co-operative that supports local authorities and other locally based advocates to develop retrofit schemes using local branding. Retrofitworks sits in the background, managing works and assisting with access to funding where possible, delivering the needed works through local SME contractors. For example, Retrofitworks worked with the Greater London Authority on their £4.5m Warmer Homes Programme, offering up to £4,000 of home energy improvements to low income households, drawing on ECO funding where applicable.

Summary: Priming the retrofit market

Key points for local areas:

1. Local authorities should create a comprehensive local energy efficiency strategy, underpinned by data on local housing stock and vulnerable households. New delivery models, such as whole house retrofits, should be explored.

2. Retrofit programmes offer a range of co-benefits, such as poverty reduction and health improvements, as well as carbon savings, which can far outweigh the capital investment costs.

3. Local authorities should use their procurement processes to offer demand signals to the market.

4. As trusted intermediaries, local authorities should produce guidance communicating energy efficiency opportunities to homeowners and tenants.

5. Local government should lobby for control of all retrofit funding, including ECO.

Central government enabling actions:

1. Develop a long-term, sustained approach to funding energy efficiency as a national infrastructure priority, stimulating the creation of new jobs in the supply chain.
2. Give control of all retrofit funding, including ECO, to local government.
3. Transform environmental levies on electricity bills into a carbon levy on all electricity and heat consumption.
4. Develop a national low carbon heat strategy that is net zero compliant (See Regen's paper on The Decarbonisation of Heat for more).

> Net zero building standards are needed for all new development.

Photo credit: The Active Building Centre

Setting local zero carbon development planning policies

All new development should be designed, built and perform to a net-zero standard as soon as possible, rather than requiring retrofitting at a later date. Since 2015, central government has tried to stop local authorities from setting zero carbon standards through local policies, whilst also watering down national commitments. There is an urgent need for national and local policy to set net zero building standards for all new development.

Key central government enabling action: national zero carbon development policy

The government's consultation on a Future Homes Standard proposes tightening the requirements on carbon emissions for new homes to an extent, while restricting the ability of local authorities to set higher standards. Regen's analysis of the proposed standard found that it was inconsistent with a net zero future.

The UK Government's extension of Permitted Development Rights is due to come into force on 31 August[3]. It includes allowing the demolition and rebuilding of vacant commercial buildings as homes, without a requirement for planning permission. This has worrying implications in terms of carbon emissions and building standards.

A blueprint for achieving net zero development

Regen is calling for both a more ambitious Future Homes Standard and freedom for local authorities to go further in setting local standards. Developments that will require expensive and disruptive retrofitting in the years ahead are not compatible with a net zero world.

The four local authorities in the West of England estimate that their draft policies would save around 200,588 tCO_2 by 2030 compared to the trajectory proposed in the Future Homes Standard consultation. It makes little sense to restrict the ambition of local authorities who have undertaken robust cost-benefit assessments to set higher local standards.

3 www.gov.uk/government/news/new-laws-to-extend-homes-upwards-and-revitalise-town-centres

Photo credit: Active Building Centre

Active Homes Neath: an innovative social homes development

Active Homes Neath is the first development in Wales of low carbon social homes that use a very high standard of building fabric, integrated solar and air source heat pumps, heat recovery, battery storage and EV chargepoints. Active Homes is an Active Building Centre project collaboration between Pobl Group, Neath & Port Talbot County Borough Council, and Specific, a national Innovation and Knowledge Centre led by Swansea University.

Local authorities should set zero carbon development planning policies

Current UK government policy allows local authorities to set energy performance standards for new housing or the adaptation of buildings to provide dwellings that are higher than the building regulations, but only up to the equivalent of Level 4 of the Code for Sustainable Homes[4]. Despite this, several local authorities have already gone much further and have implemented more ambitious policies requiring new developments that are designed, built and perform to a net-zero standard:

The UK Green Buildings Council Policy Playbook offers a useful resource for developing policy and reviewing other authorities' proposals.

- Reading Borough Council's local plan, adopted in November 2019, includes the requirement for "all major new-build residential development should be designed to achieve zero carbon homes."
- Oxford City Council's draft Local Plan 2036 sets out through policy RE1 requirements to reduce carbon emissions from new homes from 40% from the time of the plan's adoption to 50% in 2026, reaching zero carbon in 2030.
- There are zero-carbon policies in place in the 2016 London Plan, with the 2020 update looking to reinforce these policies.
- Bristol City Council's draft local plan policy, 'Towards zero carbon development', includes a heat hierarchy that steers developers and planners to appropriate low carbon heat solutions.

With a lack of national leadership, local authorities should be brave and work together to set local zero carbon development policies that deliver against their net zero ambitions.

In addition to setting ambitious planning policies, local authorities should use their role as landowners to support and require zero carbon developments. In particular, when procuring new social homes, local authorities should strive to set the highest possible standards, unlocking co-benefits for social tenants in the form of lower bills and higher comfort levels.

4 As set out in 2019 in national Planning Practice Guidance

Summary: Setting local zero carbon development planning policies

Key points for local areas:

1. Higher standards for new builds are vital to reducing the future retrofit burden. Local authorities should look to set the highest possible standards through their planning policy.

2. Local authorities can have a positive impact on the demand for new zero carbon buildings through their procurement of new social homes and other buildings.

Central government enabling actions:

1. Raise the ambition of the Future Homes Standard to be net zero compliant.
2. Allow local authorities the freedom to be more ambitious than the national decarbonisation timetable in setting their local plan policies for new homes and commercial developments.

> Investing in public transport so that it is an attractive, clean, viable and cheap alternative to private vehicle use.

Photo credit: EV Clicks

Developing an integrated, low carbon transport system

Surface transport is the largest-emitting sector in the UK, accounting for 24% of UK emissions in 2019[5]. After years of increasing emissions, surface transport emissions fell in 2018 and provisional data shows a further decrease in 2019. 2020's national lockdown is likely to continue and deepen that trend. Local areas will need support and guidance to enable them to build on these reductions, while prioritising public safety in a world with Covid-19.

Key central government enabling action: a post-lockdown transport decarbonisation plan

In 2020, the Department of Transport is due to consult on a Transport Decarbonisation Plan[6].

Regen welcomes this and the funding announcements made to date, such as the BEIS Beyond Off Street - smart meter EV charging programme. Our EV policy paper, Harnessing the electric vehicle revolution, echoes many of the government's priorities.

However, the government needs to go further and faster in its investments and policies to secure the transition to low carbon mobility. The 2020 Progress Report from the Committee on Climate Change sets out further key policies that are needed to decarbonise transport, including bringing the ban on fossil fuel vehicle sales forward to 2032 at the latest and investment in "Infrastructure to make it easy for people to walk, cycle, and work remotely."

A blueprint for a Covid-19 aware transport decarbonisation plan

The Covid-19 lockdown has had a significant short-term impact on transport emissions. However, fear of catching the virus on public transport is already causing private vehicle miles to increase as lockdown measures are lifted.

Mitigating the increase in private vehicle mileage in the context of the pandemic requires urgent action by central government. Programmes such as the Emergency Active Travel Fund need to be continued and expanded. Economic recovery voucher offerings should be used to focus demand on low carbon technology purchases and 'mobility as a service trials', such as car clubs or on-demand transport.

Local areas will need advice and guidance on how to decarbonise their transport systems whilst keeping their populations safe.

5 CCC (2020) Reducing UK emissions: 2020 Progress Report to Parliament www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament

6 Department of Transport (2020) Decarbonising Transport Setting the Challenge https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/878642/decarbonising-transport-setting-the-challenge.pdf

Local authorities should develop an integrated low carbon transport system

Upper tier local authorities and combined authorities have a long history of local and regional strategic transport planning. Now is the time for them to use their experience, local powers and influence to step up the strategic decarbonisation of local, regional and national integrated transport systems, enabling a major and rapid modal shift away from private vehicle use, supported by a rapid take up of electric vehicles.

Whilst there is a key role for electric vehicles in decarbonising transport, this sits at the bottom of the decarbonisation hierarchy, as shown in figure 5. Demand reduction, active transport, public transport improvements and on-demand mobility as a service business models offer more extensive carbon reductions and additional co-benefits, including congestion reduction and improved health and wellbeing.

Local authorities are well placed to take a multi-pronged approach to weaning their communities off private car use. This will require a major shift in thinking, moving away from road improvement schemes to mobility improvements that make active travel and public transport the easiest option for any journey. Communications should highlight that income raised from levies on fossil fuel vehicle use will be re-invested in the local transport system.

To date, local authorities have often taken a cautious approach to implementing new measures, with extensive multi-year desktop impact studies. However, with limited time to address the climate emergency, urgent, bold action is needed. Local authorities should undertake immediate trials to test a radical range of carrot and stick measures.

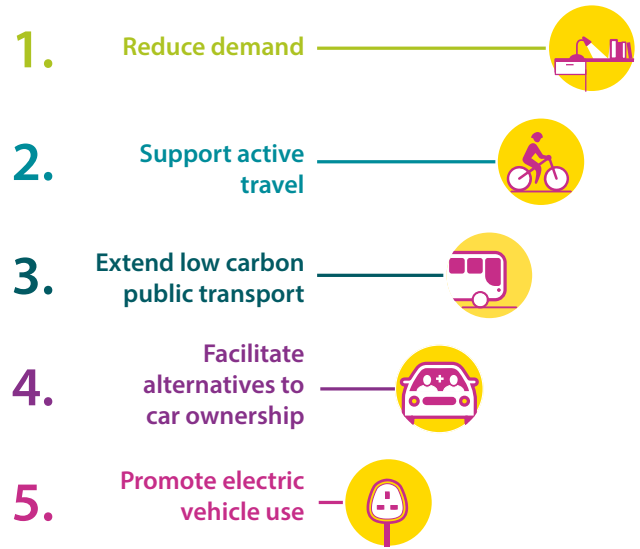
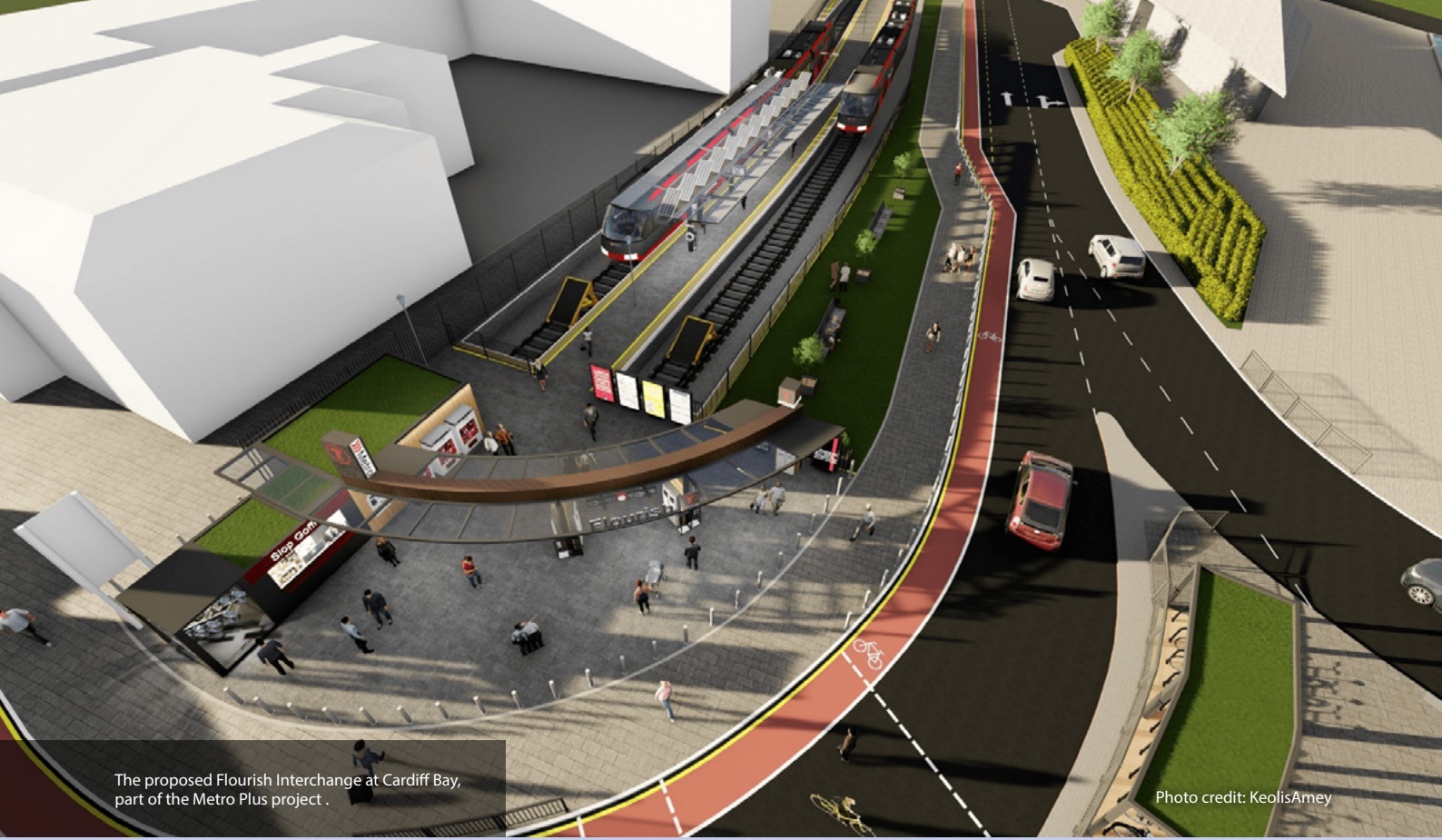


Figure 5: A hierarchical approach to decarbonising personal travel

A range of local authority levers should be used simultaneously to create low carbon mobility

Reducing transport demand and making private fossil fuelled road vehicle use the option of last resort	■ Enhancing digital connectivity, meaning travel for work in particular is reduced ■ Well planned, mixed use developments that enable people to live, work and enjoy leisure time in one location, with mobility embedded into their core design ■ Freight consolidation systems and last mile delivery schemes ■ Implementing congestion zones, limited road access times and one-way routes for fossil fuel vehicles ■ Workplace charging levies and comprehensive use of residential parking permit zones ■ Higher public parking charges for higher carbon vehicles with revenues reinvested in low carbon transport provision
Active travel support and infrastructure provision	■ Connected, safe cycle and walking path provision that take people door to door ■ Removing unnecessary street furniture and pedestrianising streets to allow easier walking and cycling ■ Mobility hub development that includes cycle and clothing storage provision at hub locations ■ Public communications campaign about health benefits
Providing smart, clean, cheap, connected public transport	■ Subsidised public transport that connects across the area through mobility hubs with active travel routes ■ Decarbonising public transport e.g. electric buses, new metro and tram schemes ■ Covid-19 adjustments e.g. additional cleaning measures, demand management apps
On-demand community transport, electric car clubs and access to cars without ownership	■ Supporting the set up of car clubs and other attractive alternatives to car ownership ■ Exploring new low carbon transport technologies and services such as on-demand community transport options, e.g. 'Ring-and-ride' services in rural areas
Encouraging low carbon vehicle uptake	■ Investment in EV charging infrastructure for on-street and car park locations ■ Differential parking charges for low emission vehicles ■ Local scrappage schemes for fossil fuel cars ■ Public communications campaigns, including on the whole life costs and benefits of EV ownership ■ Supporting the use of asset sharing schemes that allow EV owners to rent their vehicles out ■ Working with DNOs to facilitate the necessary infrastructure for electrification, including at strategic sites such as motorway services ■ Planning of infrastructure to provide alternative low carbon re-fuelling for commercial vehicles ■ Converting local authority fleets to ultra low emission vehicles, showing leadership



The proposed Flourish Interchange at Cardiff Bay, part of the Metro Plus project .

Photo credit: KeolisAmey

South Wales Metro Plus project: A multi-modal public project levering in private partners

The Metro Plus project is bringing together public investments from the Cardiff City Region Deal, Welsh Government and local authorities with private investment. The aim is to ensure the new South Wales metro will be embedded in local transport infrastructure with multi-modal local transport connections. Projects range from the development of Park and Ride facilities, to the development of bus and rail interchanges, to electric vehicle charge-point provision and support for active transport routes.

Transport planning considerations for a just transition

The transition to low carbon transport often raises concerns around the impact on poorer households, including:

- EVs are perceived as high cost purchases that are not accessible to all, despite falling upfront costs, a growing secondhand market and lower lifetime use costs than fossil fuel vehicles.
- Households without off-road parking may not be able to access EV charge points.
- Differential parking charges and congestion charges unfairly impact poorer households with older, higher-emission vehicles.
- Network upgrades to facilitate EV rollout are paid for by every consumer rather than only those that can afford an EV.

Although these are valid concerns, they should not stop decarbonisation efforts. Instead, local authorities and governments should consider routes to mitigate these issues, such as:

- Investing in public transport so that it is an attractive, clean, viable and cheap alternative to private vehicle use. Revenues raised through schemes penalising fossil fuel car use should be re-invested in public transport.
- Publicising the low lifetime costs and other benefits of EV ownership.
- Subsidising EV purchases or introducing scrappage schemes.
- Investing in on-road charging infrastructure.

Photo credit: EV Clicks

Scottish Government partnering with network operators to deliver EV charging points

The Scottish Government has taken a proactive approach to ensuring sufficient EV charge points are in place across Scotland, including a new partnership with SSEN and SP Energy Networks to invest £7.5 million in charge points and supporting infrastructure. This type of partnership approach is needed to provide both the charge points themselves and the supporting network infrastructure, drawing together private and public sector investment.

Summary: Developing an integrated, low carbon transport system

Key points for local areas:

1. Decisive, multi-stranded action is needed to make using a private vehicle the last resort for journeys. Agile trials of radical, low cost approaches should be taken, such as lane alterations or fossil fuel usage restrictions, overcoming inertia in transport planning.

2. Local authorities need to invest extensively in improving public transport and active travel provision, making use of available government funding and working with a range of partners to lever in funding through co-investment.

3. Local authorities should work with DNOs and the private sector to create a public charging network that ensures access for all households, rather than only those with off-road parking.

4. Local authorities must make effective use of planning policy to ensure high carbon transport is not locked into new developments.

Central government enabling actions:

1. Offer guidance and significant funding to local authorities through the creation of a funded low carbon transport plan that balances the need to keep people safe from Covid-19 with the need to decarbonise transport.
2. Bring forward the ban on fossil fuel and plug-in hybrid vehicle sales to 2032 at the latest and review other measures such as Vehicle Excise Duty and scrappage schemes to incentivise low carbon vehicle purchases.
3. Continue to fund and explore innovative approaches to low carbon transport.

Achieving a green economic recovery and transformation

The economic shock caused by Covid-19 will make jobs and economic recovery a key priority for all policymakers. Investment in high-carbon infrastructure to restart our economies would lead to a failure to develop the skills and industries of the future, as well as being disastrous for the climate.

Key central government enabling action: lead a national recovery strategy with zero carbon at its heart

Regen is calling on the government to put the transition to net zero at the heart of our national economic recovery strategy, including backing radical energy efficiency improvements to our buildings, a programme of renewable energy generation and accelerating the shift to low carbon mobility. Regen analysis shows there is a pipeline of 'shovel-ready' projects that can deliver high skilled jobs, stimulate innovation, and give the UK an edge in the industries of the future.

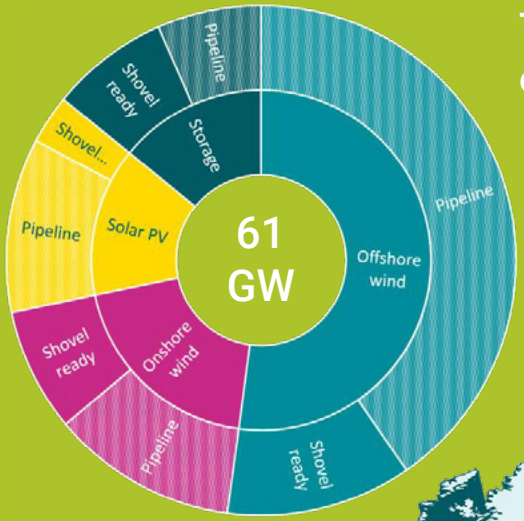
The government should put localities at the heart of these plans, devolving powers to set standards and adjust taxes, and putting zero carbon at the heart of guidance on Local Industrial Strategies.

Committee on Climate Change: Blueprint for a Green Recovery

Lord Deben, chair of the Committee of Climate Change, wrote to the Prime Minister in May calling for immediate expansion of:

- Investments in low-carbon and climate-resilient infrastructure.
- Supporting reskilling, retraining and research for a net-zero, well-adapted economy.
- Upgrades to our homes ensuring they are fit for the future.
- Making it easy for people to walk, cycle, and work remotely.
- Tree planting, peatland restoration, green spaces and other green infrastructure.

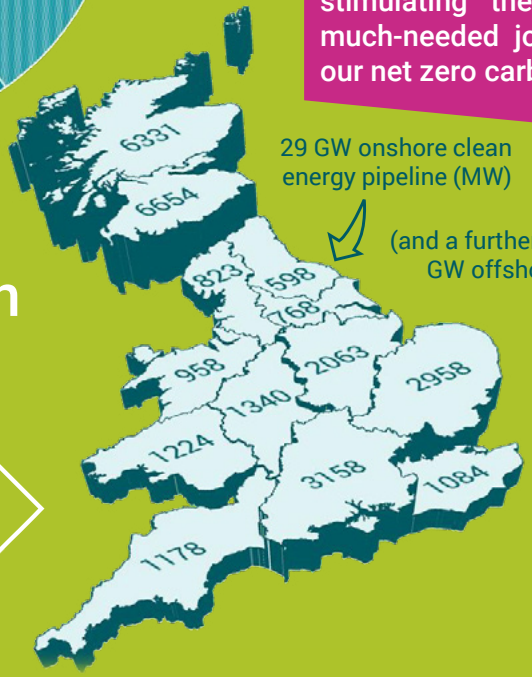
> The importance of key workers during the Covid-19 pandemic has been clear. The transition to Net Zero, as well as the response to climate change itself, will require its own key workers. For example, huge numbers of installers will be required to retrofit buildings with energy efficiency, low-carbon heating and measures to improve their climate resilience.
>
> Committee on Climate Change (2020) Reducing UK emissions: 2020 Progress Report to Parliament



There is a 61 GW pipeline of clean energy projects...

...of which 18 GW are 'shovel ready'

The pipeline of renewable energy and battery storage projects can be developed quickly through private sector investment, stimulating the economy and creating much-needed jobs whilst helping deliver our net zero carbon goal.



29 GW onshore clean energy pipeline (MW)

(and a further 32 GW offshore)

Developing these projects could add over **£125 billion** of value to the UK economy across the entire country

Providing over **200,000 jobs** in areas such as development, construction and operation

Localities should be at the heart of the new green economy

Mayoral Combined Authorities and Local Enterprise Partnerships in England are responsible for local industrial strategies. A review of these strategies show some positive commitments built around the government's identification of "clean growth" as one of the four Grand Challenges. However, the strategies are not yet in line with climate emergency declarations and often the focus remains on high carbon growth.

Regen has identified five practical areas for localities to focus on to transform their economy with low carbon priorities at the core:

1. **Identify the strengths of the local area in relation to the green economy, such as strong local companies or expert academic institutions.** For example, West Midlands Combined Authority's industrial strategy has an extensive focus on electric vehicles, battery research and the future of clean mobility.

2. **Support low carbon projects in the area and enable the wider economic benefits.** Companies have a strong incentive to locate people and invest near projects they are delivering on. For example, The Port of Mostyn in North Wales is a key hub servicing offshore wind farms in the Irish Sea, with core roles on site including crane operators, welders, stevedores and wind turbine technicians. In addition, community energy projects can offer significant local economic benefits, including job creation and investment potential.

3. **Stop supporting projects such as airport expansion and new fossil fuel generation that are not in line with the Paris agreement and UK's legally binding net zero commitments.** A sustainable economic recovery cannot be built on high carbon investments. High carbon businesses in the area should be engaged with over their plans to transition to net zero.

4 **Provide support to supply chains alongside decarbonisation projects.** For example, Regen is a partner in the Zero Emission Building Catalyst in Devon that has a business support programme alongside a deep housing retrofit investment, helping local firms understand the market drivers and fund training programmes.

5 **Listen to the local low carbon business sector about the key policy and regulatory challenges they face and help amplify those issues** back to central government through the voice of local authorities, Mayors and LEPs.

West Midlands Combined Authority's Energy Capital initiative

The Energy Capital initiative aims "to make the West Midlands one of the most attractive locations to build innovative clean energy technology companies in the world". Initiatives include Energy Innovation Zones that are designed to stimulate clean energy innovation to drive productivity, exports and growth.

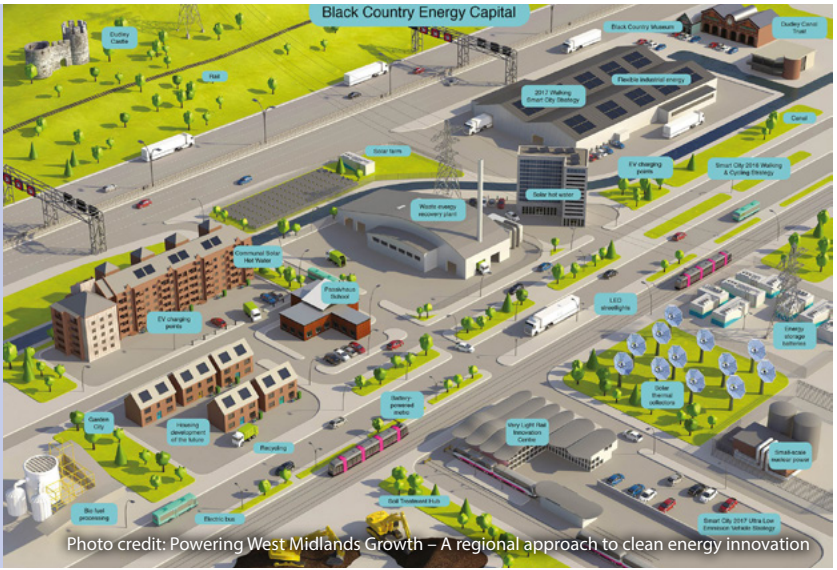


Photo credit: Powering West Midlands Growth – A regional approach to clean energy innovation

Summary: Achieving a green economic recovery and transformation

Key points for local areas:

1. The tragedy of the pandemic and lockdown should be used as a turning point for those working in local economic development to reset priorities away from a focus on growth, towards sustainable recovery that supports local wellbeing, jobs and the environment.

2. Localities should identify the strengths they have in the green economy and focus projects, support and policy influencing on the needs of these organisations, through a collaborative partnership approach.

3. A green recovery cannot include support for continuing high carbon industries. These businesses need support to transition to net zero compatible business models.

Central government enabling actions:

1. To avoid an even more serious emergency caused by climate change, our national economic recovery strategy from Covid-19 must not be focused on supporting high carbon industries and continued unmitigated development.
2. Focusing economic recovery on the energy transition offers skilled jobs, world-leading research opportunities, high value capital investment and environmental benefits.
3. All guidance on Local Industrial Strategies should be revised to put net zero ambitions at their heart, renaming these to be green recovery strategies.
4. Localities should have greater control over setting local tariffs and taxes to support green recovery activity.

Building social permission for radical change

Achieving net zero will require radical changes that affect everyone in society. This scale of change can only happen with the support of the public and in partnership with local communities. With inconsistent national leadership, building social permission for radical change is arguably the single most important role local authorities can play to drive energy system transformation. In Regen's experience, it is also the area that local authorities have made least progress on.

Key central government enabling action: a national net zero strategy

Tackling the climate crisis represents the largest public engagement challenge the country and world has ever faced. People need to understand, accept and support the wide-ranging changes that are required in energy infrastructure, as well as the role they need to play in changing their consumption and travel habits.

Our national political leaders need to start communicating widely and deeply on the issues, challenges and opportunities that the net zero transition brings. A national net zero strategy is needed with an associated communications plan.

A blueprint for a national net zero strategy with an associated communications plan

In June 2020, the Committee on Climate Change issued its 2020 Progress Report to Parliament, with the government and media affording it very little airtime. The CCC's 2020 Progress Report points to the need for "Members of the public…to be much more actively involved in the transition - buying electric cars instead of petrol or diesel models, installing energy efficiency and low-carbon heating in their homes, and shifting their consumption choices." The report cites "current attitudes and the shared experiences of Covid-19 [creating] a window for Government to reinforce the climate-positive behaviours that have emerged during the lockdown."

Although messaging has at times been inconsistent, the pandemic has demonstrated the UK government's ability to focus communications and policy making on an issue, with daily briefings and widespread public service announcements. This focus, resource and time needs to be brought to planning a response to and communicating about the climate crisis.

Local authorities should build social permission for radical change

The role that local authorities can play in building social permission for radical change is vital to unlocking the energy transition. The transition needs to be achieved with and to the benefit of local people, rather than something which is done to people. Effective two-way engagement can improve planned actions by creating additional local benefits and synergies and by responding to people's concerns about potential negative impacts.

Without social permission for widespread, radical change, new policies and projects face the potential for local backlash. This type of backlash has been seen in the past where local authorities have attempted to introduce air quality zones or allocating areas for new renewables projects.

Recent opinion polls from IPSOS show that two-thirds of the British public agree that "in the long term, climate change is as serious a crisis as Covid-19". With this level of public interest, local politicians should be demonstrating their commitment to the issues through local communications and campaigning.

Local engagement on climate issues has tended to attract interest only from local climate activists and those with entrenched anti-renewables views. Engagement needs to be broadened to the whole local population, making strategic use of groups that represent different interests, such as consumer groups and small business organisations.

Regen believes each area, city or region should develop their own net zero brand as the basis for a major public engagement exercise, that uses a range of engagement techniques from citizens' assemblies to widespread communications campaigns. A net zero vision for the area should be created, enabling discussion of the most suitable approaches for the locality to achieve its aims.

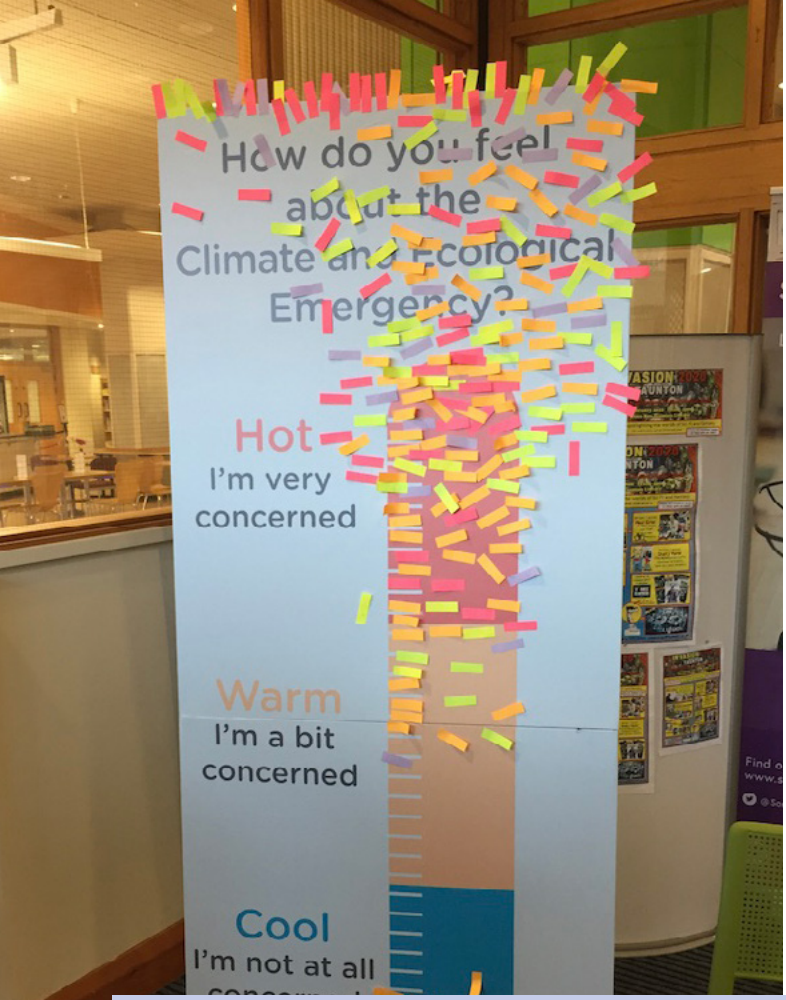


Photo credits: Hope-Stone Research

Working with local activists on community engagement in Somerset

Somerset County Council and the four district councils in Somerset commissioned local community group, Somerset Climate Action Network, to run family-friendly drop-in events across the county to enable local people and groups to understand the councils' plans and to have a say on the shape of the area's climate emergency response framework. Alongside the engagement events, the councils issued a survey to gather views, complemented by a youth survey.

Citizens' assemblies are being trialled as an approach to engage with the public, including a UK citizens' assembly in early 2020. They involve recruiting a group of individuals who are representative of an area's demographic to attend a series of workshops to learn about and discuss climate issues. The assembly then makes a series of recommendations on the level of ambition and potential actions, granting the council and wider governance board the permission to press ahead.

Without significant investment in time and resources, it is difficult for the randomly selected members of the public to get to grips with the detail of the issues, meaning that their recommendations can lack depth and weight. Participants should be inspired and supported to take back what they have learned to their community to broaden the reach of the assembly beyond attendees.

Oxford Citizens' Assembly: the UK's first local assembly on climate

The Oxford Citizens' Assembly on Climate Change in 2019 tested members' ambition for taking forward carbon-reduction measures. When asked to vote on three future scenarios, members overwhelmingly preferred the most ambitious scenario.

Despite this, assembly members reported feeling perturbed by the extent to which the burden of change was – in their eyes – being placed on individuals. There was, therefore, a sense that the council needs to communicate a shared vision and strategy to reaching 'net zero' that shows the roles played by local and national government, businesses, and individuals.

Photo credit: Fabio de Paola, PA Wire

Summary: Building social permission for radical change

Key points for local authorities:

1. Local areas need to recognise the vital need to bring their local community along with the energy transition through effective engagement.
2. An engagement strategy should be developed around a net zero brand for the area.
3. The strategy should consider using different communication routes and partnering with local organisations to reach different segments of the community.

Central government enabling actions:

1. Develop a national net zero carbon strategy and use it to drive regular communications on climate issues and policy development.
2. Support local areas to develop their net zero brand with resources and advice.

C

Section C: Innovative approaches to action

Section C examines three different types of approach that leading areas are taking to deliver energy projects:

- Unlocking private sector investment.
- Supporting community energy organisations.
- Innovating for a smart, fair energy system.

Unlocking private sector investment

Many local authorities are major asset owners with significant energy spend and access to low cost finance. They can leverage these assets and those of others in the public sector as the basis for developing low carbon projects that facilitate private or community sector investment and demonstrate leadership.

Key central government enabling action: low cost access to finance for energy projects

Local authorities at the vanguard of the energy transition have already had significant success in energy projects. BEIS's local energy team has worked to share learning from these leading areas and the Local Energy Hubs in England can offer some support to local authorities to develop projects. However, further support and guidance is needed to ensure all areas are able to deliver significant new energy projects.

Many renewable energy projects have been funded in part by local authorities accessing low cost borrowing from the Public Works Loan Board (PWLB), such as Bristol City Council's pioneering wind turbines and Cambridgeshire County Council's solar farm. Access to low cost finance is often what makes local authorities attractive partners for commercial developers, resulting in the successful delivery of public-private partnership projects.

A blueprint for low cost access to finance

The 2019 1% interest rate hike and the current consultation on future lending terms for the PWLB are aimed at preventing councils from using borrowing to buy investment property primarily as a source of income.

We believe that investing in low carbon projects is an example of investing for need, rather than investing for profit and as such constitutes a valid use of PWLB funds. We urge government to explicitly include renewable energy, energy efficiency and low carbon transport investments as one of the categories of use covered by the future lending terms as suitable for PWLB finance and to reverse the interest rate increase for these projects.

Local authorities should leverage public sector assets, capital, relationships and energy spend to unlock private sector investment

Local authorities at the vanguard of the energy transition are setting up, investing in and delivering some of the most exciting sustainable energy projects in the country. A wide range of innovative partnership models have evolved between local authorities, developers, investors and community groups. The key challenges are ensuring a good cultural fit to partnerships and aligning the risk and rewards for all parties.

Recognising that cost should not be the only criteria for procuring energy developments or creating partnerships, some local authorities have introduced procurement criteria that require generation projects to also demonstrate the social and environmental benefits that they bring to local communities. Others have set up their own mission-led development companies that retain value created for the council.

In all cases, the local authority needs in-house expertise and political backing to commit time, resources and investment to transformative projects.

Support in England from the Local Energy Hubs

The Local Energy Programme at BEIS is designed to support LEPs, local authorities and other local organisations to realise their local energy ambitions. There are five Local Energy Hubs across England, each hosted by a lead authority. Whilst stakeholders interviewed had a range of views as to the success of the initiative, the Hubs do have dedicated officers offering support.

The Local Energy Programme also provides an online space with tools and resources for use by local areas, including a carbon monitoring and reporting tool, a cost-benefit analysis methodology for energy projects, and health and fuel poverty resources.

NPS Group: Norfolk County Council's arm's length developer bringing income and value to councils

NPS Group was set up and is wholly owned by Norfolk County Council as part of the wider Norse Group Limited, the largest commercial Local Authority Trading Company in the UK. NPS creates joint ventures with local authorities to deliver high quality housing projects. For example, NPS and Broadlands District Council co-developed Carrowbreck Meadow, a development of 14 homes that won the 2018 UK Passivhaus Awards, Large Residential category.

District heating: a key role for local authorities

Local authorities can play a key role in facilitating heat network projects, bringing their asset base, infrastructure management, planning, links to regeneration projects and position in negotiating with key public and private potential heat network customers.

The UK government set up the Heat Networks Delivery Unit (HDNU) in 2013 to support local authorities with funding and expertise to develop plans for heat networks. Grants are available for feasibility studies through the HNDU, with over 250 projects across 150 local authorities being supported to date. Capital project funding is available through the Heat Network Investment Project, which has invested £19 million to date in four heat network projects.

Local areas co-developing heat networks need to consider how to ensure that heat networks protect consumers from high prices. All heat network developers must be required to guarantee that they will use a genuine low carbon heat source.

Bristol City Leap: rising to the scale of the challenge

Bristol City Council's City Leap process is a pioneering initiative to bring together all the assets and convening power of a local authority with a strategic private sector partner in a joint venture. The programme aims to develop over £1 billion of sustainable energy investments and put Bristol on course for net zero.

Carrying out a public procurement exercise at this scale is a significant undertaking. Bristol published a prospectus in May 2018 and remains in the midst of the procurement process. Once Bristol has proven the approach, however, this could provide a template that significantly reduces the costs for other local authorities taking a similar approach.

> The programme aims to develop over £1 billion of sustainable energy investments and put the City on course to net zero.

Photo Credit: Bristol City Council

Summary: Unlocking private sector investment

Key points for local areas:

1. The energy transformation will require significant at-scale development, which local authorities are well placed to lead.

2. A range of models for local authorities looking to invest in energy projects have emerged: from large scale partnerships with the private sector to councils creating their own spin-off development companies.

3. To maximise the positive impacts of energy projects, local authorities should place value on social and environmental benefits, as well as local economic benefits, through any procurement processes.

4. There is no development route that is "the right one" but there are extensive examples of local authorities with ambition that can pave the way for others to follow.

5. All heat networks must be guaranteed to use a genuine low carbon heat source.

Central government enabling actions:

1. Enable local authorities to continue to access low cost investment finance for low carbon energy projects by including these projects as a suitable category in future lending terms for the Public Works Loan Board and reversing recent interest rate increases.

2. Continue and extend support for local areas investing in the energy system, through the Local Energy Hubs and other direct routes for the devolved nations, reacting to needs as they arise for template documents.

3. Use feedback from the current heat networks consultation to introduce regulation for the market for district heat to ensure projects both protect consumers and are genuinely low carbon.

4. Support the decarbonisation of energy generation infrastructure through continuing and expanding regular Contract for Difference auctions and removing current planning barriers for onshore wind in England.

Supporting community energy organisations

Some of the most effective local authority energy projects have been developed in partnership with community energy organisations that have local value creation at their core. Community energy business models help the local retention of a greater proportion of the benefits of energy projects, including revenues and broader social benefits. Community energy organisations can also act as a social conscience for the wider energy sector, supporting a just transition where no one is left behind.

Key central government enabling action: template Power Purchase Agreements

Community energy projects can face significant additional barriers to those faced by commercial renewable projects. For example, as a result of their inability to be flexible on location, they can face issues around securing cost-effective connections to the electricity network. A new national strategy is needed to address the barriers that community energy organisations face.

Some local authorities are currently exploring the potential to use their energy spend to unlock new local community generation by offering Power Purchase Agreements (PPAs). Support from central government would help to roll out this idea widely.

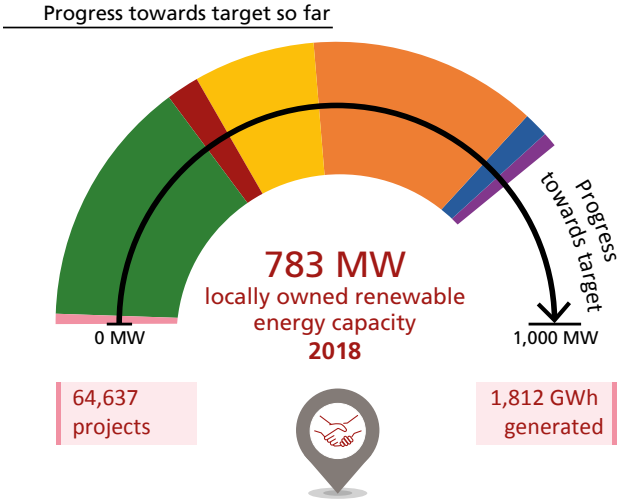
A blueprint for template Power Purchase Agreements

Local authorities can buy their energy directly from new, local community generation projects. Local authorities can negotiate long-term PPAs with community developers that create financially viable projects, while offering the local authority a source of renewable energy and additional social, economic and environmental benefits to the area.

Local authorities need access to template agreements and legal advice to ensure they and the projects they engage with are protected from excessive risk and that transaction costs are not prohibitively onerous. An evidence base that local authorities could use to demonstrate the additional value that buying local generation brings to an area would be beneficial.

Local ownership targets in Scotland and Wales

To underpin support programmes for local and community generation, the Scottish Government and the Welsh Government have both set capacity targets. The Welsh target is for 1 GW of renewable electricity and heat capacity in Wales to be locally owned by 2030, with the requirement for all new energy projects to have at least an element of local ownership from 2020.



Credit: Welsh Government, Energy Generation in Wales 2018 in 5 minutes

Local authorities should support community energy organisations

There are a broad range of approaches to supporting community energy organisations in a locality, from simply involving existing groups in energy governance to working with them to deliver projects on council land. New partnership business models are emerging, including using public sector energy spend as secure revenues to unlock community energy projects.

The benefits of partnership working with community groups on energy projects extend beyond reducing carbon emissions or creating a return for the Council: as organisations with their community's needs at the heart, community energy groups are able to broaden and deepen local positive impacts from energy projects.

However, local authorities should remember that community energy groups need financial support. Despite many being volunteer run, councils should not consider community energy groups as a free source of community engagement or partnership.

INCREASING SUPPORT

Options for working with community energy groups

- Engaging community groups in climate emergency governance and expert groups.
- Paying community energy groups to deliver community engagement activity, such as home energy advice to householders or awareness raising workshops.
- Developing planning policies that require some form of community ownership for new generation projects.
- Offering Council-owned land or buildings to host community energy projects.
- Offering financial support, officer resource or in-kind support to community energy groups.
- Buying the power from community generation projects through Power Purchase Agreements in order to ensure the value of local energy projects is retained in the local area.

Plymouth Energy Community (PEC): a community energy organisation seeded by the local authority

Plymouth City Council helped to find founder members for PEC and provided a start-up loan, a grant and staff expertise via a service agreement, seeding the independent, volunteer-run organisation seen today. The group has expanded to include PEC Renewables and PEC Homes. PEC's impacts to date range from generating over 21 GWh of renewable energy to saving domestic customers almost £1.5 million on their bills.

Photo Credit: Plymouth Energy Community

Community Energy England's 2030 vision

Community Energy England was established by a range of partners, including Regen, in 2014 to support the growing community energy sector. Its 2030 vision estimates that: "Given the appropriate policy and financial support across the UK, the sector could become 12-20 times larger by 2030. Community energy could contribute 5,270 MW, power 2.2 million homes, support 8,700 jobs, save 2.5 million tonnes of CO2 emissions and add over £1.8 billion to the economy each year, according to WPI Economics."

Communities for Renewables CIC: working with local authorities and communities to deliver projects

CfR CIC has worked with local energy enterprises, local authorities and social landlords in over 30 localities, delivered over 35 MW of renewable generation and raised £56 million in finance.

In the first week of the lockdown, four of Community for Renewables' 'collective' of local energy enterprises between them mobilised £100,000 of Corona Crisis Funds from surpluses generated by community-owned solar arrays. As community-owned enterprises, they were able to mobilise funds ahead of government, and where it was urgently needed, to support community-organised aid networks.

Community Energy England

2030 Vision

Community energy will create an energy system that is democratic, decentralised, and decarbonised, where people are at the heart of the transition

- **12-20 times larger**
- **contribute 5,270MW**
- **power 2.2 million homes**
- **support 8700 jobs**
- **save 2.5 million tonnes of CO2 emissions**
- **add £1.8 billion to the economy**

YOU can get involved to help deliver this impact

Summary: Supporting community energy organisations

Key points for local areas:

1. Local authorities should recognise the broad benefits that supporting community energy organisations in their local area can bring, from financial returns to improved social cohesion and participation in energy issues.

2. Local authorities should consider how best to support local groups based on their needs. Local groups should not be seen as a free source of expertise by the council.

3. Where there is not an existing community energy group, local authorities should seed new groups.

Central government enabling actions:

Develop a new community energy strategy, with actions including:

- Improve the ability for community-owned energy generation to access electricity network connections, recognising their lack of flexibility on location.
- Enabling Social Investment Tax Relief to be used for community energy projects.
- Implementing the 2014 Shared Ownership taskforce report requiring developers to offer local people the opportunity to invest in projects, including making this a requirement of Contracts for Difference.
- Make clear in national planning guidance that local authorities can give consideration to community ownership.
- Issuing guidance for local authorities on how to set up new PPA agreements to fund new community energy projects.

Innovating for a smart, fair energy system

Innovation is essential for us to find new, smarter ways to meet net zero. Local authorities have a critical role to play in innovation trials, which must be carefully designed to avoid waste and to ensure a just transition. Local authorities also have a role in supporting local smart companies and innovators to grow and prosper.

Key central government enabling action: regulatory reform to unlock local supply models

Local authorities and communities are increasingly interested in local generation tariffs or peer-to-peer options that enable:

- Trusted locally-owned generators to sell their power to the local community, creating a greater connection with and support for local renewable energy projects.
- Access to new sources of value through providing local balancing and flexibility services.

To date, these approaches have been repeatedly trialled, but there has been little success in their wider roll out due to regulatory issues.

A blueprint for regulatory reform to unlock local supply

Regen's paper, Local supply: Options for selling your energy locally, set out the options for local authority led approaches to local supply, but it has proved difficult to move beyond trial projects in the current regulatory context. Central government-led regulatory reform is needed to move beyond trials to widespread roll-out.

An integrated programme of regulatory reform could unlock market demand for local supply options. Measures that are needed include:

- Shared network access to recognise value in local balancing
- Clarity on 'second supplier' arrangements
- Mandatory half-hourly settlement
- Ensuring simple access to local flexibility markets.

Local authorities can play a valuable role in innovation trials

The government's Industrial Strategy Challenge Fund "Prospering from the Energy Revolution" is investing over £100 million in demonstrators and projects to design smart local energy systems. All four of the current demonstrators in the Challenge Fund include local authorities as key partners, working alongside industry, innovators and researchers. With generation of power increasingly decentralised, these projects are testing out concepts of local energy by trialling ideas including peer-to-peer trading of power, local supply models and interlinking local electricity, transport and heat networks into one system.

The key benefits of these models are to engage consumers in using energy in a smart way that supports decarbonisation and brings benefits to the local area. For example, models such as local generation tariffs can create a stronger link between local consumers and locally owned generation. Smarter energy management approaches in new developments can reduce the need for energy network upgrades.

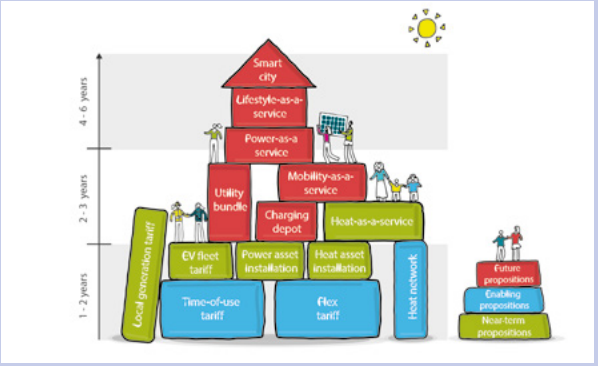
These local models need to work with and complement the national electricity system. Trying to create artificial 'energy islands' will not support decarbonisation; our national electricity system enables us to efficiently move power generated in areas of plentiful renewable energy resource to areas of demand.

Local authorities and partners need to take care to ensure that the aims of trials they participate in are aligned with the area's energy ambitions. For example, local authorities should offer their expertise on vulnerable households to trials to ensure that the models tested are aiming to create a just transition and tackle fuel poverty.

Bristol Energy Smart System Transformation (BESST)

This Innovate UK-funded project aimed to design a customer-focused way to deploy smart energy and digital technology at scale.

Working in partnership with many local organisations such as Bristol Energy and Bristol Community Transport, the project explored the feasibility of a number of new and innovative energy service propositions, such as smart and local generation tariffs, 'Energy as a Service' models, energy management and optimisation, and EV charging tariffs.



ReFLEX Orkney project to create a smart energy island

The ReFLEX Orkney (Responsive Flexibility) project aims to develop a 'virtual energy system' in Orkney that will monitor generation, grid constraints and energy demand, then use smart control of energy technologies, via Solo Energy's FlexiGrid platform, to manage and improve the supply-demand balance, with the aim of reducing and eventually eliminating fossil fuel use.

Technologies which might be rolled-out as part of the project include domestic batteries for homes, larger batteries for businesses and public buildings, vehicle-to-grid chargers, electric vehicles, hydrogen fuel cells and smart heating systems.

The £28.5 million project is part funded by the government through the Industrial Strategy Challenge Fund.

Local authorities can support businesses to innovate

Local authorities, LEPs and combined authorities have a role to play in supporting local businesses and research organisations to innovate and develop new technologies and services that will help get us to net zero. Examples of support include:

- Support the development of Energy Innovation Zones (EIZs) which are designed to stimulate innovation and demonstrate new technologies and approaches at scale. For example, EIZs are being developed in Greater Manchester, West Midlands and Cornwall.
- Collaborate with universities to understand the pipeline of innovative low carbon opportunities arising from their research programmes.
- Collate and publicise information about funding opportunities for low carbon innovation; linking up with organisations that provide funding and advice, such as Energy Systems Catapult and Innovate UK, can make this process more efficient.
- Provide a funding competition to stimulate innovation to address specific local challenges.

Project LEO (Local Energy Oxfordshire): a local energy marketplace

Project LEO seeks to create the conditions that replicate the electricity system of the future and grow an evidence base that can inform how we manage the transition to a smarter electricity system.

The project is led by Scottish and Southern Electricity Networks working with Oxfordshire County Council and Oxford City Council, businesses and the local community energy hub. Distribution Network Operators like SSEN are becoming Distribution System Operators (DSOs). The project aims to inform how DSOs function in the future, show how markets can be unlocked and supported, create new investment models for community engagement and support the development of a skilled community positioned to thrive and benefit from a smarter, responsive and flexible electricity network.

Summary: Innovating for a smart local energy system

Key points for local areas:

1. Funding is available for local authorities and other partners to deliver smart local energy system trials.

2. Key benefits of a local approach to energy include: a joined-up approach to heat, transport and electricity; smarter use of energy to reduce system costs and driving local benefit from energy investments.

3. Thinking of local areas as 'energy islands' is unhelpful. Our national electricity system enables us to move renewable power around the country depending on where the wind is blowing and the sun is shining.

4. Local authorities should take care to ensure the proposed outputs of the trial are worth committing the time and resource that they are required to put in.

Central government enabling actions:

1. Fund development of local energy market design projects into full-scale demonstrators, ensuring the lessons of these projects are used to influence energy policy and regulation.
2. Introduce shared network access arrangements for local projects in the current Ofgem review of network access charges.
3. Press ahead with mandatory half-hourly settlement of electricity to support smart energy tariffs.
4. Ensure Electricity System Operator and DNO flexibility markets are easy for decentralised energy resources to access.

Concluding words

This paper has been researched and produced by Regen, drawing on our broad range of experience of working with local authorities and combined authorities from across the UK over the last 17 years. We would like to thank all those committed people working in and with the public sector to drive real change in our energy system, as well as the climate activists who have succeeded in ramping up the level of ambition of these organisations. Putting this paper together has been an excellent reminder of the inspirational stories of individuals and teams in local government that have worked hard to overcome the many challenges inherent in changing our energy system.

If we are to create a net zero carbon energy system that is fairer, cleaner, healthier and produces local economic benefits, then these success stories will need to be amplified and replicated across every local area and every energy-using sector, bringing in every community and organisation.

We hope that this paper will provide the UK government with the evidence to provide local areas with the resources and powers to truly unleash local leadership on energy, making local government the catalyst for change. We also hope to inspire people working in local government to take action now and to realise that, with some innovation, imagination, and a lot of determination, they can work in partnership with the private, public and community sectors to deliver the projects, policies and programmes that are needed.

Regen would like to thank SSEN for supporting the production of the paper. We would also like to thank the following people for providing their insights for this paper:

- **Sonya Bedford**, Stephens Scown and Bristol City Council
- **Mairi Brooks**, Oxford Direct Services
- **Caroline Carroll**, Cornwall Council
- **Paul Chatterton**, University of Leeds
- **Michael Gallagher**, Midlands Energy Hub
- **Sean Owen**, Greater Manchester Combined Authority
- **Jon Rattenbury**, South West Energy Hub
- **Matthew Rhodes**, West Midlands Combined Authority
- **Sara Sloman**, Foot Anstey
- **Jane Wildblood**, Bath & North East Somerset Council

All opinions and views expressed in the paper are Regen's, unless explicitly referenced. We would welcome feedback and comments, and encourage readers to continue to engage with us through our events and membership.