

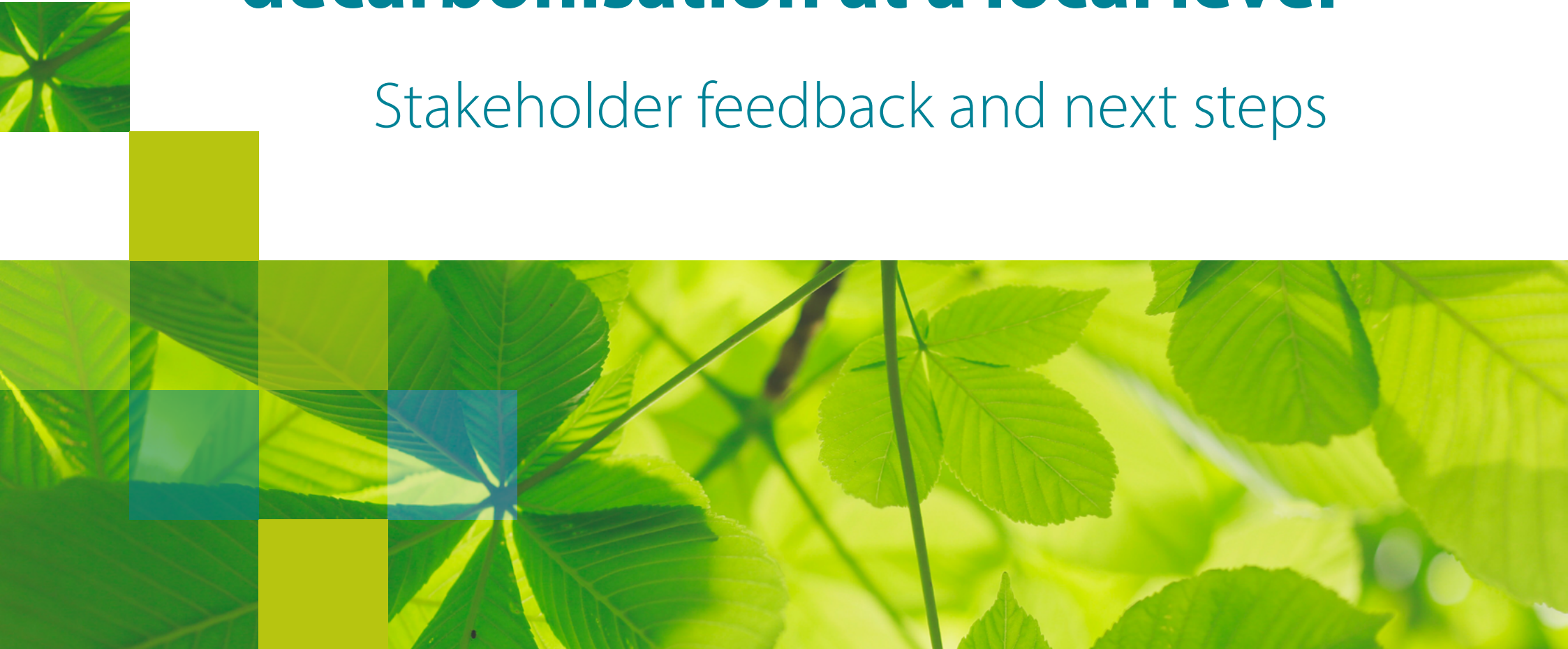


Delivered by
Innovate UK
and EPSRC



Planning for energy decarbonisation at a local level

Stakeholder feedback and next steps



Contents

Executive Summary	1
Part 1: Stakeholder views on local decarbonisation planning	4
Part 2: Conclusions and next steps	9
Acknowledgements	17

A report commissioned by Innovate UK, as part of the Prospering from the Energy Revolution challenge programme.

Executive Summary

Local authorities are undertaking extensive decarbonisation planning to support their climate goals. The approaches used include Local Heat and Energy Efficiency Strategies (LHEES) in Scotland and Local Area Energy Plans (LAEP), developed by Energy Systems Catapult (ESC) with Innovate UK support.

Given the importance of local delivery in meeting national net zero targets, Innovate UK and the Department of Energy Security and Net Zero want to understand the role of decarbonisation planning in enabling local authorities to act on net zero.

This report sets out Regen's findings and recommendations from a programme of stakeholder engagement on the role of local decarbonisation planning in delivering net zero. A broad range of stakeholders were engaged through interviews and surveys, culminating in a workshop on 23 March 2023.

Key findings

Decarbonisation planning is delivering value to local authorities and other stakeholders. This value lies primarily in aligning key actors in a local area behind a clear pathway and highlighting a set of actions. Plans have driven local political discourse and helped local authorities grasp the scale of the change. It is possible to deliver local decarbonisation projects without setting an overall pathway, but it is likely to be less efficient and less cost-effective, posing a risk to achieving net zero targets in time to help avoid the worst impacts of climate change.

The value of decarbonisation planning will increase as local areas play a greater role in net zero delivery. Central government has recognised the importance of local delivery and is placing statutory net zero delivery responsibilities on local authorities, such as heat network zoning and electric vehicle (EV) charger strategies. Ofgem is also proposing the introduction of a regional energy system plan which will require consistent local authority input.

There is a risk that, without an overarching cross-sector approach to local decarbonisation planning, national net zero initiatives such as those in transport, housing and power sectors will establish their own siloed local processes, leading to multiple conflicting sources of the truth and risking sub-optimal outcomes from significant public investment. In contrast, a joined-up approach can develop plans that meet multiple objectives at once, giving higher confidence that best value outcomes will be achieved from public investment and delivering wider economic and social benefits.

The value of decarbonisation planning could be increased by clarity and consistency on the methodology and the 'status' of plans. There is a lack of clarity on how the outputs of plans influence key local authority statutory functions such as spatial and transport planning. There is also no clearly agreed role for local decarbonisation plans in supporting local delivery of national initiatives or energy network planning. Improving the availability and consistency of data used in decarbonisation plans would also improve quality and reduce costs.

Recommendations

Our first recommendation is that the government funds all local authorities with responsibility for spatial planning, on a non-competitive basis, to develop a consistent overarching decarbonisation plan at a higher level than existing LAEPs. This decarbonisation plan would guide effective local delivery of national and local net zero objectives, provide central government with a clear picture of local action and delivery, and provide a basis for efficient regional system planning.

Decarbonisation plan outputs (such as spatial plans for heat networks and renewable energy) should directly influence local decision-making in spatial, transport, housing and economic development plans.

Developing this plan would provide an opportunity to address current methodological issues with consistency of approaches and the ability of local authorities to dynamically interrogate and use planning outputs. Providing a clear 'status' to the outputs would also start to address issues with capacity and resource in net zero delivery and provide a basis for allocating central funding without competitive bidding.

The plan does not need to be at the level of detail (or cost) of a LAEP, but it does need to be digital, spatial and cross-vector. Depending on the specification and provision of core data and assumptions to drive efficiency, decarbonisation plans could be delivered across England in the region of £10 million (based on £50,000 for each planning authority without existing plans: see pages 12-14).

Our second recommendation is to collate and maintain core local decarbonisation planning data and assumptions as a service for local authorities. This service would help local authorities at all levels immediately with the delivery of net zero projects and reduce the costs of developing a local decarbonisation plan, helping to make the process more accessible. It would also result in greater consistency and higher quality.

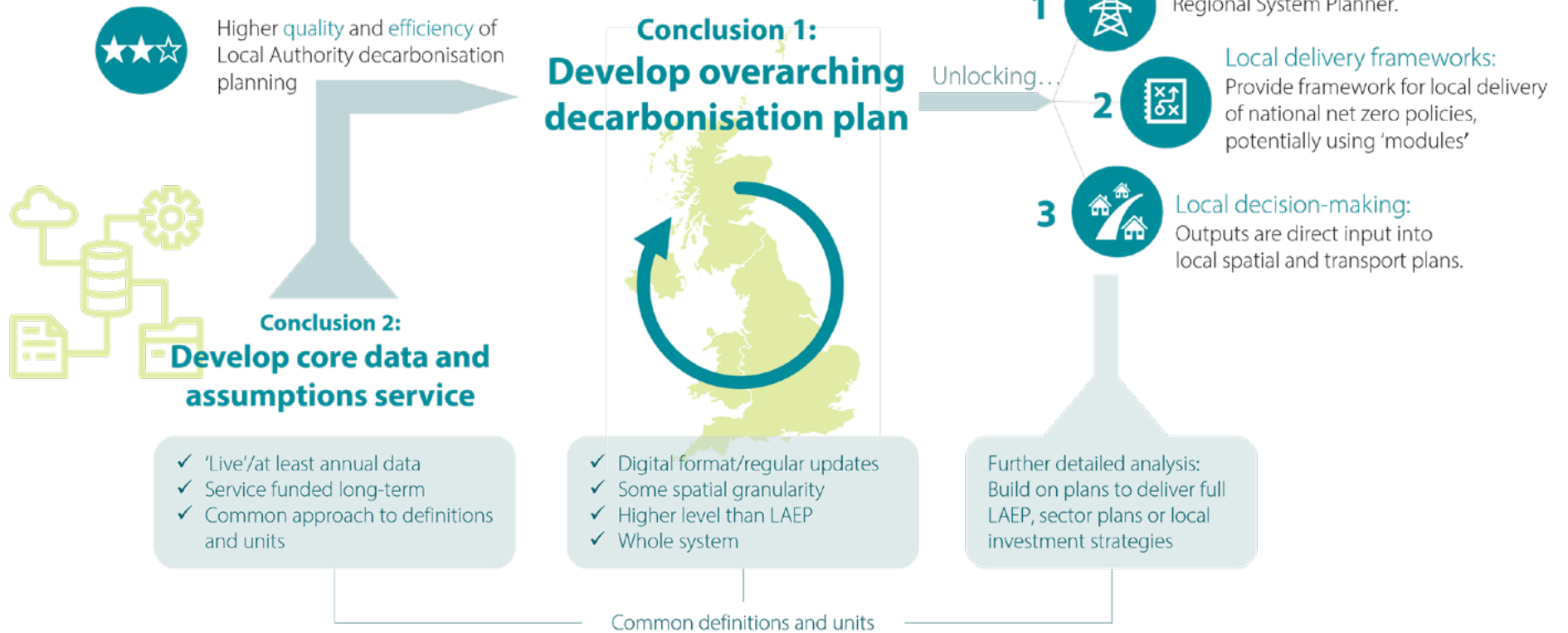
Depending on the specification, based on similar examples, a simple version of this service collating ready-to-use data and standard assumptions could be delivered for less than £500k (see page 18 for information on costings).

The future is agile

An important message from stakeholders is that a traditional linear process, going from static plan development to delivery on a set timescale, is not fit for purpose. Net zero delivery is evolving rapidly, as are low carbon technologies. Decarbonisation is urgent and perfect plans do not exist.

Planning the local delivery of net zero will, therefore, need to become more agile, circular and iterative to support the rapid decarbonisation that is required.

Instead of documents, plans could be based on digital platforms, use 'live' data, and require strong ongoing (as opposed to one-off) governance, leadership and stakeholder engagement.



PART
1

Stakeholder views on local decarbonisation planning

This section of the report summarises the key messages from engagement with local authorities on local net zero delivery, including:

- Over 50 interviews with local authorities, both with and without decarbonisation plans or LAEPs.
- A survey with 147 responses, primarily from local authorities.
- A workshop in March 2023 with key stakeholders.

There is a lot of decarbonisation planning and interest in more

Most local authorities have undertaken some form of planning and analysis to support net zero activities. However, authorities have taken very different approaches to planning, meaning consistency is lacking.

Only 23 of 147 respondents to the survey had a clear decarbonisation plan. Of these, eight had a LAEP. However, over half of the respondents were considering carrying out a plan.

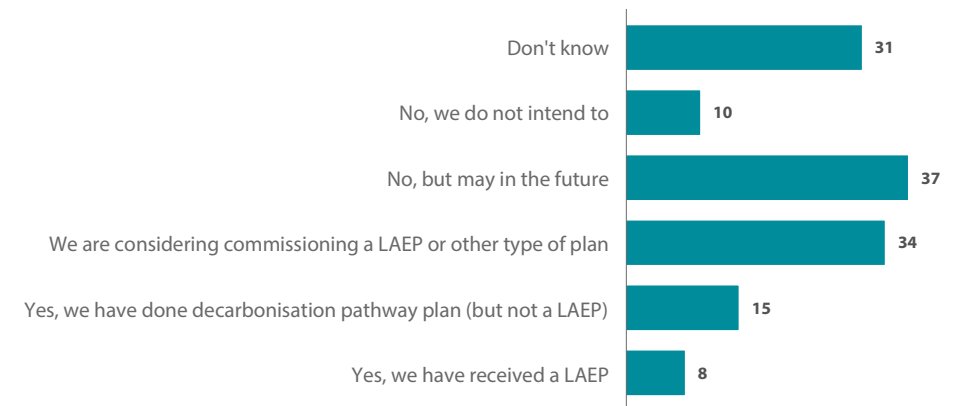


LAEPs provided a shared vocabulary around net zero and a level of understanding in council. There is credibility from having gone through the process in terms of institutional knowledge. We use the LAEP as an evidence base on which to base other decisions – comprehensive evidence on why this area is the right space to do something.



Figure 1: Survey question on decarbonisation planning

Has your organisation or region commissioned or received either a LAEP using the Energy Systems Catapult methodology or a similar decarbonisation pathway plan?



Plans deliver value by aligning stakeholders and delivery plans along a clear pathway

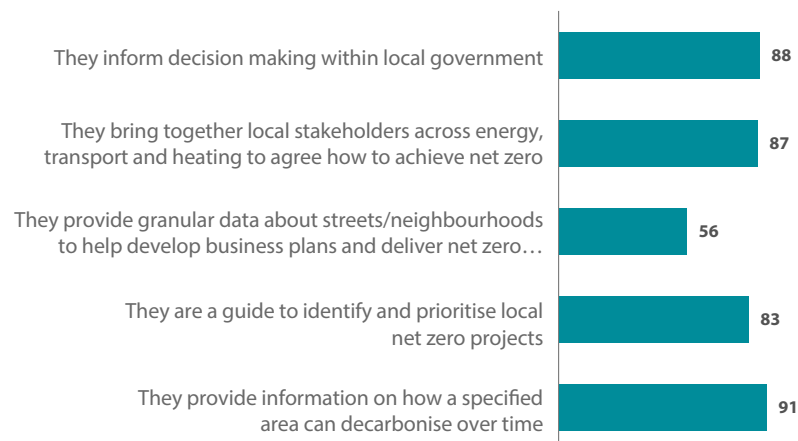
Local authorities develop decarbonisation plans for a variety of reasons. The most popular response to a survey question on the purpose of a LAEP was 'providing information on how a specified area can decarbonise over time'. Stakeholders tended to rank more strategic objectives, for example, informing wider decision-making in local government, more highly than identifying priority projects.

In interviews, stakeholders highlighted the importance of decarbonisation plans in informing or even determining infrastructure investment and providing evidence for planning documents.

For example, Bristol City Council noted that a high-level decarbonisation plan was key in securing political commitment to action and influencing their spatial plans to ensure they did not allow development on land required for the heat network energy centre. They have now built the energy centre and secured Vattenfall as a strategic partner which is planning to invest over £200m in district heating infrastructure in the next 5 years.

The workshop discussion concluded that to play that strategic role, plans need to be whole system and spatial – but they do not need to have the level of detail, or cost, of a LAEP.

Figure 2: Survey question on the value of LAEPs



Though plans have value, there is no ‘one size fits all’

Different tiers of councils have different views on the usefulness of LAEPs and decarbonisation plans. Larger, more diverse areas, such as counties, struggle more to define the value of a LAEP for them. Those that are making the most progress tend to be cities that are more geographically and politically coherent.

Hampshire County Council, in contrast, saw less immediate value in a LAEP approach, partly due to a lack of resource in the organisation. However, after completing a detailed housing stock assessment with Parity Projects, they are progressing county-wide net zero programmes for able-to-pay solar and trying to do the same for retrofit, illustrating that action can be delivered without a strategic whole-system approach and that the evidence needed for these types of whole-area projects could be targeted pieces of analysis such as housing stock assessments.

This points to the need for a flexible approach to supporting decarbonisation plans that provide a high-level pathway followed by detailed analysis to guide specific plans and investment.



LAEPs are trying to get LAs to look at a more granular level. I am not sure that is what we want to do, or could do at county level. We have no energy expertise in the organisation. We will have a plan that nobody will be able to take forward. 800,000 houses need retrofitting in our county. We don't need a LAEP to help us understand that.



Decarbonisation planning will deliver greater value as local role in net zero delivery increases

Central government plans for net zero delivery often have an element of local delivery. Proposals for heat network zoning, as part of the Heat and Buildings strategy, have a role for local authorities in ground-truthing plans. Grants to local authorities based on competitive bids are a key delivery route for national energy efficiency targets. The Office for Zero Emission Vehicles has proposed that local authorities develop EV charger strategies. Ofgem has also indicated that local authority plans would significantly contribute to a Regional System Plan (RSP) for the energy system.

However, stakeholders noted that planning each area of local net zero delivery separately risks creating inconsistent and conflicting plans that create inefficiency and hinder investment. For example, LAEPs and heat network modelling are already producing different results.

A clear, agreed-upon, overarching decarbonisation plan using a consistent methodology, data and assumptions was felt to be key to providing a framework for local net zero delivery, de-risking projects and attracting investment.

The Regional System Planner proposals provide an opportunity to clarify local decarbonisation plans and how they impact decision-making

Stakeholders noted that the introduction of a RSP could provide an opportunity to clarify how local plans dovetail with national and regional energy system plans. Issues that could be clarified include:

- Whether local decarbonisation plans should carry out whole-system cost modelling at a local level. There is a risk that this approach conflicts with optimisation at a regional or national level. Local areas are not 'energy islands' but are part of a national energy system. In the workshop, stakeholders agreed instead that the objective of a local decarbonisation plan should be to maximise the local opportunities to contribute to our national net zero targets in a way that suits that place.
- The LAEP methodology uses future 'scenarios' rather than a specific 'plan' (though a preferred pathway is identified in the process), which is difficult to reflect in strategy documents or network investments.
- Many regions and areas wish to go faster than the 2050 national target. However, energy infrastructure planning, for example, is based around national targets and may not be able to accommodate more ambitious local targets. The RSP could mediate a process between aspiration and deliverability.
- Granularity and comparability of plans. LAEPs are not necessarily created with units and areas that are comparable to the planning conducted by networks. The RSP could set these conditions, building on the processes established through Distribution Future Energy Scenarios (DFES), to ensure processes are consistent.

Plans do not directly lead to investment on their own - a wider process and capacity are required

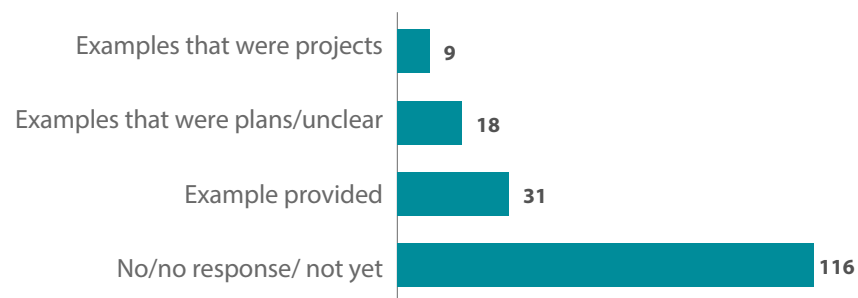
It was clear from many stakeholders that a decarbonisation plan alone does not enable local authorities to achieve actual delivery of investment in strategic net zero projects outside innovation pilots or centrally grant-funded schemes (see Figure 3).

Greater Manchester Combined Authority (GMCA) is an example of an authority that commissioned a LAEP and was very positive about the process, its value and its use. There was clear political value articulated to bring stakeholders together and get buy-in for net zero in each organisation involved.

However, GMCA also commissioned a strategic outline business case as a follow-on piece of work to support building more detailed economic evidence and help them deliver strategic and geographically specific projects.

A city council noted in their interview that their LAEP “Identified issues and potential solutions and areas you could focus on, which was enough to start other work”.

Figure 3: Survey question on LAEPs and action



This evidence highlights that decarbonisation plans can make project delivery more efficient and effective as part of a wider process for local net zero approaches. They should not be seen as a stand-alone product that will deliver change on their own.

Capacity in local authorities is key to delivery

When survey respondents were asked for examples of successful projects, there were relatively few examples provided, and most were heat networks with local authorities using the resource and funding provided by the Heat Networks Delivery Unit.

This suggests that the most important factor in action, following a decarbonisation plan, is having the resource and capacity to deliver, rather than because of the plan itself.

The workshop confirmed that the lack of funding and skills to deliver decarbonisation plans remains the top challenge for local authorities. This is a result, in part, of the lack of a clear mandate from government. It was noted that if decarbonisation plans had more ‘status’ locally and nationally, for example, in funding bids to central government, this would help unlock the resource issues.

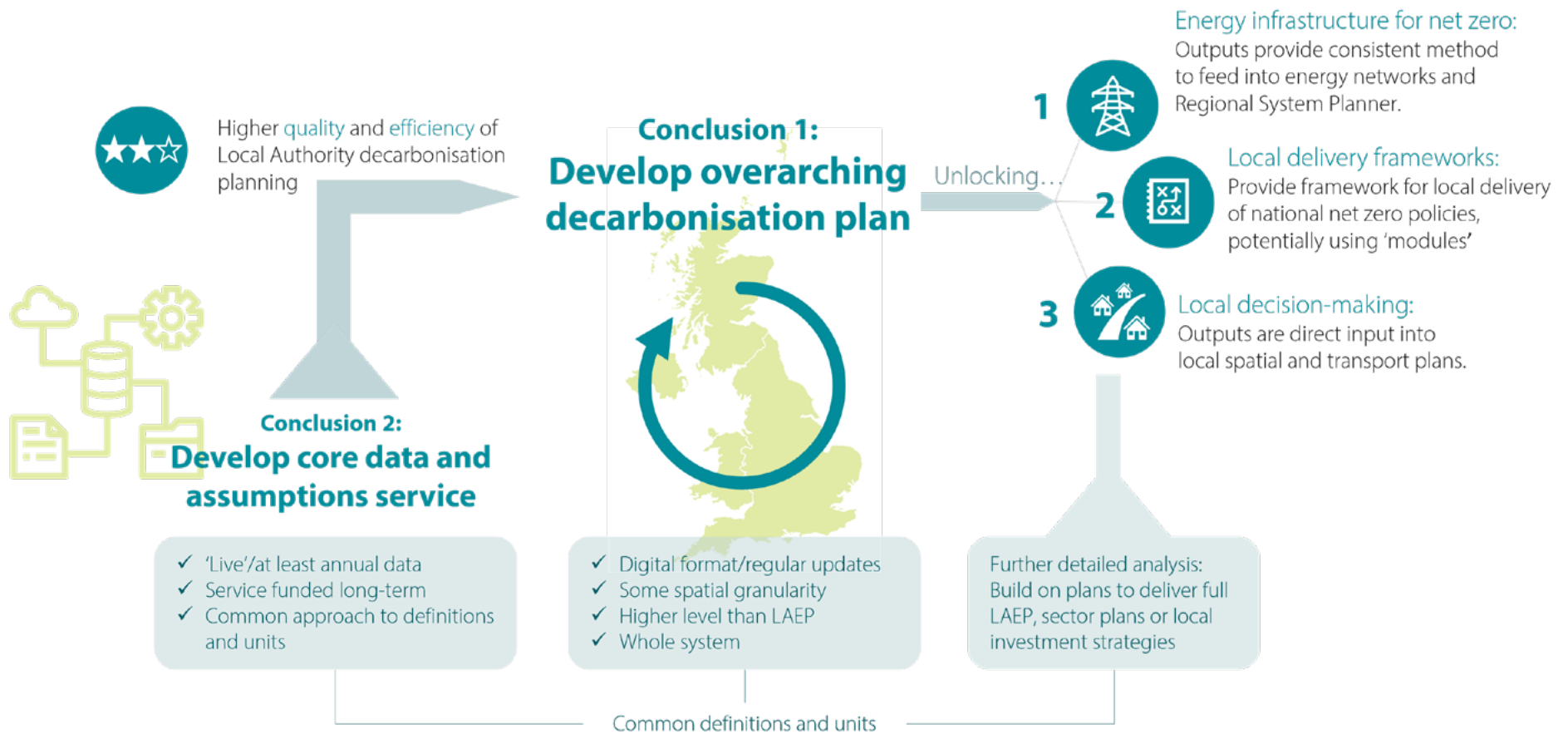
Capacity within a local authority is often a key factor in their view of whether a LAEP has value for them. Local authorities expressed issues with having the capacity to support a lengthy process to develop a fully holistic decarbonisation plan such as a LAEP. Some of the analysis within a LAEP may be too detailed for earlier-stage local authorities or those with capacity constraints. For example, property-level models of the built environment are likely to be of limited value until local authorities are relatively advanced in their approach to delivering net zero.

Key messages on development of local decarbonisation planning

Local decarbonisation plans deliver value - as part of a wider approach	An overall decarbonisation pathway helps align stakeholders in a local area and improve efficiency of project delivery – but on its own, it will not lead to action; a plan is just one step in local net zero.
Plans need to be whole system and spatial – but not all plans need LAEP-level detail	A spatial plan that covers all energy vectors is required to effectively guide decision-making. However, whole system cost modelling and building-level modelling will only be valuable for more advanced authorities.
The ‘status’ of plans in local and energy system decision-making is unclear	Decarbonisation planning outcomes have no statutory status in the planning system and are not embedded in local authority responsibilities such as spatial and transport planning. There is no consistent methodology for inputting into energy network planning and investment.
Planning needs to address local and national government requirements	Decarbonisation planning should make local delivery of central government initiatives more efficient and translate easily into local spatial plans. A risk is emerging of multiple different plans with different ‘answers’ leading to inefficiencies and a barrier to investment.
Resources to fund and action plans are the key constraints	Lack of funding and skills to undertake decarbonisation plans and take forward delivery of actions remains the top challenge for local authorities. Improving the status and having clear outcomes of the plans will help to address this.
Decarbonisation plans need to be flexible and support action	No ‘one size fits all’ model can reflect the breadth of local authority levels, responsibilities, and capabilities. For some authorities, current approaches provide too much detail in areas they are not able to act on and not enough for a clear delivery plan in their priority areas.
Comparability and transparency will drive quality and efficiency	Modelling is not currently consistent. Shared data and common assumptions are needed to make the process efficient, transparent, and comparable, including with network planning through DFES. The objective should be to maximise local opportunities to contribute to national net zero targets - in a way that suits that place. Local areas are part of a national energy system, not ‘energy islands’.

PART
2

Conclusions and next steps



CONCLUSION 1

There is significant value in all local authorities having a consistent overarching decarbonisation plan

Summary of findings

Throughout our stakeholder engagement, we have found a clear view that all areas, particularly those that have not yet engaged heavily in net zero, would benefit from having a consistent overarching decarbonisation plan.

These decarbonisation plans would support an efficient approach to local authorities' delivery role for net zero and could be done by those with spatial planning responsibilities. They would provide benefits and value in four ways:

1. Provide a consistent basis for engagement between all English local authorities and network planning, including Ofgem's proposed Regional System Plan.
2. Provide a framework for efficient local delivery of national net zero plans, including heat networks, EV charger provision and energy efficiency funding.
3. Responding to Chris Skidmore's Net Zero Review recommendations, the process could ensure net zero is reflected in all local decision-making by providing direct input into local policies, including spatial and transport plans.
4. Provide a consistent framework for local authority-led strategic investment in net zero projects.

Without a consistent approach to local decarbonisation planning, net zero sector delivery will be less efficient and more expensive, leading to poor value outcomes. For example, the Department of Energy Security and Net Zero has funded a model of heat network zoning for local authorities to follow that produces different results to current LAEPs.

A joined-up approach can develop plans that meet multiple objectives at once, creating more value for public investment and delivering wider economic and social benefits.

A standard decarbonisation plan makes it simpler for national and local governments to agree and implement new local net zero delivery responsibilities. For example, the proposal by OZEV for local authorities to have EV charger strategies could be integrated into an existing overarching local decarbonisation plan using the same core data but adding more detail, potentially as an additional 'module'.

There are also cost implications for not integrating net zero in local planning. Bristol City Council, for example, explained how their One City climate strategy was critical to ensure their spatial and transport planning did not inadvertently create barriers to their heat network plans. The council wide understanding of the city's climate plans enabled them to protect land for the Energy Centre from development and lay the heat network during the redesign of a major road junction, reducing cost and avoiding the duplication of significant road disruption.

We conclude plans should be focused at unitary and district authority levels to align with local plans and ensure consistent coverage across England. However, there is an important role for counties, combined authorities and other regional governance bodies to support and coordinate these plans for their constituent local authorities, ensuring efficiencies in their production and supporting a strategic regional conversation on decarbonisation plans and key projects.

Recommendation

We recommend that funding is made available, on a non-competitive basis, to create a consistent 'overarching decarbonisation plan' for each unitary or district-level local authority that requests it, and this is used to underpin their developing delivery role in net zero.

Funding could also be available to county or combined authorities to coordinate the production of plans in their areas to achieve efficiencies of scale in their production and implementation.

Central government departments could then use these overarching local decarbonisation plans to understand the level of action being undertaken at a local level and as the framework for local delivery of net zero objectives or allocation of national funding.

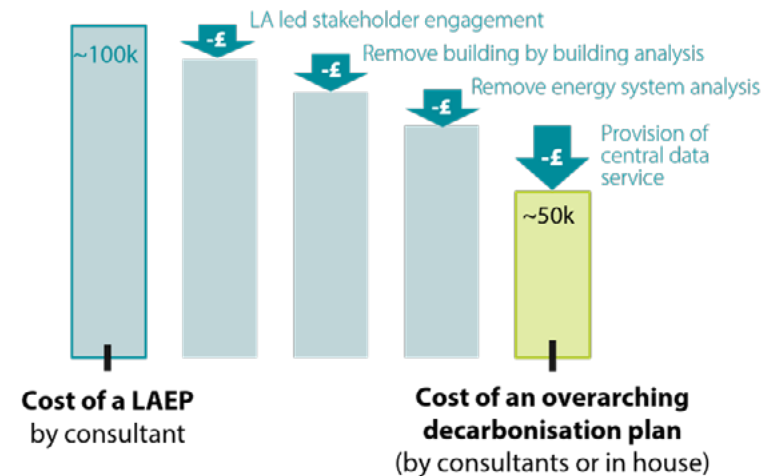
A core data service would significantly reduce the cost of these overarching plans (see Figure 4 and Conclusion 2).

The overarching plan is unlikely to require the granularity of current LAEPs, but would require a level of whole-system analysis and to be spatial. The plan should also provide a baseline and future scenarios in a digital format that LAs can interrogate and test. It would also provide a basic evidence base for spatial planning for renewable energy and heat. LAs could then use stakeholder engagement and their decision-making processes to choose a central decarbonisation pathway. Local authorities with the capacity to do so could develop this into a full LAEP process, focusing on unlocking investment into specific projects. Regen's initial view of some areas of difference between LAEPs and these plans is outlined at the end of this section.

To provide an enduring and up-to-date resource, the plan should ideally be in the format of a digital tool that provides 'what if' capability and visualisations for ongoing resident and stakeholder engagement at all levels of authority and government.

Figure 4 shows how an overarching decarbonisation plan could be produced for a local authority at a lower cost than a full LAEP, by removing some elements which may not be required.

Figure 4: The cost of a local decarbonisation plan would be significantly lower than a LAEP



Note: These costs are high-level estimations based on engagement with LAEP and other decarbonisation planning customers, a number of practitioners in the market and Regen's experience. The actual costs would be determined by the final specification of a decarbonisation plan.

What next/implementation

Option 1: Government-led development of overarching decarbonisation plan format

Stakeholders agreed that a national government-led process of developing consistent local decarbonisation planning would ensure the processes and outputs support and complement national action and delivery. Without a consistent approach to local decarbonisation

planning, the evidence shows net zero delivery will be less efficient and more expensive, leading to poorer value outcomes for public investment.

A national consultation process would ensure all stakeholders could fully contribute to the role and format of a local decarbonisation plan and take evidence on how to develop plans using enduring digital tools. This process could be led by the Department of Energy Security and Net Zero, but may also include the Department for Levelling Up, Housing and Communities and Department for Transport as central government departments responsible for key elements of local net zero delivery.

Once a format of the overarching plan is agreed upon, government funding on a non-competitive basis would be required to enable plans to be developed. We recommend using unitary and district councils to ensure national coverage. We also recommend funding is provided to counties and combined authorities to coordinate their constituent authorities to produce plans efficiently.

By committing to using these local plans as a framework when giving local authorities net zero delivery responsibilities, central government would improve the efficiency of decisions and improve the quality and consistency of data used. For example, applications for central government funding for energy efficiency would use the evidence base provided by the overarching decarbonisation plan rather than a stand-alone process. If further evidence was required to inform funding decisions than provided in the local decarbonisation plan, an additional analysis 'module' could be added.

Option 2: Local authority/Innovation-led

An alternative model is that a high-level local decarbonisation plan format is developed as an innovation project alongside the core data and assumptions service. This plan should be compatible with DFES building blocks and full LAEPs, using aspects of the LAEP methodology.

The format of this could be developed with the input of the cohorts within Innovate UK's 'Net Zero Living: Thriving Places' programme. In particular, the Fast Followers will likely be local authorities that have not yet undertaken significant decarbonisation planning or LAEPs.

Once developed, a methodology would be made available to all local authorities. Those that wish to do so can build on this plan to produce a full LAEP.

A working group to steer this process could be formed with Energy Systems Catapult and DNOs, who are developing tools such as CLEO and local decarbonisation practitioners to share learning work towards a consistent approach.

It would, however, be more challenging to use a plan developed as an innovation project as a framework for local delivery of central government net zero objectives as it would lack government 'approval'.

Costs

The costs of developing these overarching decarbonisation plans would depend significantly on the final scope and prevailing market rates. Providing a core data and assumptions service that essentially provides the baseline data for the plan would deliver a raft of time and cost efficiencies. Given this service, the reduced scope compared to a full LAEP (see information below) as well as local authorities undertaking stakeholder engagement themselves, it would be reasonable to aim for a cost of around £50k per unitary planning authority. Where decarbonisation plans are coordinated by a county or combined authority a proportion of that funding could be used for that coordination work.

Depending on how many authorities have already carried out a LAEP or other plans, this suggests the total funding for providing £50,000 to 200 local planning authorities to support the production would cost around £10m.

Potential differences between LAEPs and 'Overarching Decarbonisation Plans'

Overarching plans optimise opportunities locally to deliver our national net zero targets.

Unlike LAEPs, overarching decarbonisation plans would not include a detailed understanding and associated modelling process of local energy, network constraints, demand and supply peaks and flows etc. Instead, the areas would optimise local opportunities to support national targets.

Currently, LAEPs integrate network constraints into optimisation processes. Instead, local energy infrastructure requirements would be an output rather than an input into this process, ensuring local decarbonisation plans are not constrained too early by current network infrastructure capacity.

Network companies already undertake analysis of network flows and could provide the necessary information for local authorities on the infrastructure requirements for plan delivery. The process would then provide a basis for each party to work together on strategic options and timescales for building the infrastructure or systems to support local decarbonisation objectives.

Overarching plans need lower granularity for buildings assessments

LAEPs often have building-level analysis, but stakeholder evidence suggests this will likely be redone when a detailed investment case is developed. An Output Area (c. 40-250 dwellings) or postcode-based analysis of buildings is enough to identify areas of need and

decarbonisation pathways. Local authorities that are more advanced in decarbonisation planning could add greater depth to this analysis.

A whole-system assessment carried out by Regen in the Net Zero South Wales project concluded that Output Area data was sufficient granularity for agreeing a pathway reflecting both gas and electricity network needs.

Plans create a 'live' repository of project information

DFES currently gathers Local Plan data on new housing and commercial developments. This location-specific information enables networks to understand where and when new developments will be built and what loads that may entail.

Building on the approach trialled by National Grid Electricity Distribution and Regen in the Energy Planning Integrated with Councils (EPIC) Network Innovation Project, an overarching decarbonisation plan could include a 'live' repository of information on local decarbonisation projects with spatial and other information that can be directly translated into network planning. This would support strategic discussions between networks and local authorities about areas of significant activity or constraints that impact multiple actors.

CONCLUSION 2

There is strong stakeholder agreement, backed by evidence, that a core data and assumptions service for local authorities would improve the quality and efficiency of local decarbonisation planning

Summary of findings

There was stakeholder consensus that there would be significant value in establishing a service that collates data, core assumptions, methodologies and units for local authorities for decarbonisation planning.

Practitioners of LAEPs at the workshop agreed that a significant proportion of time was used in obtaining, cleaning and preparing data - around £20k of the cost of each LAEP. This is backed up by the experience of the Welsh Government and the Greater London Authority, who have provided a support service to reduce the costs of individual LAEPs.

This service could be established on a joined-up, one-to-many basis without compromising practitioners' IP and would benefit all LAs.

Undertaking this early work in a central way would have three benefits:

- Greater efficiency and lower cost
- Increased consistency across planning
- Increased familiarity with outputs and their use

Recommendations

Fund and support the development and maintenance of a service providing building blocks, assumptions, data sets and methodologies required for the production of decarbonisation plans and which could provide two-way data exchange between local authorities and other stakeholders on local energy planning.

This service would deliver clean, prepared data for all LAs that includes data on energy, transport and built environment in a 'ready-to-use' form that is compatible with heat zoning and other statutory obligations.

This might be as a 'live' tool, such as that being developed by Advanced Infrastructure in their LAEP+ tool, or regularly published reports. Either way, this must be a long-term service provided to local authorities.

Many of the energy-related datasets are already publicly available and signposted, for example, on the UKPN open data portal. However, they are not cleaned, collated and 'ready to use' as a single resource. This could significantly improve how planning for a net zero future is delivered, saving time and costs.

What next/implementation

Option 1: Government-led

The evidence from stakeholders shows the most effective approach would be for government to support consistent local decarbonisation planning as a core architecture of delivering net zero on a local basis, ensuring the outputs are aligned with local authority delivery responsibilities such as heat zoning. Key steps to deliver the core service would include:

- Fund the centralised collection, cleaning and formatting of datasets relevant to local energy planning (LAEP technical annexes list key data sources; Regen has researched for UKPN a broader set of over 150 data sets available on their Open Data Portal).
- Use a task force of LAEP and DFES practitioners (including but not limited to ESC, CSE, Buro Happold, Arup, Element Energy, and Regen) to advise on which datasets could be included and how assumptions on variables like fuel prices and low carbon technology efficiencies could be used.
- Allocate funding and procure an organisation to develop a 'service' that collects, cleans, and processes data for local authorities. The organisation would host datasets in a 'ready to use' format and an ecosystem of best practice. This must be funded as a long-term solution.
- Ensure this service produces consistent reports and data sets for all local authorities at least annually (ideally moving to 'live').
- Ofgem requires that this service coordinate assumptions, definitions and units with FES, DFES and any future regional system planning (for example, with Open Networks 'Building Blocks').

Option 2: Local authority/Innovation-led

In this instance, local authorities or an innovation-led project develop and pilot the data service.

- Fund the collection, cleaning and formatting of datasets relevant to local energy planning (as set out in LAEP technical annexes and on the UKPN Open Data Portal).
- The Innovate UK-funded 'Net Zero Living: Thriving Places' programme could provide a source of funding for this approach on a trial basis. This would be using the five demonstrator projects to test a common approach to establish a core data service, using experience some may already have with commissioning LAEPs.
- The Net Zero Living Thriving Places programme will procure a 'Future Ready' support service, which could facilitate how the learning and use of this common approach could be further tested with the 'fast follower' and 'Pathfinder' cohorts of local authorities and promoted more widely. This funded support function could play a role in ensuring any common data service is embedded in any of the local authorities benefitting from funding as part of the communities of practice.
- Use a task force of LAEP and DFES practitioners (including but not limited to ESC, Buro Happold, CSE, Arup, Element Energy and Regen) to advise on which datasets should be included and which assumptions on variables like fuel prices and low carbon technology efficiencies should be used in modelling.

- Allocate funding and procure an organisation to develop a 'service' that undertakes this data gathering, clearing, and processing and to host datasets in a 'ready to use' format. This must be funded as a long-term solution. LAEP+, developed by AI Tech, is one such solution, but several organisations are developing elements of this. This could include liaison with the providers of source datasets (Ordnance Survey, ONS etc.) to establish whether changes or improvements to how statistics are formatted and frequency of publishing could be made to improve compatibility with a central data service or production of decarbonisation plans in general.
- Work with DNOs, government and potentially the RSP to encourage the use of a common approach with related work, such as DFES, to avoid duplication of effort and 'multiple sources of truth'. This could be evidenced via the Thriving Places 'Future Ready' Support services. The provider could gather detailed feedback from stakeholders over a sustained period to directly inform how a common approach to local energy data could be implemented and embedded.

Costs

The costs of this intervention would depend heavily on the details of the specification and scope. At the simpler end of the scope, central, ready-to-use, self-serve data provision updated annually can vary from £100-500k as a one-off setup cost, with annual maintenance and improvement as additional costs. (This cost has been estimated using examples including National Tide Gauge Network, Health data research innovation gateway, ORR data portal, and UKPN Open Data portal).

Acknowledgements

This work was funded by Innovate UK, in association with Regen, as part of the Prospering from the Energy Revolution challenge programme. For more information on the overall programme see iuk.ktn-uk.org/programme/smart-local-energy-systems

Regen and Innovate UK would like to thank all the stakeholders and organisations who have provided their time and insight to engage with this review.

In particular, we would like to thank EY and the Energy Systems Catapult for their valuable contributions and all the organisations who attended the stakeholder workshop held in March 2023:

Advanced Infrastructure Technology Ltd

Arup

Buro Happold

Centre for Net Zero

Centre for Sustainable Energy

Department for Energy Security and Net Zero

Energy Systems Catapult

Equans

Essex County Council

Greater Manchester Combined Authority

Greater London Authority

Hampshire County Council

Innovate UK

Ofgem

Regen

UK Power Networks

Welsh Government

West Midlands Combined Authority

This report has been produced using input and insight from a wide range of stakeholders. However, the final conclusions and recommendations set out in this report are the responsibility of Regen.



Regen Bradninch Court, Castle St, Exeter, EX4 3PL

01392 494 399 | www.regen.co.uk

AUGUST 2023