Innovate UK

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Creating Better Places

Ten areas where local innovation can improve lives and unlock growth

Resource pack 10

Models, approaches and tools ready for real-world scale

Urban Foresight

Delivered by Urban Foresight for Innovate UK's Net Zero Living Programme.

Grounded in insights from the local authorities which participated in Innovate UK's Net Zero Living Programme.

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The opportunity

The Climate Change Committee and others have been clear for several years: the UK's challenge on reaching net zero is not ambition or technology, but delivery.

Persistent gaps between targets and implementation are driven by non-technological constraints: capacity, governance, finance, procurement and coordination, particularly at a local level.

Local authorities and their partners participating in the Net Zero Living Programme have been tackling these non-technological barriers, so that decarbonisation delivers better outcomes for people, services and local economies.

The Programme's seven Pathfinder Demonstrator projects were designed to test and refine new delivery models, approaches and tools in real life situations, so they are ready to deliver at scale locally or be adapted and replicated in other places.

For that reason, the lessons and common themes from these projects are particularly valuable. Despite operating in very different contexts, from urban to rural and island areas, and from district to regional scale, across retrofit, energy planning and investment readiness, the Pathfinder Demonstrator projects converged on five consistent insights about what enables delivery under real-world constraints.

Delivery capacity in real world conditions

Delivery capacity has long been identified as a constraint on net zero delivery. The Pathfinder Demonstrator projects show that this constraint becomes most acute at specific points in the delivery process. In this context, capacity means more than staff resource or technical expertise. It is the combination of internal capability, governance, relationships and resources needed to turn net zero ambition into viable projects, coordinated action and sustained local progress.

In practice, this includes the ability to develop, govern and deliver projects; unlock non-technological barriers; work with businesses, supply chains, communities, skills providers and infrastructure operators; manage finance, procurement and risk; and sustain momentum over time. Progress accelerated when councils focused on building these delivery conditions: designing viable projects, aligning partners, managing procurement, engaging markets and communities, and moving decisions through organisational systems at pace.

Net zero is the how not the why of delivery

The Pathfinder Demonstrator projects reinforce the wider learning from the Net Zero Living Programme that net zero delivery must be grounded in outcomes that matter locally. Councils that framed work around warmer homes, lower bills, jobs, health and resilience found it easier to build and maintain momentum, navigate political change and engage communities.

Local authorities are effective conveners and enablers of place-based delivery

A clear pattern across the Pathfinder Demonstrator projects is the role adopted by local authorities delivering large-scale, complex work. In each project, the council was most effective as a convenor. They set direction, brought the right people and organisations together, put governance and data in place, and then enabled others to deliver. Universities, community organisations, delivery partners and investors all played essential roles, but the mandate to coordinate place-based delivery sat most effectively with the local authority.

In practice, this aligns with the *Enable, Embed, Enact*[1] model developed through the Net Zero Living Programme. Councils created the conditions for others to act, integrated net zero into core systems and decisions, and stepped into direct delivery where progress depended on local authority leadership.

Trust is a foundation

Trust, proximity, familiarity and lived experience are foundational. Trust was built through familiar local partners, visible demonstrations and honest engagement. Community anchors, local champions, familiar contractors and co-designed investment plans all helped build public confidence and frame net zero around outcomes people care about.

Learning by doing unlocks complex systems

The Pathfinder Demonstrator projects were selected as a portfolio, not as a set of isolated pilots. Together, they tested innovation pathways across a wide range of places, delivery conditions and non-technological barriers. The projects worked in urban, rural and island contexts; at scales ranging from district to region; and across themes including data, heat, retrofit, citizen engagement, business engagement, neighbourhood planning, energy planning and investment readiness.

This breadth matters. It meant the Programme could test what enables delivery across very different real-world conditions, rather than proving one model in one place. Despite that variation, the projects converged on a small set of shared insights about what helps councils and their partners move from ambition to implementation.

1 Enable Embed Enact: Maximising the value of local Net Zero planning

A consistent finding was that teams had to learn through implementation. Complex delivery, involving many organisations, needs detailed information that only emerges in practice. Work such as asset-level typologies, street-based interventions, one-to-one engagement, demonstrator homes, user-led journeys, housing stock assessments and investment-grade plans generated evidence on cost, risk, sequencing and governance that could not be reliably predicted in advance.

This is a distinctive learning from the Programme. Net zero delivery is complex, and uncertainty is often compounded by the lack of a clear local-to-national delivery framework. Without that line of sight, councils and their place-based delivery partners can be unclear how local action contributes to national targets, and how decisions, funding and accountability should align. These partners include the organisations working alongside local authorities to design, govern and deliver projects in place, from universities and community energy groups to network operators, digital firms, investment bodies and other public authorities.

The Net Zero Living Programme created opportunities for local authorities and their partners to reduce this uncertainty through delivery. Teams learned by doing in real places, using implementation to test assumptions, generate reliable evidence and refine approaches. Innovation was therefore not only technological. It also involved developing and improving delivery models, methods and tools through hands-on work, reflection and iteration.

Each of the Net Zero Living Programme's Pathfinder Demonstrator projects applied this learning by doing approach in a different delivery context:

- → **Bristol's Mission Net Zero**
  Bristol City Council, the West of England Combined Authority, North Somerset Council, South Gloucestershire Council and Bath & North East Somerset Council created strong foundations to be ready for both neighbourhood investment and investment at scale.
- → **Leicestershire Collaborate to Accelerate to Net Zero (CAN)**
  Leicestershire County Council showed how places with limited resources can coordinate partners, investment and delivery to strengthen long-term capacity for local energy action that creates jobs, scales community energy and supports communities.
- → **Realising Net Zero Liverpool**
  Liverpool City Council and partners moved from high-level net zero plans to asset-level, investor-ready energy portfolios across power, heat and transport in three exemplar areas of the city.
- → **Rural Energy Hubs**
  Orkney and Shetland showed how Rural Energy Hubs can accelerate decarbonisation while delivering practical local benefits. They provided warm, energy-efficient community spaces, improved electric transport facilities, and trialled services including retrofit advice, drone deliveries and electric charging for commercial and public vehicles.
- → **Peterborough Accelerated Net Zero**
  Peterborough City Council developed practical digital tools to shift from standalone project ideas to prioritised pipelines and coordinated investment-ready portfolios, creating a clearer route from net zero ambition to delivery.
- → **Rossendale's Net Zero Terraced Streets**
  Rossendale Borough Council and partners developed a coordinated, end-to-end retrofit model for traditionally hard-to-heat terraced housing at scale, including the delivery of three demonstrator homes.
- → **Retrofit One Stop Shop York (ROSSY)**
  York City Council, York and North Yorkshire Combined Authority and partners developed and implemented an end-to-end retrofit one stop shop for residential homes in the region. Two fully retrofitted demonstrator homes were completed as part of project delivery, with one open to local residents.

How to use this pack

This pack is part of the Creating Better Places: Ten areas where local innovation can improve lives and unlock growth series. Through its Net Zero Living Programme, Innovate UK provided funding, insights, and specialist support to local authorities so they could adopt social, cultural, policy, and technical innovation to help their place prosper.

Produced by Urban Foresight for Innovate UK, this series focuses on ten familiar areas of local delivery where participating local authorities and their project partners have done things differently, so that decarbonisation enables better outcomes for people, services and local economies.

The series includes a handbook providing an overview of all ten areas where there are opportunities for local innovation, alongside ten resource packs like this one.

Each pack focuses on a single area where new approaches can improve lives and unlock growth. It brings together insights from places in the Net Zero Living Programme, key concepts, practical tried and tested steps for local authorities and their partners to take, and further resources.

Who this pack is for

This pack is designed for people working in or alongside UK local authorities who are shaping better local outcomes by delivering projects that could support net zero, including:

- Officers working in regeneration, housing, infrastructure, economic development or sustainability.
- Colleagues in finance, planning, procurement and governance.
- Partners from business, community organisations and delivery bodies.

It is written for people making real decisions in real places, often under pressure, with limited time and resources.

What this pack is for

Use this pack to:

- → Learn what's possible through real examples from other local authorities.
- → Build confidence by learning how they navigated familiar challenges.
- → Act and make progress using practical steps, tools and prompts you can adapt to your local context.

By changing how local delivery works, places are meeting urgent needs and unlocking warmer homes, better services, lower costs energy, stronger local economies and greater public trust.

Local authorities are leading the way in showing how decarbonisation is a route to better everyday outcomes for resilient places and economic prosperity.

How this pack is structured

This pack follows a different structure from the other packs in the Creating Better Places handbook series. It focuses on the Net Zero Living Programme's Pathfinder Demonstrator projects.

Through the Net Zero Living Programme, Innovate UK funded specialist support for nearly 300 organisations, including local authorities, businesses, and voluntary and community organisations, to help them apply social, cultural, policy and technical innovation in ways that support local prosperity.

Seven local authority-led collaborative projects received between £2 million and £5 million of innovation funding to show how non-technological barriers can be addressed and carbon-reduction measures implemented effectively. These Pathfinder Demonstrator projects were designed to test and refine new delivery models and tools in real-life situations, so they could be scaled and adapted in other places.

This pack takes a closer look at what those projects tested, what they learned, and what other places can use.

Project insights structure

What stands out

Headlines: why it is worth taking a new approach in a familiar area of local delivery.

Why it worked

Practical lessons: how each project overcame barriers by doing things differently.

How to use the projects experience

Replicable learning: the most useful insights other places can adapt from the Net Zero Living Programme.

Scaling the project

How to scale: how delivery is being taken further in this place.

What happens next

Forward look: how the Council and its project partners are building on what they learned through the Programme.

How to use this pack in practice

This resource pack is designed to be dipped into when needed. You don't need to read it from start to finish. Instead, go straight to the sections most relevant to your role, challenge, or stage of delivery, to:

→ **Orient yourself**
Understand how others approached specific issues and what made progress easier.

→ **Align colleagues and partners**
Use practical tools in team meetings, workshops, or strategy sessions to create shared understanding and momentum.

→ **Support delivery**
Use the practical steps and tools to shape actions, test readiness, inform business cases and governance conversations, and scale implementation and the resulting impact for local people, services and suppliers.

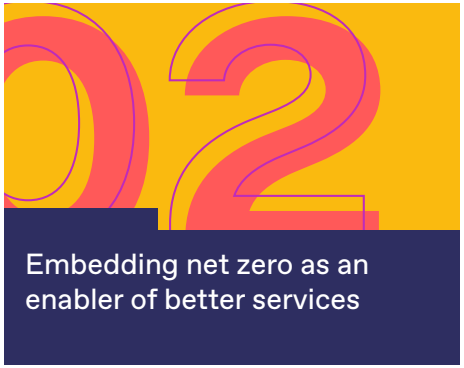
→ **Avoid starting from scratch**
Use the examples and resources to build on what already exists, locally and nationally.

The ten areas where there are opportunities to innovate are interconnected, but you don't need to work through them in a set order. Progress in one area often unlocks progress in others. You're encouraged to move between the resource packs in the Creating Better Places series that are most relevant to your changing needs as your work evolves.

How this pack fits

This pack is designed to be used alongside:

- → The core Creating Better Places handbook, which provides an overview of where local authorities participating in the Net Zero Living Programme have done things differently in ten familiar areas of local delivery, so that decarbonisation enables better outcomes for people, services and local economies.
- → The other resource packs, each exploring one of the remaining nine areas where local innovation can improve lives and unlock growth.



Insights from places in the Net Zero Living Programme

Places across the UK are using decarbonisation to create warmer homes, cheaper local energy, new skills and more secure work for their communities. But the main barriers to progress are rarely technological. They are organisational, financial and social: aligning institutions, building local capability, attracting investment, and making change work for residents.

The following insight cases show how local authorities and their partners are responding to these practical barriers through place-based innovation. Each example demonstrates how new tools, partnerships and delivery models can improve local services, support economic opportunity and move projects closer to implementation.

Insight #1

Bristol and the West of England: connecting community priorities to regional investment

PROJECT

Mission Net Zero

How Bristol City Council and partners translated community priorities, connected investment and supported workforce training to make local climate action more practical, inclusive and deliverable.

What stands out

1. Investment planning was strengthened at regional scale

Mission Net Zero helped the West of England build a stronger basis for attracting investment by linking climate action to regional growth, investment and jobs. The West of England Regional Clean Energy Investment Plan and supporting Local Area Energy Planner Plus tool[2] were used to develop five clean energy investment portfolios and move from isolated projects towards a clearer pipeline that could meet investor needs while aligning with regional priorities. The region had expertise and investable opportunities, but these were not yet connected into a sufficiently clear offer. Embedding the Regional Clean Energy Investment Plan in the Combined Authority's growth strategy gave this work greater lock-in and made clean energy part of the region's wider economic agenda.

2. Community priorities were translated into investable plans

Mission Net Zero worked with established community groups to enable communities to co-design Community Climate Investment Plans. These plans translated what residents wanted from climate action in practice, including warmer homes, local jobs and greater energy independence, into a clearer basis for future investment. This moved engagement beyond consultation. It gave communities a stronger role in shaping where action was needed and what outcomes mattered locally, while creating clearer demand signals that public and private investors could respond to. Bristol Climate and Nature Partnership also helped turn the city's Just Transition Declaration into a practical model that was used across the project. The model is published as the 'Just transition in action: a toolkit for inclusion' and is available on the Bristol Climate and Nature Partnership's website.

2 The Local Area Energy Planner Plus tool (LAEP+) has been developed by Advanced Infrastructure to streamline Local Area Energy Planning and accelerate the deployment of low carbon technologies.

3. Skills support was designed around local business need

Mission Net Zero treated fairness, workforce capability and evidence as core delivery conditions rather than add-ons. The project worked with more than 50 businesses and training providers to understand skills gaps, co-design training and test new courses. Those courses are now embedded in standard college provision. This means the project did more than identify workforce need. It created a practical foundation that can help local businesses benefit from the net zero transition as demand grows.

Why it worked

It built on strong local institutions and relationships

Mission Net Zero did not start from scratch. Bristol and the West of England already had strong local institutions, established climate partnerships and specialist organisations with deep roots in the region. The project built on those strengths rather than trying to create a new system from the ground up and aligned regional goals, agreed shared priorities and created a joined-up investment plan. This made progress quicker and helped partners work from a position of trust.

It treated fairness as part of delivery, not an add-on

The project had a core principle to ensure that all decisions made would support a fair and just transition. Bristol Climate and Nature partnership undertook this role and translated the city's Just Transition Declaration into a practical model to be used by the whole project team.

It gave complex partnership working an effective structure

Managing a large partnership across multiple work packages required clear governance, active project management and defined deliverables. That structure helped the project move forward while creating enough space for community groups, investors and public partners to work through different assumptions and priorities. Buy-in and long-term commitment were strengthened by working through committed local partners rather than treating delivery as a series of external contracts. This created stronger shared ownership and helped keep effort aligned across a large and complex partnership. Partners were selected to match delivery needs and brought capabilities the local authority did not hold in-house, including community engagement on energy projects, specific technical expertise, investment planning and training design.

It made space for different actors to reach shared understanding

Community organisations, investors and policy professionals do not start from the same assumptions or use the same language. Building shared understanding takes time. Progress depended on creating enough space for those differences to be surfaced, assumptions to be challenged and worked through, and trust built to enable diverse stakeholders to reach a shared understanding and agree the way forward. Open conversations, facilitated by trusted partners, helped turn broad ambition into practical next steps.

It defined and tracked success measures from the start

Setting up project evaluation proved challenging. The absence of baseline data limited the ability to capture long-term impact using existing data. Future projects will now be able to use Mission Net Zero's monitoring, evaluation and learning framework to help them identify relevant data sources, data owners and success measures at the outset.

How to use Bristol's experience

Bristol and the West of England showed that mission-led delivery can do more than coordinate activity. It becomes more delivery-ready when investment planning, community priorities and workforce development are tackled together rather than separately, are underpinned by robust data and evidence, and are connected through regional strategy for a stronger platform for action. This combination of bringing community priorities together with regional ones allowed the council to connect top-down strategic direction with bottom-up delivery insight, so that plans were shaped by real local conditions and local action was better aligned with wider priorities.

Three practical lessons stand out.

1. **Align climate action with regional economic priorities.**
   Embedding clean energy in the region's growth strategy gives investment planning greater durability and makes it easier to sustain momentum beyond short-term funding cycles.
2. **Turn community priorities into plans that can shape investment in a just transition.**
   Fairness does not happen automatically. It needs local representation, practical tools and active involvement across the project. Community engagement is most useful when it produces clear priorities, shared ownership and a stronger basis for future funding decisions. Build this in from the start so that decisions about investment, skills and who benefits are shaped by clear principles rather than addressed later. Linking into existing community organisations and recognising community needs, enabling people to engage fully, for example by reimbursing for time invested, makes participation engaging and empowering.
3. **Start with existing strengths and allow time to build shared understanding.**
   Work with the institutions, relationships and community capacity already present in the place. Then allow time for different stakeholders to develop a shared understanding of priorities, opportunities and risks. This is especially important where community groups, investors and public bodies are being asked to work together in new ways.

Scaling the project

Mission Net Zero created a stronger connection between community empowerment and regional investment planning. Community Climate Investment Plans gave residents a clearer role in shaping local priorities. The Regional Clean Energy Investment Plan, supported by LAEP+ and portfolio modelling, created a route for those priorities to inform a broader pipeline of projects and investment opportunities across the West of England.

This is an important form of scaling. It is not only about doing more activity across a larger geography. It is about ensuring that regional investment planning is informed by what communities need and want, and that community priorities can travel upwards into strategic decision-making. That gives the region a stronger basis for delivery, a mandate for action, and confidence in the potential for future investment.

The approach also supports regional economic growth. Training provision shaped around real employer demand helps local businesses prepare for the transition and benefit from it. Working directly with employers and colleges leaves places better prepared to respond to a changing market and opens careers opportunities for local people when funding or market demand increases.

Bristol and the West of England's approach did not rely on a single intervention or organisation. The partnership strengthened several of the conditions needed for long-term progress at the same time: community readiness, skills readiness, regional coordination and investable propositions. Other places can adapt this approach by building from their own local institutions, aligning climate action to wider economic priorities, and creating clearer links between community priorities and regional investment planning.

What happens next

The West of England is now better placed to carry the identified community-defined priorities into regional investment planning and future delivery and to respond to funding and investment opportunities when they become available. The Regional Clean Energy Investment Plan is part of the Combined Authority's growth strategy. Community organisations have clearer priorities for investment. Local colleges have training provision that addresses skills gaps more effectively and can expand as demand grows. Bristol City Council can use the community insights and enabling studies gathered by Mission Net Zero in future planning including its approach to the opportunity of the Local Power Plan.

Mission Net Zero did not just identify barriers. It helped the region understand them in more detail and respond with clearer plans, stronger pipelines and more informed stakeholder engagement. This gives Bristol and the West of England a better basis for pursuing funding and development capital to convert plans into projects.

PARTNERS

- Bristol City Council
- Bristol Climate and Nature Partnership
- Centre for Sustainable Energy
- Bristol Energy Network
- Bristol City Leap
- Bristol and Bath Regional Capital
- Living Places
- National Grid Electricity Distribution
- Bath and North East Somerset Council
- North Somerset Council
- South Gloucestershire Council
- West of England Mayoral Combined Authority

Insight #2

Leicestershire: coordinating partners for local energy delivery at scale

PROJECT

Leicestershire CAN (Collaboration to Accelerate Net Zero)

How Leicestershire County Council used its convening role to turn a complex energy partnership into a more coordinated delivery programme.

What stands out

1. Delivery was made possible at county scale

Leicestershire convened an area-wide partnership of seven organisations around a shared agenda to develop and manage a complex energy programme requiring technical expertise, delivery capacity and diverse perspectives. The Council worked across internal teams and external sectors at the scale of the place. This connected strategy, delivery and local need across a whole county, rather than leaving organisations to act separately. The project made progress because the Council did more than bring partners together. Its convening role helped remove fragmentation, break down siloes between internal teams, create a shared delivery conversation with external stakeholders, and keep activity aligned around common priorities.

2. Evidence becomes more useful when it helps partners act together

Different places and building typologies require different energy solutions. Working with Energy Systems Catapult and National Grid, Leicestershire developed a Local Energy Area Plan Lens Visualisation Tool to map technology options to street and building level using geographic information system (GIS) visualisation. The LAEP Lens added value because it supported decisions, not just analysis. It helped partners identify where coordinated planning, targeted support and community energy action could have the greatest practical value for resilience and affordability. It also combined fuel poverty data with local energy options, strengthening the evidence base for directing investment towards areas of greatest need. National Grid Electricity Distribution supported data gathering and scenario testing so that proposed interventions reflected network constraints and opportunities. This strengthened alignment with network development planning. Because the tool and guidance are openly available, other local authorities can replicate the method using their existing GIS software.

3. Community energy became a practical route to local resilience, not just engagement

Leicestershire combined small-scale funding, practical support and community-led delivery to strengthen the local energy ecosystem. This helped move community energy from awareness-raising into delivery by building local capability, supporting trusted intermediaries and creating clearer routes for residents, schools and businesses to act. In practice, this meant growing the number of community energy groups, offering schools the opportunity to reduce electricity costs through solar, connecting residents with local energy champions, and supporting small and medium-sized businesses to improve energy efficiency through tailored advice.

Leicestershire grew from one community energy group to eight, with over 20 active community members helping to take projects forward. Community groups and organisations were able to apply for funding to kickstart renewable energy and energy efficiency projects in their localities from the £140,000 made available through the "Get Ready Community Energy Fund". Fund recipients joined Community Energy Leicestershire Forum, a network for peer-to-peer support. This increased local delivery capacity supporting community-led renewable projects and energy advice services and enabled the exploration of community ownership models for schools, redevelopment sites and places of worship.

The result was a stronger foundation for local resilience, with support directed towards practical projects and places where it could add most value.

Why it worked

It aligned internal teams around delivery

Gaining internal support for community energy required conversations across four council directorates: legal, estates, communications and planning, alongside senior-level sign-off. This cross-council alignment around a shared goal is something only the Council itself could do. Without it, community energy groups would not have been able to access school buildings, use council communication channels, or gain the institutional backing needed to move forward. The Council is now revisiting its climate resilience action plan to include explicit, long-term support for the community energy sector.

It held a single delivery conversation across partners

The Council used its convening role to align partners around shared evidence and delivery priorities. Using live LAEP Lens data to support conversations with stakeholders helped make those conversations more practical and responsive than relying on a strategy document alone. This contributed to infrastructure planning coordination, targeted funding, and greater credibility of local energy resilience.

Monthly in-person, cross-organisational meetings created a collaborative culture and stronger shared ownership of goals. The university partnership was a critical local enabler. It supported the business advisory service, governance and technical work, and brought an independent perspective that helped keep discussions focused on evidence, shared outcomes and long-term delivery.

It acted through trusted local intermediaries

Coordinated action was supported by trusted delivery partners with a strong local presence and understanding of local priorities, including Community Energy Pathways and Green Fox Community Energy. Green Fox Community Energy partnered with Leicestershire County Council and Let's Go Zero to offer free community-funded solar panels to schools alongside climate action planning support. This strengthened community engagement and local capacity while helping schools reduce electricity costs without upfront feasibility or operating costs. Trusted intermediaries also helped widen business engagement. Through the Greener Future Leicestershire workstream, the partnership created a visible route for SMEs to access training, practical advice and examples from peers, including climate leadership training, workshops, webinars, case studies and videos. This helped bring in businesses that were not already engaged in climate action.

How to use Leicestershire's experience

Leicestershire's experience shows why councils matter in delivery. Their distinctive value is not only formal responsibility, but the ability to connect internal services and external partners at place scale.

Three practical lessons stand out.

1. **Use the Council's internal reach to remove delivery blockages.**
   Do not treat energy resilience as a standalone technical issue. Bring together the internal teams whose decisions affect delivery and use a council's corporate role to resolve gaps, overlaps and slow handoffs. In Leicestershire, this helped create the institutional backing and practical routes that enabled communities and businesses to play a more active role.
2. **Use the Council's convening role to work at place scale.**
   Securing energy resilience requires more than technical analysis or individual projects. It requires infrastructure providers, community energy groups, public bodies and local partners to work from a shared understanding of need and opportunity. A council can create the conditions for that coordination and align activity around the needs of the place rather than the interests of any one organisation.
3. **Use evidence to direct action, not just describe the problem.**
   The value of the LAEP Lens tool was not that it described the county. It was that it helped partners act on a shared evidence base. Apply the LAEP Lens to identify where coordination, investment and community energy support can have the greatest practical value for resilience, affordability and delivery.

Scaling the project

Leicestershire's approach is scalable because it did not depend on the Council delivering everything itself. Instead, the Council used its place-based role to align partners, organise delivery around shared evidence, and support others to act. This is important for councils with limited internal capacity. It shows how local authorities can increase delivery reach by coordinating the local energy ecosystem rather than trying to hold every function in-house.

Several features make the model transferable. The first is internal alignment across council teams whose decisions affect delivery. The second is a shared evidence base that helps partners prioritise action and target support. The third is practical support for community energy, business engagement and trusted local intermediaries, so capacity grows beyond the local authority itself.

Through Greener Future Leicestershire, the partnership also created a recognisable route for SME engagement, combining web-based resources with climate leadership training, case studies, videos, workshops and webinars. This helped reach businesses that were not already active in climate work and gives the wider model a more practical route for scaling participation. Together, these elements create a model that other places can adapt using existing partners, local intelligence and GIS capability.

What happens next

The project has left Leicestershire with stronger foundations for long-term delivery. The Council and its partners now have clearer roles, stronger relationships, a shared evidence base and a more mature local community energy sector. This creates a stronger basis for coordinated infrastructure planning, targeted investment and further development of local energy projects.

Several parts of the model are already being carried forward. The university partnership will continue to support collaboration on local energy projects and investment opportunities. The Council is revisiting its climate resilience action plan to include longer-term support for the community energy sector. The Community Energy Forum and wider external funding are helping local groups sustain activity beyond the programme.

The business engagement workstream has left practical assets in place through the Greener Future Leicestershire brand and online offer, giving SMEs an ongoing route into advice, training and examples of what action looks like in practice. Together, these steps move the project from a time-limited demonstrator towards a more durable local delivery model.

PARTNERS

De Montfort University

Energy Systems Catapult Limited

National Grid Electricity Distribution Ltd

Green Fox Community Energy Co-operative Limited

University of Leicester

Community Energy Pathways

Insight #3

Liverpool: asset-level energy portfolios across power, heat and transport

PROJECT

Realising Net Zero Liverpool

How New Resource Partners, Liverpool City Council and partners used data and asset-level modelling to shape energy portfolios across power, heat and transport and create a stronger basis for investor-ready projects.

What stands out

1. Exemplar locations tested a bottom-up route to city-wide investment

Realising Net Zero Liverpool combined city-scale modelling with targeted testing in representative locations, including the city centre, a terraced residential neighbourhood and a new development site. This gave the project a practical way to explore where urban energy assets could be installed, which technologies were most appropriate, and how investment could work for both citizens and investors. Rather than relying only on top-down strategy, the partnership used real places to test business models and scale that learning towards a city-wide investment opportunity across EV charging, networked heat, domestic retrofit and commercial property. The project combines city-wide analysis with detailed place-based and asset-level testing, supporting both local authority decision-making and the development of investor-ready opportunities across power, heat and transport.

2. Business modelling and investment modelling helped bridge the gap between ambition and capital

Liverpool's challenge was not a lack of ambition. It was the challenge of delivery; specifically the difficulty of turning broad plans into opportunities that investors could understand and assess. The project responded with a two-part process: business modelling to test options for specific assets and property portfolios, and investment modelling to engage investors, refine delivery assumptions and shape a wider portfolio of investable projects. This process included investor engagement, workshops and modelling to test technical and financial viability. It also considered project development and how individual projects could be brought together in wider portfolios. ClimateOS supported city-scale data visualisation and scenario testing, while the Housing Retrofit Database improved the level of detail available for planning domestic decarbonisation. Together, these gave the partnership a stronger basis for investor discussions on domestic retrofit, district heat, commercial property and rapid EV charging.

3. Shared data and partnerships strengthened the technical and financial case

The project did more than assemble technical evidence. It began to shape clearer investor-facing material, including emerging asset groupings, indicative capital expenditure and payback ranges, and a structured Investment Prospectus translating modelling outputs into defined, investable opportunities for potential funders. Activity around the Energy Investment Summit, also referred to as the Liverpool Net Zero Investment Summit[3], helped strengthen that investor-facing work. This mattered because fragmented infrastructure and limited investment were both major barriers. The project helps create a more joined-up basis for future decisions on heat, power and transport including analysis of grid constraints, electrification impacts and opportunities for public sector participation in flexibility markets. This helped identify practical routes to implementation.

The project delivered a broader set of outputs including local power grid analysis, flexibility analysis, district heat network planning, transport strategies, socio-techno-economic modelling, and assessment of non-technical delivery barriers, creating a more complete evidence base for decarbonisation.

Why it worked

It started with real assets in real places

The project did not assume one model would work across the whole city. By testing approaches in three different types of area, it could explore how local conditions shaped what was viable and what would need to change. This made the work more grounded and more useful than a high-level plan alone.

It linked technical planning to investor engagement early

The project was designed as a process rather than a single output: investor engagement, workshops, business modelling, investment modelling, project origination and scale-up. This helped ensure that the technical work was shaped by real funding questions rather than left until the end. This enabled Liverpool City Council to prioritise interventions, understand delivery pathways and make more informed decisions alongside engaging with investors.

It treated data sharing as a mutual benefit

Accessing grid data from Scottish Power Energy Networks (SPEN) required trust. The project worked on the basis that data sharing should create value for both sides: the Council needed better planning information, while SPEN could use the work to strengthen its own investment case and planning assumptions. That made collaboration more credible and improved the technical foundations of the work.

It recognised that early development finance is often the real constraint

Liverpool's experience suggests that a key constraint is often access to early-stage development capacity and funding needed to turn ambition into investable opportunities. Partners lacked the at-risk development funding needed to turn broad ambition into opportunities with the costs, risks and contractual structure that investors expect. The project responded by building models, testing assumptions and engaging potential funders early.

3 The Liverpool Net Zero Investment Summit in February 2026 brought together industry leaders, policymakers, technology developers, investors, and infrastructure providers to examine how the UK can move from net zero ambition to practical delivery across energy, industry and digital infrastructure.

How to use Liverpool's experience

Liverpool shows that moving from climate ambition to investment readiness depends on getting closer to real projects. The case is not about producing a bigger strategy. It is about using exemplar locations, asset-level information and early investor engagement to understand what kinds of projects might be viable, for whom and under what conditions.

Three practical lessons stand out.

1. **Start with assets and places you can model and influence.**
   Use exemplar locations and accessible asset portfolios to test business models in real conditions. Liverpool's bottom-up approach helped show how different opportunities could emerge across EV charging, networked heat, domestic retrofit and commercial property. That gives a stronger basis for understanding cost, risk and delivery than broad strategy alone.
2. **Build investor engagement into the modelling process.**
   The Liverpool approach worked as a two-part process: business modelling and investment modelling. This included investor engagement, workshops, techno-economic modelling, project origination and scale-up.
   Early market engagement can help shape opportunities around real investor expectations rather than assumptions made in isolation.
3. **Treat infrastructure and data as part of delivery design.**
   Understanding network constraints, site conditions and asset data early can improve the quality of modelling and reduce the risk of developing opportunities that look credible on paper but do not work in practice. In Liverpool, stronger data and infrastructure collaboration helped create a more realistic basis for future investment decisions.

Scaling and replicating the project

Liverpool's approach is scalable because it used exemplar sites to inform wider city planning. The three locations were not ends in themselves. They were used to test business models in different urban contexts. The learning from this approach fed into a broader socio-techno-economic model, emerging asset portfolios and a city-wide investment opportunity across EV charging, networked heat, domestic retrofit and commercial property.

These outputs were consolidated into a City-Wide Toolkit, bringing together methods, models and insights into a practical, user-friendly framework to support replication by other local authorities.

This is an important form of scaling. It is not only about increasing the number of projects. It is about using evidence from real places to improve how a city plans, prioritises and attracts investment across power, heat and transport. For Liverpool, this meant beginning to organise fragmented assets into clearer portfolios supported by indicative capital expenditure and payback ranges and matching different project types to investor interests.

The approach was designed to be transferable, with the City-Wide Toolkit enabling other local authorities to adapt the methods, tools and insights using their own data, assets and local priorities.

What happens next

Liverpool is now in a stronger position to hold more informed conversations with investors about specific types of opportunity, delivery models and risk profiles. The project has helped shape an emerging investment prospectus, stronger decision-making tools and a clearer understanding of how city-wide ambition can be translated into more practical investment opportunities. The Council is continuing partnership-building activity to strengthen the overall investment case.

The real test comes next. Success will depend on whether the prospectus, modelling and partnerships lead to projects moving into delivery. But Liverpool now has stronger foundations for that next stage: better asset data, clearer investor-facing models, stronger infrastructure collaboration, and a more practical route from city-wide ambition to funded projects.

PARTNERS

Liverpool City Council

New Resource Partners

Onward Homes

SP Energy Networks

Regent Capital and Decentralised Energy Solutions

Insight #4

Orkney and Shetland: providing a place-based, replicable model for rural decarbonisation

PROJECT

Rural Energy Hubs

How partners in Orkney and Shetland demonstrated a new model, including trialling technologies, services and delivery methods in rural and island communities, aiming to make low-carbon living more practical, affordable and relevant to everyday life.

What stands out

1. A trusted community hub can make low-carbon living visible and practical

Remote rural communities often face higher costs, fewer suppliers and more limited access to services. A locally anchored Rural Energy Hub can make low-carbon options more visible, accessible and relevant to everyday life. The project retrofitted the Brae Youth and Community Centre (BYCC), co-locating the Hub alongside existing services, creating a warm, energy-efficient space for the wider community. The Brae Rural Energy Hub offers practical services including drop-in energy advice, EV charging, e-bike hire, car club access and co-working, making low-carbon living tangible and locally relevant. People come to the building for a variety of activities, increasing footfall for the Hub and helping raise awareness.

2. The local governance structure is built to last

Project partners Aquatera , Community Energy Scotland (CES) and Shetland Islands Council (SIC) collaborated with the BYCC committee on governance development for the Brae Hub, culminating in the creation of a Community Interest Company to operate it. The CIC is governed by eight volunteer board directors recruited locally and supported by two dedicated paid staff. Before the project ended, four years of funding had been secured from the Viking Community Benefit Fund and the Shetland Coastal Communities Fund to cover staffing and related costs until October 2029. The funding will demonstrate and refine the business model and progress replication of Rural Energy Hubs, well beyond the Innovate UK project.

3. Real-world trials demonstrate what adopting new technologies can look like in island conditions

The team also trialled a range of services that could potentially be integrated into future Rural Energy Hubs. These included retrofit advice, drone deliveries and electrification of heavy goods vehicle (HGV) fleets: electric buses, refuse vehicles and ferries. Feasibility testing of HGVs in island operations marked a shift from planning to live trials supported by real-time data. Orkney Islands Council (OIC) trialled an electric refuse collection vehicle, gathering 72 days of operational data across

3,236 miles. SIC trialled an electric bus across winter, spring and summer on rural routes. Both trials generated practical evidence on performance, upskilling staff for maintenance, charging needs and their impact on timetables and rotas, the infrastructure and grid upgrades required to make electrification of HGVs viable in remote rural settings. Learnings from these trials reduces uncertainty for other rural local authorities and businesses considering electrifying HGV fleets and makes Orkney and Shetland stronger candidates for further low-carbon transport trials and investment.

Why it worked

It built on existing partnership and collaboration

The project team have previously collaborated and continue to do so on multiple innovation projects, including the UKRI-funded four-year ReFLEX Orkney project focused on the development of a smart local energy system. The Net Zero Living Programme enabled the team to base the project on previous learning; in particular tackling the non-technological barriers encountered to implementing smart local energy systems at scale. Because the partners knew each other well, they could move quickly on the basis of existing trust and established ways of working. Led by Aquatera, with project partners CES, the European Marine Energy Centre (EMEC), OIC and SIC, the project drew on Shetland's strong community networks and Orkney's energy innovation expertise.

There was strong political support and alignment

Both islands councils had declared climate emergencies and prioritised decarbonisation in policy and resourcing. This meant the aims of the Net Zero Living Programme and the project were aligned with the councils' strategic direction, ensuring strong political support.

Innovation was anchored in trusted community infrastructure

Partnering with the BYCC committee and locating in an existing, council owned and well-used community venue provided both practical infrastructure and community legitimacy. This streamlined the procurement and planning process, accelerating delivery, local buy-in and visibility. This would have been difficult to achieve without a strong community anchor.

It captured and applied learning during delivery, not just at the end

Quarterly learning workshops allowed insights to be captured and shape decisions in real time, instead of being left to a retrospective lesson-learned exercise. This helped the team improve delivery as challenges emerged. Across the project, the combination of live testing, practical services and visible community infrastructure made low-carbon living more accessible and relevant to everyday life.

How to use Orkney and Shetland's experience

The Rural Energy Hubs project shows that remote rural decarbonisation is best approached holistically, rather than as a set of separate technical projects. The lack of economies of scale in rural communities can delay and prevent much-needed improvements. The place-based model and Rural Energy Hub Replication Framework creates a Hub around the challenges and opportunities of that specific location. This approach brings together practical services for heat, power and transport in ways that are visible, trusted and useful to local people. It can also create space to test new technologies and delivery models in real operating conditions.

Three practical lessons stand out.

1. **Anchor new services in buildings and organisations that communities already use.**
   Locating the Brae Hub in a well-used community venue means it benefits from the existing audience and a degree of trust that would have taken years to build from scratch. Retrofitting a well-used but cold and rundown building makes the demonstration credible and valuable, with residents able to see technologies transforming a real space in their community.

2. **Treat island and rural supply chain constraints as a planning reality.** Limited supplier choice, shortage of local skills, market failures, higher costs and longer lead times are part of life in remote rural communities. Recognising these as structural realities, rather than signs that a project is going wrong, helps teams plan more realistically, build in contingency from the start and focus on the factors they can control.

3. **Create a delivery vehicle designed to outlast the funding programme.** The creation of a Community Interest Company to operate the Brae Hub, supported by four years of secured funding and governed by a local board, is providing durable local capacity for continued community-led decarbonisation activity beyond the project period.

It is also worth recognising that compressed timelines, while challenging, can act as an innovation catalyst. The programme timetable created productive pressure, accelerating decision-making and pushing the project from planning into live testing. This enabled rapid experimentation, visible progress and a sense of pride in achievement.

Scaling and replicating the project

The project partners and Brae Hub CIC are keen to collaborate with communities that would like to establish a Rural Energy Hub in their area. A five-stage Rural Energy Hubs Replication Framework developed by Aquatera provides a structured methodology for developing future Rural Energy Hubs or hub networks. The framework was developed, applied throughout the project and refined through real-world experience, creating a practical route for other communities. It includes a manual, workshop tools and database templates. Information can be found on the Brae Rural Energy Hub website.

The Building Retrofit Plan service piloted in the project is also set to continue. The service operates through ReFLEX Orkney, a customer facing business offering decarbonisation services in Orkney, with plans to expand to Shetland via the Brae Hub. This is a service that could be integrated into future hubs.

What happens next

Next steps are two-fold: the identification of communities to partner with to establish new Rural Energy Hubs and build a hub network that supports and accelerates rural decarbonisation; and the four-year operational demonstration programme at the Brae Hub to continue to test and refine the business model for Rural Energy Hubs to maximise its impact and its role as a lighthouse hub that demonstrates the way for future locations.

PARTNERS

Aquatera Ltd

Community Energy Scotland

European Marine Energy Centre (EMEC)

Orkney Islands Council

Shetland Islands Council

Insight #5

Peterborough: digital tools to translate climate ambition into a project pipeline

PROJECT

Peterborough Accelerated Net Zero

How Peterborough City Council used practical digital tools to move from local area energy planning to a prioritised pipeline of local energy projects, offering a useful test case for places across the UK.

What stands out

1. Practical tools helped turn strategy into a prioritised pipeline

Peterborough's Local Area Energy Plan (LAEP) identified £8.8 billion of investment needed by 2040, but ambition at that scale can be hard to translate into action. Peterborough City Council's response was to adopt practical tools that support early-stage project design. Nordic Energy's Odin tool[4] helped officers identify which projects made sense in Peterborough and at what scale, generating a shortlist of viable opportunities with indicative capital costs, returns and carbon impacts. Nordic Energy's Thor tool[5] then guided officers through the next delivery stages for each project type. Together, these tools helped move the Council from high-level ambition towards a credible, investable pipeline. Although support for decarbonisation was strong across the Council, this mattered because projects requiring significant investment and uncertain returns could not simply be funded through core budgets. The tools helped build the evidence needed to prioritise opportunities and make a stronger case for external investment.

2. Carbon tracking was embedded in formal council process

Peterborough developed and used Edenseven's cero.earth[6] platform to track emissions, monitor sustainability indicators and model carbon reduction initiatives across its portfolio. The key value was that it enabled proposed project-based carbon savings to be directly linked to organisational emissions, helping to clarify the impact of delivery and support more informed decision-making.

4 **Nordic Energy's Odin** tool is an online map-based project identification tool for local authorities, developers and energy planners. It is an early-stage net zero project design tool. It utilises national datasets and user parameters to identify viable projects and generate outline designs, costs, returns and carbon impacts. It supports rapid option appraisal and project prioritisation.

5 **Nordic Energy's Thor** tool is a delivery pathway tool to guide councils from concept to implementation. It sets out the technical, commercial, governance and regulatory steps required for different project types. Thor helps officers understand what is required to deliver projects in practice, not just in theory.

6 **Edenseven's cero.earth** tool helps officers manage and report area-wide and organisational emissions in one place. It brings together scattered carbon data, builds a robust emissions baseline and allows users to model different pathways to net zero.

3. Community engagement focused on cost of living, not abstract climate goals

FutureNow Peterborough launched as a partnership brand with Peterborough Environment City Trust (PECT). Its website and energy trailer took advice on energy and retrofit directly into neighbourhoods, using trusted local engagement to make decarbonisation feel practical and relevant. Conversations focused on lower bills, warmer homes and better health rather than abstract net zero targets. This helped translate a technical agenda into something tangible for residents and more resilient through political change.

Why it worked

Strong starting foundations already existed

Peterborough was one of the first areas to develop a LAEP. This meant that the project did not start from zero. The LAEP already identified suitable zones for different technologies, giving the Council a stronger basis for matching project types to places and moving more quickly into early-stage development.

It used tools that fit how councils actually work

Odin, Thor and cero.earth added value because they could be used within existing council processes, governance and constraints. Peterborough City Council acted as an implementation partner, helping shape how the tools were applied so they worked in a real local authority context rather than as standalone technical products.

It deepened trusted local relationships rather than building new ones from scratch

The Council did not need to create a new engagement network. It worked through Peterborough Environment City Trust, a trusted local charity with established community relationships. This created a more effective division of labour: the Council set strategic direction while PECT helped turn council communication into community conversation.

It framed decarbonisation around durable local benefits

The project stopped leading with the language of net zero and focused instead on outcomes that matter across political and institutional contexts: more jobs, warmer homes, lower energy bills, better health and community wellbeing. This made the work more relevant to residents and helped build support across political divides. That mattered because changes in leadership or political control can quickly weaken initiatives framed too narrowly around one agenda. In Peterborough, as elsewhere in the Net Zero Living Programme, place-based messaging proved more resilient and helped maintain momentum through political change.

How to use Peterborough's experience

Peterborough shows how digital tools can help councils move from strategy to delivery when internal capacity is limited. The key is choosing tools that fit existing governance, using trusted local partners to broaden engagement, and translating climate ambition into decisions that officers, residents and investors can act on. The Energy Systems Catapult found Peterborough to be broadly representative of the UK, making it a useful place to test tools and approaches that could be adapted elsewhere.

Three practical lessons stand out.

1. **Utilise tools which enable rapid, data-driven decision making to ensure that officer time is well spent.**
   Prioritising tools that feed into existing governance and reporting structures can aid this efficiency. Effective use of tools may be of particular importance when budgets are limited.

2. **Budget for coordination and internal capacity.**
   Someone needs to hold the space between the project team and external partners, making sure information flows well and that key developments are understood across the Council. Without protected officer time and clear ownership, the capacity to use support effectively becomes a limiting factor.

3. **Translate decarbonisation into tangible local benefits.**
   Frame the work around what residents and decision-makers care about, such as lower bills, warmer homes, better health and local jobs. This helps build engagement, political resilience and longer-term consent for change.

Scaling the project

Peterborough's approach is scalable because it combines different tools for different stages of delivery rather than relying on one system to do everything. The LAEP provides the strategic frame. Odin helps identify and prioritise opportunities. Thor supports project development. cero.earth embeds carbon accounting into decision-making. FutureNow Peterborough helps connect the work to residents in ways that feel practical and relevant.

Combining tools is important because scaling is not only about doing more projects. It is about creating a repeatable route from strategy to prioritisation, governance, public engagement and investment readiness. In Peterborough, this also meant responding to a structural constraint familiar to many councils. Even where support for decarbonisation is strong, projects that need significant capital and uncertain returns can struggle to secure backing from stretched public budgets. Extended funding is now helping the Council develop a project pipeline and investment prospectus for potential funders, strengthening the bridge between council ambition and the external investment needed to support delivery.

What happens next

Peterborough City Council is now better placed to move from individual project ideas towards a coordinated portfolio approach. This matters because portfolios can help pool resources, attract investment and deliver wider benefits than standalone schemes developed in isolation.

The next phase of work is being shaped by cero.earth's development. Additional functionality will facilitate more effective engagement with potential investors. Alongside this, the Council is exploring the potential for a retrofit one stop shop, using the Energy Systems Catapult's research and demonstrator projects focused on rural heat pumps and district heating.

Future success will depend on whether these early-stage tools and plans and the shift from projects to coordinated portfolios leads to delivery at greater pace and scale. Success also relies on the investment prospectus bringing forward finance for projects the Council could not fund through core budgets alone. Peterborough Accelerated Net Zero has created stronger conditions for development: a clearer route from planning to project development, better embedded governance, more practical public engagement and a stronger basis for coordinated investment.

PARTNERS

Peterborough City Council

Nordic Energy Ltd

Energy Systems Catapult

Peterborough Environment City Trust

Cambridgeshire County Council

edenseven

Insight #6

Rossendale: making mixed-tenure terraced houses warmer

PROJECT

Net Zero Terraced Streets

How Rossendale Borough Council and partners made warmth more affordable and tangible for residents living in hard-to heat, mixed tenure terraced homes.

What stands out

1. A finance model designed to remove the upfront cost barrier

Rossendale developed a retrofit finance model for terraced streets that does not rely on households paying upfront or on grant funding alone. Concentrated terraced housing stock can create the density needed to make shared street-level infrastructure economically viable, but the real innovation is the repayment model. Costs are designed to be recovered through a fixed charge on energy bills, similar to a standing charge, and offset by income from renewable energy and grid flexibility services. This means retrofit can be made accessible regardless of household income.

2. A shared heating solution for hard-to-heat terraced homes

Terraced homes are one of the UK's most common housing types, but many are difficult to heat. Solid walls, single glazing, draughts, poor airtightness and limited space for individual heat pumps make conventional retrofit approaches harder to apply. Rossendale's response was to share heating infrastructure across whole streets rather than install separate systems in each home. Underground pipes connected homes to a shared heating system. The three demonstrator homes were designed to reduce energy use significantly and, once community solar panels, battery storage and other measures are in place, to cut household energy bills substantially compared with traditional electric heating.

3. Trusted local relationships made the delivery model possible

Rossendale started with people rather than properties or technology. Rossendale Valley Energy's energy champions began with practical conversations about household energy use. They worked with residents to identify simple, low-cost changes that could reduce energy use and heating bills, such as free LED bulbs and reflective radiator panels. The approach created a foundation of trust. Being embedded in the community can help build residents' confidence to engage with retrofit, by making the process feel accessible, relevant and worthwhile.

Why it worked

It played to strengths

Each partner focused on what they were best placed to do. Rossendale Valley Energy led community engagement, while Rossendale Borough Council led on planning and permissions. The procurement approach was community-led and brought in local contractors through a more targeted and trusted route than a standard council tender. The wider partnership brought together engineering, energy, finance, academic and community expertise.

The project started small and built trust

The project did not begin with the biggest ask. Early support focused on small, practical actions that residents could see and value. That helped build confidence and credibility before conversations moved on to more substantial retrofit measures.

The model was made visible and understandable

The three demonstrator homes represented the most common terraced housing types in the borough and showed what was possible in practice. A detailed database of local terraced homes grouped properties into shared archetypes and helped identify typical energy-use patterns.

This made it easier to design tailored packages and explain the opportunity in a way that residents and partners could understand.

Partners planned for long-term delivery early

Rossendale also created a delivery vehicle designed to outlast a single funding programme. Looped Energy Communities CIC, a joint venture between Rossendale Valley Energy and the Centre for Energy Equality, can draw on multiple funding sources local authorities cannot typically access. This gives the model a stronger basis for long-term stewardship and growth.

Evidence was gathered in real time

Performance data was collected from occupied homes from the start of the process. Post-installation, monitoring of heat pump performance, usage patterns, costs and lived experience continued in real time. This gave the project early evidence to support adaptation and expansion during and following delivery. The resulting evidence base applies beyond the three demonstrator homes and helps inform future work across the borough's wider terraced housing stock.

How to use Rossendale's experience

Rossendale shows that large-scale retrofit depends on trusted local institutions, clear delivery roles and a finance model designed alongside the technical solution rather than after it. The case also shows that a street-based approach can make shared infrastructure viable where a home-by-home approach would prove difficult to achieve.

Three practical lessons stand out.

1. **Start with the financial model.**
   The heating technology itself is not the only innovation. What matters is how the system is paid for, how the costs are repaid over time, and ensuring that costs are affordable for people who are likely to be left behind in the energy transition.
2. **Work at street scale where the housing stock supports it.**
   Shared infrastructure becomes more affordable when planned across clusters of homes rather than individual properties in isolation. Mapping the housing stock and identifying suitable streets is therefore an essential early step.

3. **Use trusted local intermediaries to lead engagement.**
   Community energy groups that already have local relationships are often better placed than councils to build trust with residents and landlords. Councils can then focus on the functions that only they can perform, such as planning, permissions, procurement and land.

It is also important to explain the model in simple terms. In Rossendale, the finance approach could be compared with a standing charge paid to stay connected to the energy network, except that the infrastructure was local and the benefits stayed in the community. Early engagement with the local energy network operator also mattered because flexibility services formed part of the wider financial model.

Scaling and replicating the project

An eight-stage methodology emerged in Rossendale from delivery experience rather than assumption. It covers the full journey from early community engagement and feasibility through design, installation, operation and long-term maintenance. This approach is a more coherent and replicable delivery model.

What happens next

The demonstrator phase produced three important assets: reliable cost benchmarks based on actual installations, performance evidence from lived-in terraced homes, and a repeatable methodology that can be applied across whole neighbourhoods. Together, these give the partner consortium a stronger basis for long-term planning, procurement and resident engagement.

The project has now moved into a scale-and-embed phase, with feasibility assessments being carried out for around 200 homes in each of Rossendale, Rochdale and Bridgend. This will test the early stages of the Net Zero Terraced Streets methodology in different local contexts and help partners understand how the model performs across different housing types, tenure mixes and supply chains.

PARTNERS

Rossendale Borough Council

Rossendale Valley Energy and Community Energy Association (England) Limited

Nuvision Energy (Wales) Ltd

Urbanchain Ltd

Sustainable Smart Technologies Ltd

Centre for Energy Equality Ltd

Challoch Energy Limited

Kensa Utilities Limited

Insight #7

York: a one stop shop for home retrofit

PROJECT

Retrofit One Stop Shop York (ROSSY)

How City of York Council and partners developed an accessible end-to-end retrofit service that brings together advice, finance, trusted suppliers and community support for residents.

What stands out

1. YorEnergy creates an end-to-end retrofit service for residents

YorEnergy was designed as an end-to-end retrofit service that supports residents through the full customer journey, from first enquiry to installation. It removes early cost barriers by offering a free home energy assessment at the start and combines tailored advice, trusted suppliers and flexible finance in one place, helping residents navigate the process from enquiry through to installation. Rather than expecting homeowners to coordinate multiple services themselves, the model provides a more supported, account-managed route through the practical steps needed to retrofit their homes.

2. Demonstrator homes made retrofit visible and credible

Two demonstrator homes representing some common housing types in York were retrofitted. This gave residents a tangible way to understand what retrofit looks and feels like in practice. The first completed home hosted more than 150 resident tours. Visitors could experience warmer rooms, hear directly from installers and see what the work might mean for homes like their own. They could also understand the benefits through the monitoring data from the demonstrator homes. Together, these elements helped make retrofit reasons and process easier for residents to understand and trust.

3. Finance and supply chain support helped turn interest into delivery

ROSSY did more than generate demand. It built the conditions needed for residents to act. Ten retrofit networking events helped establish the supplier network behind YorEnergy's marketplace, with around 27 vetted and accredited suppliers available through a single route. Four accredited training modules were developed to strengthen local capability. A low-interest loan product, created with a local credit union, gave residents a practical finance option where lack of upfront capital might otherwise have stalled progress. YorEnergy also started to tackle a common scaling challenge: creating a consistent route for trusted suppliers. Its marketplace uses a pre-approved contractor list for homeowner projects and is designed to expand into a dynamic purchasing system for larger commissions, giving the model a clearer path towards more coordinated large-scale delivery.

Why it worked

The consortium was designed around the resident journey

The team mapped each stage of the retrofit journey first, then identified the expertise needed at each point. This brought together finance expertise, retrofit specialists, installers, marketing and engagement capability, and research support. The consortium was shaped around the service residents needed, not around institutional boundaries. YorEnergy was established as a private company. Whilst being backed by the Council, it was able to act independently and with flexibility.

It built in flexibility for different starting points

One practical lesson was that residents do not all enter the retrofit journey at the same point. Some begin with very little knowledge, while others are already looking for finance, suppliers or specific measures. The service worked best when it allowed people to enter at different stages and still be supported through the rest of the journey.

It built trust through peer advocacy

YorEnergy established a network of residents who have already benefited from energy efficient home improvements and were willing to support others. These energy champions offered practical guidance on measures such as solar PV, air source heat pumps, insulation, glazing and EV charging. They opened their homes, spoke at events and answered questions from neighbours in ways that formal communications alone could not.

It invested in supply chain capability, not just demand

The project did not simply signpost residents to installers. It invested in the quality and consistency of the supply chain itself. Training, networking and vetting created stronger shared standards, made the platform more credible and helped suppliers collaborate on more complex projects involving multiple trades.

How to use York's experience

York shows that retrofit uptake can improve when the full homeowner journey is supported through a single service, from first enquiry to installation. It also shows that a local one stop shop can become more than an advice offer, but only when it is designed around user needs rather than partner convenience.

Three practical lessons stand out.

1. **Start with mapping the resident journey.**
   Understand the stages a homeowner must move through: awareness, understanding, assessment, finance, choosing a supplier, installation and aftercare. Build flexibility for homeowners to enter the process at different stages, depending on their individual circumstances. Identify where confidence and capacity gaps sit, then bring in partners to close them.
2. **Plan demonstrator homes to show what's possible.**
   Demonstrator homes can make retrofit tangible, but they are not easy to set up well. Identifying suitable properties, working with housing teams whose priority is often occupancy, and securing residents who are comfortable with visits and monitoring all require early planning. York showed that demonstrators are most useful when they reflect common local housing types and are designed to maximise learning for others.
3. **Be clear about governance and long-term direction.**
   Early clarity on governance, roles and long-term intent helps avoid late-stage uncertainty and supports the development of a financially sustainable model. This includes being clear about where the service should sit, what role the Council should continue to play, and what advantages an independent commercial vehicle may offer over direct council ownership.

York is targeting the able-to-pay market. YorEnergy is the service developed through the ROSSY project to provide access to home energy and heating solutions that enhance comfort, cost-efficiency and sustainability. York's experience also highlights the need to connect the service with parallel programmes, such as Warmer Homes, so that lower-income households are not excluded from the benefits of retrofit.

Scaling and replicating the project

York created a tested delivery model and organisation, a live digital platform, a vetted supplier network and a practical route for turning resident interest into installations. The customer-facing digital platform provides live data to retrofit customers. The whole platform can be 'white labelled' and replicated elsewhere to enable other places to scale comprehensive support for retrofit from consultation to installation. Alternatively, standalone elements of the model can be replicated, with a variety of modules on offer. YorEnergy was created as a separate commercial entity operating independently from the Council. This means that the delivery model is easier to adapt and flex in response to changing customer or market needs .

The team formalised how YorEnergy could continue as a commercial service through Brightsparks Agency Ltd. while City of York Council and other stakeholders consider their longer-term role.

YorEnergy has set up a pre-approved supplier route for homeowners and is structuring the marketplace so suppliers can move into a Dynamic Purchasing System (DPS) when that goes live for larger public-sector commissions. A DPS is a practical route to delivery for larger comissions on behalf of local authorities, housing associations and other public bodies. The DPS creates a clearer pathway for the model to continue beyond grant funding and provides a stronger foundation for replication in other places.

What happens next

York is now better placed to move from demonstration to sustained delivery through YorEnergy while City of York Council and other stakeholders consider their longer-term roles.

By January 2025, 42 retrofit installations had been completed, at least 80 more were booked or in progress, and YorEnergy had received more than 580 resident enquiries. This shows that demand exists and that the model can convert interest into action.

The Council and its partners are sharing their experience with other local authorities. They can now build on a stronger evidence base for the wider benefits of retrofit, including warmer homes, lower household energy costs, better health outcomes, job creation and a stronger market for local installers. This evidence helps make the case for continued investment and gives York a more credible operational model for tackling emissions from buildings over the long term.

PARTNERS

City of York Council

Stockholm Environment Institute at University of York

Energy Systems Catapult

Abundance Investment Ltd

Wrapt Homes Ltd

Brightsparks Agency Ltd

York Community Energy CBS Ltd

York and North Yorkshire Combined Authority

Tools and resources

Tools and methods index: A selection of tools and methods referenced in this resource pack

Tool/method	What it can help you do	Used by	Delivered by
Local Area Energy Planner Plus (LAEP+)	Helps translate local energy plans into spatial, evidence-based decisions. It visualises heat, power and transport options by area, supports comparison of pathways, and enables councils to prioritise interventions and coordinate delivery using a shared, location-specific evidence base.	Bristol City Council, the West of England Combined Authority, North Somerset Council, South Gloucestershire Council and Bath & North East Somerset Council	Advanced Infrastructure
Just transition in action: a toolkit for inclusion	Helps users understand how the Mission Net Zero partners worked to position just transition at the heart of the project. The toolkit provides an overview of the project's foundations, the step-by-step process for delivery and the recommendations for embedding just transition principles into a project. Tools and templates are provided at the back of the toolkit.	Bristol City Council, the West of England Combined Authority, North Somerset Council, South Gloucestershire Council and Bath & North East Somerset Council	Bristol Climate & Nature Partnership
LAEP Lens Visualisation Tool	Helps users explore local energy data on an interactive map so they can spot priority projects, understand the scale and cost of potential interventions, and pull out tailored evidence for reports, funding bids and conversations with partners.	Leicestershire County Council	Energy Systems Catapult
Local Climate Project Prioritisation - A Tool for Local Authorities **Part of** Greener Future Leicestershire	Helps users compare different climate projects, weight what matters most (carbon, cost, social impact, complexity) and identify which options are most viable and worth prioritising in their area.	Leicestershire County Council	GreenerFuture Leicestershire
ClimateOS	Helps turn complex energy and emissions data into clear, decision-grade insight. It enables rapid "what if?" testing, supports prioritisation and sequencing of actions, aligns partners around a shared evidence base, and shifts conversations from abstract targets to delivery-focused, investment-ready choices.	Liverpool City Council	ClimateView

Tool/method	What it can help you do	Used by	Delivered by
Nordic Energy Odin	Helps local authorities to input local data and constraints to identify viable projects and generate outline designs, costs, returns and carbon impacts. It supports rapid option appraisal and project prioritisation.	Peterborough City Council	Nordic Energy
Nordic Energy Thor	Helps guide councils from concept to implementation. It sets out the technical, commercial, governance, and regulatory steps required for different project types. Thor helps officers understand what is required to deliver projects in practice, not just in theory.	Peterborough City Council	Nordic Energy
cero.earth	Helps manage and report area-wide and organisational emissions in one place. It brings together scattered carbon data, builds a robust emissions baseline and allows users to model different pathways to net zero.	Peterborough City Council	edenseven
FutureNow Peterborough	Helps residents, community groups and businesses find advice, grants and projects to cut energy bills, upgrade properties and travel sustainably. It also explains the actions Peterborough City Council is taking on climate change and fuel poverty.	Peterborough City Council	Peterborough Environment City Trust
Fairer Warmth	Demonstrates how homes perform after retrofit. It tracks real energy use, comfort and cost outcomes, enabling councils and partners to see what works, at what cost and why.	Rossendale Borough Council	Fairer Warmth
Parity Projects / Cotality	Helps identify, assess and prioritise retrofit opportunities at scale. It maps housing archetypes, models energy performance and estimates costs and carbon impacts, enabling councils to move quickly from housing stock analysis to evidence-based, delivery-ready retrofit programmes.	Rossendale Borough Council	Parity Projects
YorEnergy	Provides a personalised domestic retrofit end-to-end journey for residents. From first conversation to final installation, YorEnergy provides expert guidance, information on funding options and access to a trusted network of suppliers.	City of York Council	Retrofit One Stop Shop York (ROSSY) consortium partners[7]

7 Led by City of York Council and also include York and North Yorkshire Combined Authority, Brightsparks Agency Ltd, Energy Systems Catapult Limited, Wrapt Homes Ltd, University of York, York Community Energy CBS Limited, and Abundance Investment Ltd. The team at the University of York are part of the Stockholm Environment Institute.

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It reflects the collective learning of the places taking part in the Net Zero Living Programme. Insights were gathered from project teams in local authorities and their partners across:

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The content of this resource pack reflects the collective insights drawn from the Programme and does not necessarily represent the official position of Innovate UK, participating local authorities or their partner organisations.

Creating Better Places

Ten areas where local innovation can improve lives and unlock growth

Innovate UK

Urban Foresight

Delivered by Urban Foresight for Innovate UK's Net Zero Living Programme.

Grounded in insights from the local authorities which participated in Innovate UK's Net Zero Living Programme.