Financing UK place-based climate action: from Westminster to Cumberland

Rhianydd Griffith and Mark Nicholls

Applied research report

September 2024

The Just Transition Finance Lab was launched in 2024 with the goal of being a centre for experimentation and excellence in the financial solutions needed for a just transition. The Lab is grateful for the support of its Founding Funders: Antin Infrastructure Partners, Barclays, HSBC and Laudes Foundation. www.justtransitionfinance.org

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Foreword by Cumberland Council and Westminster City Council

In July 2022, the Cumbria Local Enterprise Partnership (CLEP) published its *Clean Energy Strategy of Cumbria*, outlining the opportunity for all forms of clean energy generation in the county. Cumberland Council, formed through local government reform in April 2023, is in the process of building on the CLEP's work to develop its clean energy investment ambitions for the emerging Cumberland Economic Plan. The work that LSE and Energy Systems Catapult have delivered in partnership with the council as part of its 'Westminster to Cumbria' project has been immensely helpful to us as we formulate our plans.

Cumberland has a long history in the nuclear industry, dating back to the early days of the Sellafield site in the late 1940s, and it is always a risk that we become too singularly focused on potential new nuclear developments in our quest to become a national leader in clean energy generation and technology. We therefore very deliberately excluded potential new nuclear developments from our work with LSE.

Cumberland has many natural assets and an industrial heritage that make it attractive to clean energy developers, as demonstrated by the huge Robin Rigg Wind Farm off the Solway Coast, with its 58 operational units being serviced from the Port of Workington. In fact, Cumbria as a whole already provides three times more clean energy than it consumes in electricity through renewable sources.

The insights brought by the Just Transition Finance Lab at LSE have helped us to understand the extensive potential we have for further investment in clean energy generation in our area and the operational and funding models that can be put in place to the benefit of the council and our community.

It has been an enlightening and most enjoyable experience working with the LSE and Energy Systems Catapult team and we are very pleased with the output contained in this report. We will certainly be maintaining contact with the team as we build more detail into our plans.

Darren Crossley, Director of Place, Sustainable Growth and Transport, Cumberland Council

In 2019, Westminster City Council declared a climate emergency and set a clear ambition for Westminster to be net zero as a council by 2030, and borough-wide by 2040. We have made good progress on this target and recognise the crucial role for all local authorities in delivering place-based climate action to accelerate the shift to net zero. Westminster City Council directly controls only 2% of borough-wide emissions, so to achieve these aims there is a need for collaboration and significant investment – and coordination of investment – across the public and private sectors.

We commissioned a Local Area Energy Plan (LAEP) report to help identify what is needed to help the City of Westminster reach net zero. The independent report identified more than £5 billion in investment opportunities across clean energy technologies, including solar, heat networks and building retrofitting. We are proud to host a number of prestigious academic institutions in our borough, and delighted to partner with LSE on this innovative research project. It has provided a valuable next step in assessing the outputs of our LAEP report and advancing conversations with the investment market to explore how to better deliver net zero together.

In Westminster, our focus goes beyond delivering carbon reductions to achieving improvements across the borough, thereby ensuring a fairer environment for all. We face similar challenges to other local authorities, like supporting our residents through the cost-of-living crisis – particularly those currently living in fuel poverty. There are also challenges unique to Westminster, including our 11,000 listed buildings and conservation areas, which cover 78% of the borough. It must therefore be a prerequisite that any place-based solution and associated investment delivers wider co-benefits, including routes to green skills and jobs, improved health outcomes, and a just transition for all residents.

This is why we are encouraged by the findings of this report, which recognises our potential as a leader in retrofitting the built environment, and the potential for a place-based partnership or investment vehicle in our borough. We call on sub-regional and national government to consider the recommendations set out in this report, particularly the need for consistent, long-term funding and support for building up place-based investor readiness. This in turn will kick-start the investment in infrastructure and retrofitting opportunities necessary to deliver net zero across our borough, and all local authorities across the UK.

Councillor Ryan Jude, Cabinet Member for Climate, Ecology and Culture, Westminster City Council

Summary

A need for more investment in place-based net zero projects

The UK's transition to net zero requires unprecedented investment around the country, with some £550 billion needed by 2050 for local net zero projects (LNZPs), including in local renewable energy generation, energy storage, heat pumps, heat networks, energy efficiency retrofits, alternative fuel production and clean transport. This investment is not yet flowing at the scale needed; well-documented barriers include the small size of individual projects, a lack of local project development capacity, revenue uncertainty in key areas requiring major investment (such as for energy efficiency retrofit), historically uncertain government policy, and limited engagement by larger institutional investors in these types of 'place-based' opportunities.

Working with two councils to understand how to attract investment

To help address this challenge, the Just Transition Finance Lab and Energy Systems Catapult carried out an applied research project with two contrasting UK local authorities that have ambitious climate goals: Westminster City Council and Cumberland Council. The project aimed to identify context-specific local climate opportunities, advance investment readiness of potential LNZPs, and assess the enabling policy environment.

To ensure a just transition, investment in decarbonisation must be undertaken in a way that is fair to and inclusive of communities, workers and local supply chains. The project therefore aimed to identify not only technology solutions, but also just transition opportunities, considering place-based opportunities for investment in local climate transitions that could enable local climate and economic impact, creation of good jobs, community participation and regional equality.

Identifying attractive business models

Both Westminster City and Cumberland Councils have emphasised their focus on climate action, setting net zero or emissions reduction targets, and drawing up plans to meet them. The Just Transition Finance Lab and the Catapult engaged with them through a series of workshops to develop options for business models designed to attract investment into local climate action. The business models explored included: renewable energy power purchase agreements; electric vehicle charge point concessions; community interest company one-stop retrofit shops; pay-as-you-save energy performance partnerships for retrofit; solar car ports; private power networks (microgrids); and co-located renewables and green hydrogen.

The project also partnered with the University of Edinburgh to quantify the social value that could be derived from the proposed interventions by the two councils, through a combination of co-benefit modelling and estimations of gross value added (GVA) and job creation. This analysis found that the deployment of Westminster's low-carbon interventions could create nearly 50,000 direct, local jobs lasting 20 years on average, and an estimated £1.3 billion of direct and indirect GVA from all interventions in the borough, equating to an increase of 32% of value (compared with investment) to be spent within the UK. In Cumberland, there could be around 90,000 direct, local jobs created, lasting 20 years on average, and the estimated direct and indirect GVA from all interventions is £25.6 billion, which equates to an increase of 73% in value (compared with initial investment) to be spent within the UK.

Working with the capital markets

To meet their net zero plans, local authorities will need to work with funding providers across a wide spectrum of public and private capital. This requires local authorities to develop an understanding of the objectives, constraints and risk tolerance of the various types of investors, and make resources available to support this work.

The study undertook a top–down analysis of the spectrum of capital potentially available for LNZPs, and worked with investors to 'sense check' the two local authorities' potential options.

The project identified substantial investor interest in financing the energy transition. Investors at a project workshop:

- Saw opportunities, in principle, for investment in each place, subject to further development by the local authorities.
- Recognised higher potential for place-based investment if councils can demonstrate strong ambition (e.g. clear climate targets), a vision and a track record of delivery.
- Were open to place- or micro-place-based partnerships, illustrating a positive shift in awareness and the potential of place-based financing in the market.
- Believed supportive local or national policy to be an important enabler or barrier to investment.

The project validated that on-the-ground project and pipeline development capability, including technical, commercial and business model analysis, is essential to enable more in-depth discussion with potential funders across the spectrum. The project also confirmed that addressing barriers of scale and risk via, for example, aggregation or blended finance requires both financing expertise and significant local authority time, resource and commitment to delivery.

The project identified a number of early potential projects and business models the local authorities may consider exploring further internally and/or with interested finance partners. It also identified two specific potential proposals for further place-based and market development: a pay-as-you-save building retrofit model supporting heritage retrofit skills development; and community energy co-investment for larger projects. These could have an impact at scale and be further applied or tailored to other places.

Recommendations

The two councils are very different in terms of the characteristics, strengths, assets and opportunities they present:

- Westminster has the potential to capitalise on its ambitious targets, objectives and green finance expertise and position itself as a leader in heritage-building retrofit skills and heat network development.
- Cumberland could become a frontrunner in clean energy production across onshore and offshore renewables, green hydrogen and nature-based solutions, expanding community energy, and utilising its nuclear heritage and strategic port asset to achieve climate, economic and social impacts.

Despite their differences, the two councils face similar challenges in how to best use limited resources and attract capital to achieve their net zero, social and economic goals, as is the case for other local authorities, too.

The project makes the following recommendations:

- To benefit from the broadest range of financing options, councils should pursue a parallel programme of council-level readiness (e.g. setting net zero targets, developing strategies, and allocating internal resources to delivery, including project stakeholder and investor engagement) and opportunity-level investment readiness (e.g. by producing Local Area Energy Plans or equivalent technical analysis and developing commercial feasibility analysis).
- Local authorities need increased and more consistent long-term funding from the UK Government to deliver their net zero targets.
- New government bodies GB Energy and the National Wealth Fund can support local, place-based development-stage projects, particularly at early or concept stages of development, where investment and development assistance now can pave the way for entry by lowering the cost of capital for investors later.
- Investors and advisors need to continue to engage, in partnership with councils, on financing models to scale up investment in retrofit and community energy projects.
- Investors should continue to pursue more place-based mandates, which can encourage focus, collaboration and early resource investment in defined locations.

1. Introduction

This report explores the barriers and opportunities associated with scaling up net zero investment at the local authority level in the UK. By examining the experiences of Westminster City Council (WCC) and Cumberland Council, we aim to identify context-specific opportunities for local net zero projects, how to advance investment readiness, and assess the enabling policy environment at the two councils, providing insights for other local authorities seeking to accelerate their transition to net zero. We draw on project workshops held with investors and council stakeholders, plus analysis from Energy Systems Catapult and the University of Edinburgh.

Context – the need for local net zero projects

The UK needs to accelerate investment into projects, infrastructure and technologies that reduce greenhouse gas emissions if it is to meet its legally binding emissions targets, play its part in averting the global climate crisis and generate economic growth.

Devolved and local government can play a central role in achieving these goals. Local authorities are well positioned to identify and support projects and companies that can drive decarbonisation, seize opportunities in the green economy, and thus deliver local jobs and development.

Most local authorities around the country also recognise the imperative to decarbonise, the potential of the energy transition to generate growth, and the opportunities it presents for positive social outcomes. Around 80% of local authorities have declared a climate emergency (Energy Systems Catapult, 2024), and a growing number are producing plans that set out how they will meet net zero targets.

The transition to net zero requires an unprecedented amount of local investment. Analysis published in 2023 by PwC for Innovate UK found that around £550 billion of investment is needed in local net zero projects (LNZPs) by 2050 (Gorelick et al., 2023). Under current technology, policy and market assumptions, the analysis showed that about £250 billion will need to come from the private sector, alongside £300 billion of public funding.

Innovate UK has found that 'place-specific' net zero deployment – including harnessing local knowledge, engaging with communities, and tailoring actions to the strengths and needs of specific places – could reduce the cost of meeting the targets set out in the UK's Sixth Carbon Budget (which covers 2033–37) from £195 billion to £58 billion, while increasing the wider social benefits delivered from £444 billion to £825 billion, compared with a 'place-agnostic' approach (Dowling et al., 2022). 'Place-based' investment can therefore complement national decarbonisation and investment priorities, while also distributing the benefits of the net zero transition more equitably across the country.

However, neither place-based investment nor investment in LNZPs is flowing at the scale needed. Barriers identified by Innovate UK and others include a lack of local project development capacity, revenue uncertainty in areas requiring major investment (such as retrofit), small 'ticket sizes' (i.e. the volume of investment required by a particular funding opportunity), limited institutional investor engagement in the place-based or local space, and uncertain policy.

Setting up a research project in two contrasting locations

To explore these challenges and help address barriers to place-based net zero transitions, the Just Transition Finance Lab and the Catapult carried out an applied research project with two UK local authorities: Westminster City Council[1] and Cumberland Council,[2] both of which have ambitious climate targets or visions but contrasting place-based characteristics.

1 Westminster City Council is one of 32 borough councils in London.

2 Cumberland Council was created in April 2023 from the former Cumbria County, Carlisle City, Copeland Borough and Allerdale Borough Councils.

The project had three main objectives:

- **Identify context-specific local climate opportunities** in the form of net zero investment priorities and consider business models and financing structures that could deliver on decarbonisation goals, social welfare, economic development and jobs, while expanding community wealth and assets.
- **Advance investment readiness** of the two councils and/or the identified local investments, working with council staff and investors. Aim to move beyond pipeline identification to assessing investor appetite for the projects identified and suggesting next steps.
- **Assess the enabling policy environment** by identifying relevant policy barriers and enablers and offer recommendations to local and national policymakers on how to overcome or capitalise on them.

Identifying local climate opportunities

Importantly, a just transition requires investment in decarbonisation to be implemented in a way that is fair to and inclusive of communities, workers and local supply chains. The project therefore aimed to identify not only technology solutions (see below), but also just transition opportunities, prioritising place-based opportunities for investment in local climate transitions that could enable the benefits outlined in Table 1.1.

Table 1.1. Local climate transition benefits

Local climate and economic impact	Delivering investment in the technologies needed to address climate change, which promises to not only reduce emissions but also increase innovation, boost productivity and drive GDP growth (Zenghelis et al., 2024).
Creation of good jobs	The UK Climate Change Committee (CCC) finds that about 250,000 jobs have been created in the energy transition to date, with the potential to create up to 725,000 net new jobs in low-carbon sectors (CCC, 2023a). These can also be good quality well-paid jobs, developed with fair work standards. The UK has to date lacked national fair work standards, but there are policies available showing good practice: for example, elements can be drawn from Scotland's Fair Work First policy, which includes payment of at least the 'real Living Wage', effective worker voice (such as trade union recognition), workforce development, the ending of zero-hour contracts, gender equality, diversity and inclusion, flexible working, and no fire and rehire practices (Scottish Government, 2023; see also Greater Manchester Good Employment Charter, n.d.; Greater London Authority, n.d.; Prospect, 2023).
Regional equality	Clean technology opportunities are distributed around the country, including in traditionally less prosperous areas, thereby offering potential to reduce regional inequalities (Energy & Climate Intelligence Unit, 2024). Prioritisation of investment in these areas can have a disproportionate social impact. More broadly, all built environments – every city, town and village – need to be decarbonised, along with the UK's industrial heartlands and coastal regions, which have historically been supported by fossil fuel-powered growth. Every part of the UK has the opportunity to contribute to and benefit from net zero in a way that is consistent with its geographic, population and technological strengths, whether in green finance, specialised manufacturing skills, or natural or man-made assets such as ports and wind power.

Technologies deployed in LNZPs typically include renewable energy generation, heat pumps, heat networks, energy storage and flexibility services, building energy efficiency, electric vehicle (EV) infrastructure, and low-carbon public transport and mobility services. Outside of cities, LNZPs can also include newer forms of energy generation and production such as green hydrogen and biofuels, investments in low-carbon supply chains (e.g. offshore wind servicing) and technology manufacture, along with nature-based solutions (such as tree planting, peatland restoration and catchment management), which can play a key role in sequestering carbon and improving flood resilience.

The starting point for analysis with each local authority included their published climate strategies, environmental, economic and social targets, and any identified key projects. For Westminster in particular, the team benefitted from the existence of Westminster's Local Area Energy Plan, which defines technology priorities, indicates high-level technical feasibility, and estimates the overall cost and impact of possible interventions.

Advancing investment readiness

Investment-ready investors

Investors increasingly recognise the challenges posed by climate change, and the urgent need to decarbonise the global economy. For example, 325 investors, representing US$57 trillion of capital, have joined the Net Zero Asset Managers initiative, committed to supporting investment aligned with the goal of net zero emissions by 2050 or sooner.

While net zero opportunities are global, many see opportunity at a UK place-based level. In addition to net zero-aligned asset class or technology-focused mandates that include the UK (for example, renewables or 'sustainable infrastructure' mandates), a smaller number of investors are establishing funds dedicated exclusively to UK place-based investment opportunities. These can include some or all of the LNZPs, social housing, private equity or natural capital, and target defined positive impact metrics.

The previous UK Government explored introducing a requirement for local government pension funds to invest 5% of their assets to support 'levelling up', which implied a potential increase in future place-based impact investing over time (UK Government, 2023). The current Government has launched a review of local government pension schemes, with the aim of 'unlocking' billions of pounds of investment from defined contribution schemes and pension pools to support net zero and growth. Theoretically then, there should be no shortage of capital interested in the class of opportunity that could present itself at local level.

However, despite the need and appetite for third-party investment, connecting capital to opportunity remains a challenge, with many places still struggling to attract significant external funding. Recent reports identify barriers including:

- Lack of local project development capacity, particularly within local authorities.
- Revenue uncertainty around certain interventions, such as residential energy efficiency retrofits, making them potentially incompatible with the investment criteria, yield and return objectives of private investors.
- Small 'ticket sizes', in a funding market where factors including global consolidation, pension scheme pooling and the growth of defined contribution pension schemes are leading to the emergence of 'mega funds', particularly in the infrastructure space, subject to significant minimum size limits on investment.
- Limited mainstream investor engagement in the 'place-based investment' space and with local authorities, potentially due to the perceived scale, complexity and low returning nature of LNZPs.
- Comparatively few UK institutional investors (particularly savings pools) being able to take development-stage project risks, and consequently lacking an incentive to engage early with councils to co-develop projects.
- Uncertainty around policy, e.g. strategic direction around decarbonising domestic heat (Gorelick et al., 2023).
- Sufficient availability of skilled workers, with the absence to date of a national plan to meet the recognised need to develop the net zero workforce (Department for Energy Security and Net Zero et al., 2021; CCC, 2023b).

Investment-ready places

Private investment in local climate transitions, or blended finance combining private and public capital, can come from a range of different sources and take different forms, from whole place-based partnerships to investments in a single technology or project.

In recent years, a handful of councils, such as Bristol City Council and some combined and mayoral authorities, have embarked on ambitious partnerships with the private sector to deliver decarbonisation, aggregating opportunity and structuring partnerships in ways that address the barrier of scale.

More traditional single project or technology investments can involve the acquisition or construction of, for example, defined solar, heat network or EV charging infrastructure assets at one or more sites. Various examples of these can be found across the country, but more needs to be done.

To attract investor engagement and deployment in any form, local authorities must, at a minimum, understand the capital landscape and clearly articulate partnership or investment opportunities in a way that can be assessed against target investors' criteria (type of assets, scale, development stage, risk-adjusted return expectations, impact, and so on). Where appetite does exist for co-developed bespoke solutions, local authorities must also demonstrate they are capable and credible delivery partners to justify the investment of time and resource in co-development activities.

This implies a need for dual-level readiness – at the council and opportunity level – to effectively communicate opportunity and attract and deploy investment. A lack of readiness could either entirely deter an investor or increase the return it expects to earn in compensation for taking additional risk.

The project sought to support engagement by the councils with the capital markets, by both connecting them with potentially interested investors across a spectrum of capital and supporting the presentation of their places and potential opportunities, to the extent possible, in a digestible and assessable form.

Assessing the policy environment

Where local or national government action could potentially enable the opportunities identified for Westminster and Cumberland, the project sought to highlight or reflect these in proposals.

Local action

Local devolution is expected to significantly increase under the current Government, which is focused on local plans for growth and net zero and supporting local delivery. A range of different powers and levers is already available to local authorities to support the journey to net zero, and not all local authority delivery powers depend on the deployment of funding.

Devolved regulatory or consenting levers can be effective at shaping or stimulating demand, including:

- Using planning powers and conditions to shape local housing, infrastructure and renewable energy development.
- Implementing charges on higher emitting activity (such as clean air or low-emission traffic zones).

Where funding is required, local authorities can choose to use available revenue and/or grant funding alone to, for example:

- Retrofit existing homes to improve their energy efficiency
- Install solar panels
- Develop heat networks
- Decarbonise transport, such as by installing public EV charging infrastructure.

However, local authority resources are stretched following decades of repeated budget cuts. In December 2023, the Local Government Association warned that almost one in five local councils was at risk of effective bankruptcy (Local Government Association, 2023).

The scale of investment needed and multistakeholder nature of many net zero interventions mean that public–private partnerships, in some form, are required to successfully deliver net zero. Within such partnerships, local authorities will be required to make fine judgements around how to catalyse investment with their limited resources, preserve the right level of control, and steer capital to achieve the required environmental and social outcomes, while retaining value and a voice for local communities.

Lessons can be learned from the Private Finance Initiative policy pursued by successive governments in the 1990s and 2000s. Recommendations made to improve outcomes have included bolstering the skills, resources, experience and seniority of public sector teams to support robust analysis, accurate assumptions around tax, proactive management of partnership relationships, and effective monitoring of outcomes. Anticipating the need for flexibility in long-term contracts and greater public transparency have also been noted as crucial to success in any future partnerships. However, in some cases it has been noted that private and public investors' goals may be incompatible, and blended finance structures can help to achieve a balanced allocation of risk, reward, outcome and responsibility (Gordon, 2023).

National action

Local opportunity is also subject to and dependent on national-level policy and decision-making. National targets, regulations, business models and funding allocations can either support the deployment of individual technologies and local authority delivery at the place-based level or hinder the necessary investment at the pace required.

Here, the new Government has made several policy and spending commitments that stand to support LNZPs (Labour Party, 2024), including:

1. Support for local clean power projects via Great British Energy, partnering with energy companies, local authorities and co-operatives. The Government has pledged to "work with local leaders and devolved governments to ensure local people benefit directly from this energy production".
2. Partnering with local authorities to invest £6.6 billion over the next parliament in domestic energy efficiency upgrades.
3. Supporting green industries of the future via the National Wealth Fund, including investing £1.8 billion in upgrading ports around the country and supporting good jobs in the energy industry.

Structure of the report

Section 2 sets out how the project approached identifying the opportunity for scaling up net zero investment alongside the two councils, and provided further suggested direction based on analysis undertaken by the Just Transition Finance Lab and the Catapult.

Section 3 examines the public and private funding sources available to local authorities across a spectrum of capital, before providing an overview of insights from our workshops with stakeholders from the investor community.

Section 4 explores two specific potential proposals for further place-based development based on feedback obtained from the business model assessment and at the investor workshop: a 'great retrofit' in Westminster and community energy at scale in Cumberland.

Section 5 provides a set of broader recommendations underpinned by insights gained from the project, for councils, government and investors.

2. Identifying opportunity

This section sets out how the project approached identifying opportunity for scaling up net zero investment in collaboration with Westminster City Council and Cumberland Council and suggests further options and direction based on business model analysis undertaken by Energy Systems Catapult. In some ways, the opportunities identified in the two locations are similar, requiring investment in typical LNZPs, using proven technologies, to decarbonise the built environment. In others, they are contrasting, with Cumberland's land, industrial areas and agricultural characteristics presenting different opportunities to those available in Westminster's dense urban environment. It is notable that the range of opportunities identified for both councils are at an early stage of development.

Both Westminster City and Cumberland Councils have emphasised their focus on climate action, setting net zero or emissions reduction targets, and drawing up plans to meet them. Westminster is aiming to become net zero as a council by 2030 and as a borough by 2040. Cumberland has shorter-term, council-level targets and Cumbria as a whole is working towards becoming a net zero county by 2037.

Our starting point was therefore to look at the priorities, targets and direction set by the authorities themselves. Westminster is developing a detailed Local Area Energy Plan (LAEP), a technical piece of analysis that identifies specific technology installation targets and priority projects, plus the overall investment requirement.[3] Cumberland Council, which was only created in April 2023, is at an earlier stage in its planning. However, in 2022, the Cumbria Local Enterprise Partnership (a business-led partnership between the local authority and private sector) published a Clean Energy Strategy that includes a business decarbonisation plan.

Both councils have set out clear social and economic objectives for their areas. Cumberland is focused on growth and economic development, seeking to capitalise on its potential as a green energy generator in a net zero economy for the benefit of all residents. Westminster has combined its economic and social goals with climate planning via a bespoke Environmental Justice Measure, which seeks to align climate priorities with areas of greatest deprivation or inequality.

Developing place-based net zero business models

With the two councils' net zero objectives in mind, the Just Transition Finance Lab and the Catapult engaged with them to develop options for business models designed to attract investment into local climate action. Based on Westminster's LAEP and Cumberland's Clean Energy Strategy, this project takes a similar approach to a recent guide published by Innovate UK, albeit at a higher level due to our project's contracted timeframe. The Innovate UK guide (Fulker et al., 2023) sets out in detail how local authorities can pursue LNZPs. Its recommendations include that when designing projects, local authorities first define the business model, setting out strategies, measures, resources, costs, stakeholder roles and revenue streams; then design the commercial structure, focusing on delivery and governance, funding and finance, and contracting and risk.

To focus what could have been a very broad exercise, our business model and innovation analysis concentrated on identifying actionable opportunities within the scope of the councils' key areas of control or influence, which could contribute to meeting pre-identified objectives. The Catapult's analysis also sought to draw on specific place-based characteristics, strengths and assets – consistent with a place-based investment approach. Having analysed pre-existing material, we worked with the Catapult to undertake workshops with each council to explore the possible business models that either

3 This plan has not yet been published. For the purposes of the project, the Just Transition Finance Lab and the Catapult were given sight of an unpublished draft.

already exist or could be tailored to specific technologies. A key decision related to the inclusion of heat networks (for Westminster) and nuclear (for Cumberland) as potential areas to explore.

Major work is being undertaken by Westminster City Council and the Department for Energy Security and Net Zero on the optimal heat network solution for South West London, including South Westminster. Much of Westminster is also a designated heat network zone,[4] meaning that connections will be mandated in the coming years. Meanwhile, Cumberland's nuclear heritage and skilled workforce offer significant potential for supporting and hosting new nuclear facilities, including small modular reactors. Local efforts are underway to capitalise on this major opportunity, involving both Cumberland Council and strategic partners. However, the inclusion of heat networks in Westminster and nuclear in Cumberland are subject to national programmes and current interventions, which could have a material impact on whether and how they are delivered and financed. The project therefore concluded that exploring them as part of the business model opportunity set, in the detail they deserve, would be premature at this time. Instead, we simply note that these opportunities might be additive and complementary to those discussed here. These opportunities are included, however, in the social benefit analysis undertaken by the University of Edinburgh (see p15–16).

We conducted workshops to shortlist promising LNZP business models from the Catapult's extensive knowledge base. As well as building on the councils' existing strengths and assets, these workshops took into account their preferences for in-house ownership and delivery against various third-party and community involvement models. We also considered their risk tolerance and ability to contribute existing budgets or grants, two factors that could influence the councils' preferred potential role as either arms' length enabler, investor or product (energy) purchaser. From a financing perspective, this exercise enabled us to better understand for those defined business models: the revenue streams (if any) to support financing; where counterparty, contractual or revenue risks might theoretically sit in different scenarios; and how innovation in the market is creating new options.

The workshops and background material provided by the councils also helped us to better understand the specific social objectives that the councils want to achieve alongside net zero. This enabled further exploration of how these could be integrated into any financing partnerships or structures:

- For Westminster, it was clear that integrating its skills agenda – including skills for heritage retrofit and green finance – was essential. So too was supporting the most deprived areas in the borough, including by improving health outcomes.
- For Cumberland, a key theme was the clear local drive for community ownership of and involvement in energy assets – enabling this type of value retention in some form, while also catalysing outside investment and economic growth.

The sessions identified a number of potential priority business models, summarised at a high level, together with key place-based characteristics, in the boxes that follow. Most of these models have already been or are currently being implemented in other localities.

[4] A designated heat network zone is an area where heat networks are considered the most cost-effective way to reduce heating related carbon emissions, involving heat network development and multiple buildings being connected to a central heat source.

Westminster context

Box 2.1. Westminster place characteristics

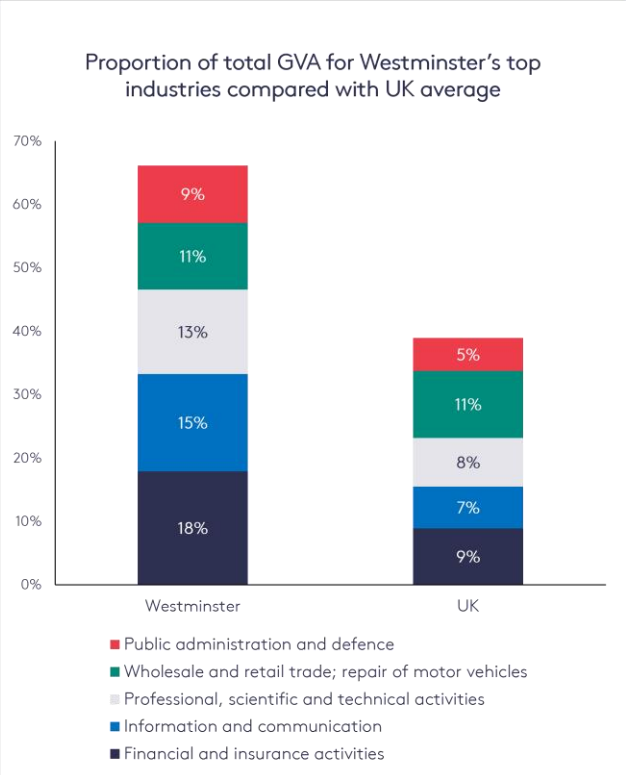
Emissions

- In 2019, Westminster City Council (WCC) declared a climate emergency and committed to a target of achieving net zero council emissions by 2030 and net zero city-wide emissions by 2040.
- WCC's Climate Emergency Action Plan highlighted an action to undertake a feasibility assessment of clean and renewable energy opportunities across Westminster to inform a Local Area Energy Plan (LAEP).
- In conjunction with WCC, Buro Happold has since developed a LAEP, which provides pathways for decarbonisation for the energy system in Westminster.
- In 2022/2023, WCC emissions totalled 34,162 tonnes of carbon dioxide equivalent (tCO_2e; see table below for a breakdown*), representing a 23.4% reduction from the baseline of 44,619tCO_2e in 2018/2019.
- The reduction of emissions in 2022/2023 was eight times greater than the average yearly baseline reduction of 3% since 2019.

Westminster City Council	Scope 1	Scope 2	Scope 3
Tonnes (CO_2e)	20,486	5,839	7,837
Proportion (%)	60	17	23

Local businesses and employment

- As of 2021, the population of Westminster was about 204,200, approximately 6.9% less than it was in 2011 (219,400).
- Westminster has 53,000 registered businesses, which employ more than 767,000 people and generate £76bn in gross value added (GVA).
- Eighty-five per cent of all registered businesses employ fewer than 10 people and are therefore classed as micro-enterprises.
- Westminster generates 16% of the total GVA of London.
- The top five industries in Westminster are:
  - Professional, scientific and technical
  - Public administration and defence
  - Accommodation and food services
  - Information and communication
  - Financial and insurance.



** Scope 1: Direct emissions from own operations. Scope 2: Indirect emissions from purchased energy. Scope 3: Indirect emissions from the value chain (such as suppliers and customers).*

Source: Energy Systems Catapult

Box 2.2. Westminster place strengths and existing assets

Extensive EV charging infrastructure

- Westminster has some of the most extensive public EV charging infrastructure in the UK.
- As of January 2024, Westminster had more than 13,500 EVs and 2,700 publicly available EV charge points.
- This equates to:
  - 1,300 charge points per 100,000 people (more than five times greater than the London average).
  - Approximately 23% of the total number of vehicles in Westminster.
- In 2021, emissions from road vehicles accounted for 11% of Westminster's total emissions, compared with 20% for London and 23% for the UK.

Listed buildings and conservation areas

- Westminster is an old and deeply historic area with many listed buildings and conservation areas.
- Westminster contains 56 different conservation areas, which, between them, cover 75.5% of the total area.
- There are more than 4,000 listed buildings and 7,000 listed structures, with nearly 90% of these buildings listed as Grade II* (meaning that they are particularly important buildings of more than special interest).
- Almost one-third of domestic properties were built before 1900 compared with the UK average of 15%.
- Due to the advanced age and protected status of many of the buildings, there is a very high volume of poorly insulated buildings within the borough.
- As a result, more than 60% of properties have an Energy Performance Rating of D or below.

Heat networks

- There are currently two large-scale heat networks in Westminster: the Pimlico District Heat Undertaking (PDHU) and the Whitehall network.
- The PDHU is a large heat network that is owned and managed by Westminster City Council.
  - The network provides affordable heat to more than 3,000 homes, 50 commercial premises, four schools, a post office and a library using 5 km of underground pipes.
  - It is the oldest heat network in the UK, originally built to utilise waste heat from the nearby Battersea Power Station but now supplied by three large gas boilers.
- The Whitehall Boiler System is owned by the Government Property Agency and provides heat from four oil-powered boilers.

West End

- London's West End is one of the biggest retail districts in the world and the largest central business district in the UK. It houses a huge number of businesses, restaurants, shops, museums and galleries, theatres and historical landmarks.
- The West End is responsible for a large proportion of Westminster's 25 million visitors per year.
- The West End houses 64% of Westminster's businesses and provides 500,000 jobs.
- In 2020, the West End generated more than £46bn of GVA.
- The West End has the highest energy consumption of any area in Westminster, both in terms of domestic and non-domestic consumption.

Source: Energy Systems Catapult

Westminster – opportunities

Given Westminster's LAEP and existing characteristics, it is clear that there are a range of options available to WCC across its spectrum of potential LNZPs, all of which include potentially financeable business models, as detailed in Table 2.1. Based on the quantum of funding required and breadth of the need for retrofit in the borough, deeper exploration of a model for retrofit could potentially have one of the biggest impacts on emissions and social benefits of the business models analysed. Following the investor workshop, this was the area explored in more detail for future development.

Table 2.1. Potential net zero business models and opportunities for Westminster

Net zero business model	Opportunity
Behind-the-meter solar PV PPA This kind of a power purchase agreement (PPA), struck by an energy generator and energy consumer (the 'offtaker'), involves the installation of rooftop solar systems to meet onsite demand for power, with potential to reduce bills by 20–30%. Surplus solar generation is exported to the power grid.	WCC's LAEP has identified 201 MW of rooftop capacity across WCC-owned buildings and a further 647 MW across all prioritised buildings. This presents a significant investment opportunity, with a range of PPA business models likely to be required. These could include community-owned projects, a third-party acquired model where projects would be aggregated into a portfolio, and a WCC-owned model where the council would partner with a rooftop PPA provider.[5]
Local energy pool sleeve PPA This would link domestic and non-domestic rooftop solar systems with Westminster-based commercial offtakers in a single PPA. Aggregating these micro assets creates potential to generate value for both parties.	This model is well suited to scenarios where there are many 'micro'-sized rooftops, which would not appeal to PPA providers individually, or where offtakers with significant electricity loads in the summer, for example from cooling, may be unable to install solar PV on their sites, such as for planning reasons or lack of access.
EV charge point concession agreement This kind of agreement would enable the installation of public EV charge points on private land. It would involve a concession and licence agreement between WCC, a charge point operator and a third-party property owner.	Given the shortage of available WCC-owned land, this business model would require making use of and creating value for private land to address the lack of EV chargers in areas served by micro businesses and small- and medium-sized enterprises (SMEs). Depending on the agreement, Westminster may retain ownership of the underground electrical connections, which are valuable as the basis of any future network or transfer to third-party landowners once initial investment is recovered.
Community interest company one-stop retrofit shop Community interest companies (CICs) are a form of social enterprise. By establishing a CIC with local coordinators for domestic energy efficiency retrofits, WCC could potentially help reduce the transaction costs associated with the retrofit process. Such costs, e.g. associated with a lack of information, the complexity of selecting a wide range of retrofit solutions and difficulty in finding trusted installers, are estimated to amount to 10% of a retrofit project cost.	Home assessments in line with the PAS 2035 standard (the official framework for whole-house retrofit in the UK) can help overcome these transaction costs, which are up to £950 per household. WCC could play a key enabling role by, for example, procuring CICs to deliver subsidised PAS 2035 home energy plans, thus providing long-term revenues that CICs can use to secure long-term debt.
Pay-as-you-save energy performance partnership for retrofit In Westminster, the council has identified a need for £3bn in retrofit funding, including for complex heritage properties. *(Cont. next page)*	Significant work is being done by a range of market participants, including the Green Finance Institute, on ways to enable retrofit financing, including property-linked finance, net zero neighbourhoods and subscription models offered by energy companies (Gorelick et al., 2023). This project points to one of these novel business models that could raise finance and lay the foundations for retrofit programmes that target

5 The new Government is reported to be considering relaxing restrictions on solar panel installations in conservation areas and on listed buildings.

Net zero business model	Opportunity
It has proved extremely difficult to attract private capital into residential retrofit programmes across the country because of challenges in ringfencing revenue schemes to repay capital providers. The **pay-as-you-save** (PAYS) model provides private funding to cover the upfront capital costs of residential or commercial building retrofit projects in exchange for a share of the reduced energy costs. It is particularly well suited to communal schemes or clusters of properties.	deprived communities: a PAYS approach would aim to attract private funding to cover the upfront capital costs of implementing retrofit projects, with investors repaid by the savings that tenants or owners achieve in their energy bills. These models are typically offered by energy services companies and require an aggregated project value of £1–2m minimum and can finance 70–80% of the project cost. We explore this further in Section 4.
Shared ground loop joint venture (JV) A shared ground loop is a heating network where the heat source is connected to a communal ground loop. The heat sources can be either individual heat pumps or a communal air- or ground-source heat pump (GSHP), with individual heat interface units in each property. Once these are completed, no specialist technology or skills and training are necessary for the installation of a GSHP, which makes it comparable in terms of cost to fossil fuel systems.	Subject to further technical feasibility, a joint venture could involve co-investment from WCC and a partner to fund installation costs for smaller ground loop heat pumps. It would upgrade the 43 WCC-operated communal gas boilers, while also capturing opportunities to connect with other private communal networks. Buildings owned by WCC would sign up to the network, acting as anchor tenants, to enable initial planning and/or installation of the ground loop infrastructure.

The business models – Cumberland

Cumberland context

Box 2.3. Cumberland's place characteristics

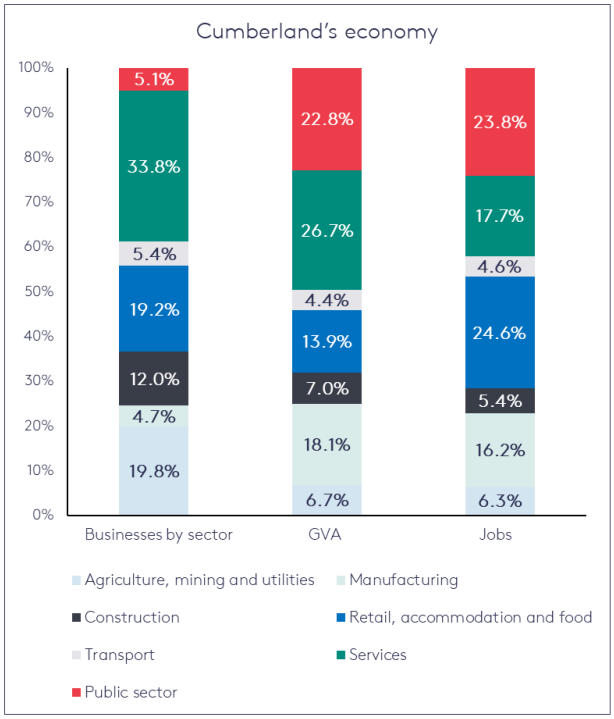
Emissions

- From April 2019 to March 2020, baseline emissions for Cumbria County Council were 139,663tCO_2e.
- This value was used to calculate an emission baseline for the new successor councils in accordance with their land boundaries.
- Cumberland Council accounts for 53% of total emissions (72,495tCO_2e) and Westmorland and Furness Council for 47% of total emissions (65,422tCO_2e) within Cumbria.

Cumberland Council	Scope 1	Scope 2	Scope 3
Tonnes (CO_2e)	8,645	3,657	60,194
Proportion (%)	12	5	83

Local businesses and employment

- The population of Cumberland is 274,000, which is projected to fall by 0.3% in 2028.
- Cumberland has 11,565 registered enterprises, which employ 130,000 people and generate £6,010m in GVA.
  - 90% of registered enterprises employ fewer than 10 people (referred to as micro enterprises).
  - There are a small number of major businesses in the area; 10 of these employ a quarter of the total number of employees.
- The area derives more of its GVA from manufacturing and accommodation and food services than the national average.
- Less GVA than the national average is derived from high-value sectors such as finance and IT and communications.
- Economic output in the area has been falling since 2015.



Note that there are some references to Cumbria [County Council] in this box, which reflects the fact that Cumberland Council was not formed until April 2023.

Source: Energy Systems Catapult

Box 2.4. Cumberland's place strengths and existing assets

Industrial presence

- There is a strong industrial presence.
- Industrial sites are typically dispersed and face challenges in terms of distances from big population centres.
- Emissions from industry account for nearly one-fifth of total carbon emissions.
- Cumbria Local Enterprise Partnership identified business decarbonisation as a strategic priority of focus to achieve net zero (alongside clean energy generation).
- Examples of major industrial stakeholders include Sellafield, Pirelli, Holmen Iggesund, Innovia and Tata Steel.

Port of Workington

- The Port of Workington provides a logistics gateway into Cumberland.
- As well as being equipped with bulk and container handling equipment, the Port also hosts RWE's offshore wind operations and maintenance facility for the Robin Rigg windfarm.
- In 2021, Cumbria County Council published a Masterplan for the Port that highlighted the Port's vision to expand its core customer base and develop skills and facilities required to support green industries and logistics.
- The Port Masterplan outlined several key site opportunities including a) the generation of renewable energy onsite by taking advantage of surplus land; and b) the potential for cargo and user diversification.
- Under a base case scenario, cargo is expected to exhibit a growth rate of 1.4% (453,000 tonnes) between 2020 and 2045.

Business/industrial parks and land

- Research conducted by Lambert Smith Hampton highlighted that the rate of new business startups in Cumbria is much lower than the UK average.
- Accordingly, an action plan to promote employment development in the area was developed.
- The plan identified numerous business/industrial parks and areas of land (referred to as strategic employment sites) in Cumberland that could be of national, regional or local significance:

Kingmoor Park, Carlisle (national significance)

- Offers 175 acres of available development land and innovative workspaces.
- The site is in an Enterprise Zone, meaning that occupiers could benefit from business rates reductions or enhanced capital allowances.

West Lakes Science Park, Copeland (national significance)

- Comprises high-quality business and research and development (R&D) space.
- Offers a strong foundation for national R&D investment programmes linked to the nuclear sector and clean growth.

Lillyhall Strategic Employment Site, Allerdale (regional significance)

- A well-established industrial estate with a focus on local businesses.
- The site has development plots available that could support local growth and/or attract inward investment.

St. Cuthbert's Garden Village, Carlisle (regional significance)

- The proposal for the site includes a new employment site, 10,000 new homes, community facilities and a new Southern Link Road.
- Could provide new employment opportunities beyond the city centre of Carlisle.

Source: Energy Systems Catapult

Cumberland – opportunities

Cumberland has a range of individual opportunities, each with potentially associated commercial business models to pursue in the short to medium term, as outlined in Table 2.2. To maximise impact, it could test the appetite for early-stage partnerships, perhaps with corporate or investor partners, to assess technical feasibility and explore models for community involvement in projects of scale in the longer term.

Table 2.2. Potential net zero business models and opportunities in Cumberland

Net zero business model	Opportunity
Solar car port This proposition would integrate solar canopies over car parking facilities with energy storage and EV charging infrastructure to provide EV charging and other services. The Council could enable a not-for-profit community energy organisation to operationalise the model, providing potential local income in the longer term, or develop projects itself.	This option has the potential to increase the attractiveness of strategic employment sites to prospective tenants, resulting in economic growth, and improving access to charging infrastructure at dispersed employment sites. Incorporating community participants, to the extent there is appetite, could aid community wealth retention.
Sleeved PPAs Cumberland's wealth of land implies the Council could support sleeved power purchase agreements (PPAs) for the sale of locally generated renewable energy. Local authorities can enter into PPAs as a means to source renewable electricity and the agreements could also incorporate community participation. *Cont. next page*	The Council could enable community energy organisations to operationalise the sleeved PPA model by providing access to council-owned land (via a land leasing agreement) and by purchasing energy generated from renewable generation assets to meet some of its energy demand – potentially at a lower cost than available on the market. Alternatively, it could assume the role of generator and offtaker, taking responsibility for feasibility, design, construction, installation, maintenance and operation activities.

Net zero business model	Opportunity
Microgrids (private networks) A microgrid connects buildings and other sources of power demand (e.g. EV charging points) via a local private network to local renewable energy assets (such as solar PV or energy storage). Renewable energy generated on the local network is used to offset power that would otherwise have been imported from the grid. Certain council-led housing and infrastructure developments could be appropriate for microgrids.	The Council could assume responsibility for feasibility, design, construction and installation activities for both the private network and renewable energy assets, likely using third parties to build and manage the network. It could also support project development by liaising with prospective tenants at major growth sites, to gauge potential interest, anticipate future demand and grant relevant consents
Renewable shore power As owner and operator of the Port of Workington, the Council could provide renewable power to berthed vessels at the port, to replace power generated onboard, often by polluting and carbon-intensive diesel or heavy oil generators.	The Port 'Masterplan' identified the availability of surplus land to generate renewable energy at the Port. The Council or Port could assume responsibility for feasibility, design, construction, maintenance and operation activities for the renewable energy assets, alone or in partnership with an energy company partner.
Co-located renewable generation and green hydrogen production This would use renewable energy to produce zero-carbon hydrogen through electrolysis. Establishing Cumbria as a priority for the next phase of UK hydrogen development was identified as a thematic area of focus in Cumbria LEP's Clean Energy Strategy. This model could also enable industrial business decarbonisation, another strategic priority for the Council.	To implement this model, one or more generators/ producers would invest in, design and develop a co-located green hydrogen production facility. Subject to further feasibility analysis, a facility may be deployed on an individual offtaker's site or at a council-owned site (for example, at the Port) within proximity to numerous offtakers, with the Council providing access to land and potentially acting as a buyer of green hydrogen produced or introducer to and aggregator of demand.

Social impacts of the proposed interventions

The project partnered with the University of Edinburgh to quantify the social value of possible interventions in the Westminster and Cumberland local authorities, through a combination of co-benefit modelling and estimations of GVA and job creation, outlined in Tables 2.3 and 2.4. The co-benefit analysis shows the increased value to society of low-carbon interventions but does not indicate the direct financial returns on investments, instead highlighting the wider social benefits to society and individuals in general (such as through improved health and quality of life, longer life expectancy and greater productivity). The beneficiaries of benefits can be direct or indirect, and the benefits themselves health or non-health-related. Direct benefits are those received by the individual or population that implemented the low-carbon intervention, and indirect benefits are wider benefits to society from the intervention (Sudmant et al., 2024).

Due to the early stage of particular business models and individual opportunities, the Edinburgh team analysed the entirety of the interventions implied by Westminster's LAEP and the CLEP's analysis. While informative, further analysis would be required to break down and apply the analysis to actioned opportunities.

It is important to note that the inputs and assumptions used in the analysis would necessarily be subject to further challenge and refinement, based on actual project proposals and data. However, the analysis provides an indication of the scale and nature of positive gains to society or individuals that could be achieved from net zero investment. Similarly, job and salary prospects do not necessarily equate to good or fair work in reality, meaning close attention and influencing in this regard is still required.

Table 2.3. Social value co-benefits for Westminster and Cumberland

Westminster	Cumberland
• The total scale of co-benefits across all the proposed interventions equates to £171 million over the study period 2025–2050, with an annual average of £7 million. The per capita co-benefits are estimated at £675. • Improvements in air quality comprise more than half (52%) of all co-benefits, with reduced excess cold over a quarter (26%), and dampness (15%) and noise reduction (6%) making up the remaining co-benefits. • Priority zones identified in the LAEP by Westminster's Environmental Justice Measure are responsible for 14% of total co-benefits measured in Westminster, yielding social value estimated at £23.21 million. • The expansion of heat networks and communal heat pumps is the most significant contributor to overall co-benefits, representing 42%. Solar PV deployment contributes 26%, fabric improvements 17%, the switch to EVs 9%, and heat pumps contribute 6%. • Compared with the capital costs of the interventions (without predetermining where that cost is met), the co-benefits generated from Westminster-wide deployments equate to 3% and the Priority Zones deployment marginally higher at 6% of capex.	• The total scale of co-benefits from the proposed renewable energy initiatives equates to £1.01 billion over the course of the study. • This amounts to £3,701 per capita. • These co-benefits arise entirely from improved air quality as a result of reduced pollution from fossil fuel-derived energy generation. • The co-benefits make up approximately 3% of total indicative investment levels required for Cumberland's 9 GW capacity of renewable energy.

Table 2.4. Estimations of GVA and job creation deriving from the proposed interventions

Westminster	Cumberland
• The deployment of Westminster's low-carbon interventions could create a total of 177,274 direct, indirect and induced jobs across the UK, locally and along supply chains. • Of these jobs, 48,016 would be direct, local jobs, lasting an average of 20 years each. • The weighted median regional salary for these jobs is projected to be £44,843, which is 26% higher than the London median wage. • The estimated direct and indirect GVA from all interventions in Westminster is £1.3 billion, which equates to an increase of 32% of value (compared with investment) to be spent within the UK.	• As actual estimated costings, such as those in Westminster's LAEP, were not available, indicative costings were used to estimate the capital costs of the creation of 3 GW of offshore wind, 3 GW of nuclear energy, and 3 GW of miscellaneous renewable energy sources. The following illustrative costs have been used to model GVA and job creation: wind would cost £4.5 billion; other renewables would cost £2.3 billion; and nuclear would cost £28.3 billion. This equates to a total of £35 billion invested. • The addition of this renewable energy capacity is projected to create 2.57 direct, local jobs per million pounds invested, for a total of 646,070 direct, indirect and induced jobs. • Of these jobs, about 90,000 would be direct, local jobs, lasting an average of 20 years each. • The weighted median regional salary for these jobs is projected to be £34,375, which is 20% higher than the North West median wage. • The estimated direct and indirect GVA from all interventions in Cumberland is £25.6 billion, which equates to an increase of 73% in value (compared with initial investment) to be spent within the UK.

3. Advancing investment readiness

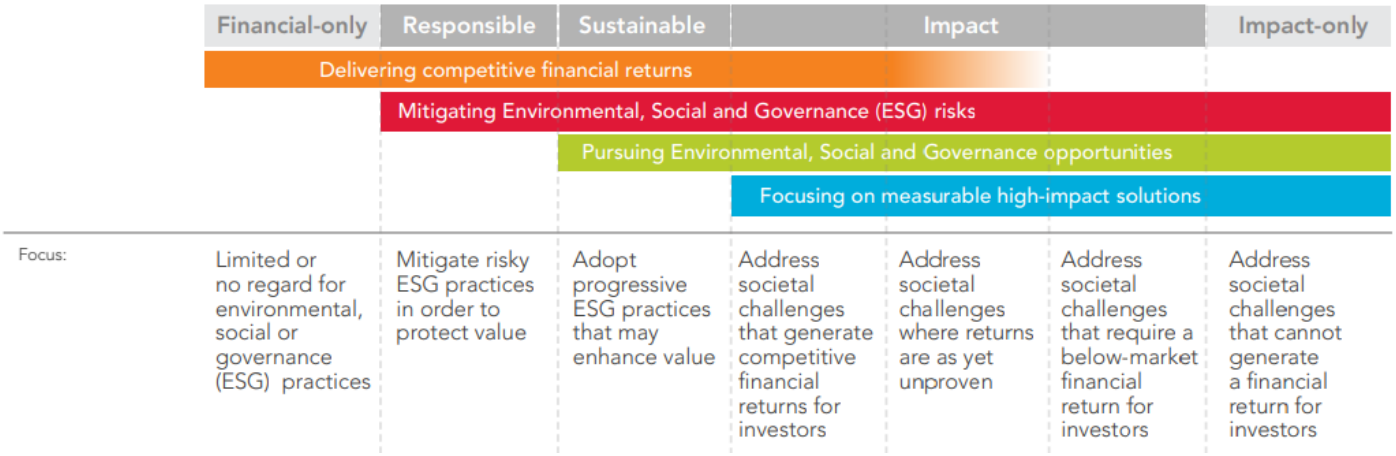
As local authorities seek to meet their climate goals, they must navigate a complex ecosystem of public and private funding sources. This spectrum of capital includes traditional pension funds, banks, blended finance structures and impact investment funds. Understanding the objectives, risk tolerances and investment preferences of these diverse stakeholders is essential for local authorities to efficiently address and attract the necessary resources to support their net zero ambitions. This section first sets out in general terms the types of capital available, based on a market review undertaken in parallel with the project's business model analysis, before providing an overview of insights from our workshops with stakeholders from the investor community in relation to the types of opportunity available in Westminster and Cumberland.

Attracting a spectrum of capital

To meet their net zero plans, local authorities will need to interact with funding providers across a wide spectrum of public and private capital. While there is theoretical interest from capital providers in LNZPs, net zero plans often include a diverse range of project types, at differing levels of investment readiness, and with varying risk and return characteristics. Some of them, such as retrofit and community energy schemes, are novel, with relatively untested business models. Others, such as large-scale renewable energy projects, are well understood by investors and have attracted significant finance historically.

Moreover, different investors will have different objectives, preferences and tolerance for risk. Investor mandates can vary widely, encompassing specific asset classes, instruments (e.g. debt or equity) and geographies, and employ different strategies to achieve financial and non-financial goals. From a climate or social impact perspective, while most investors integrate responsibility and sustainability considerations into investment processes, some will be primarily concerned with financial returns and expect a higher premium from any projects with novel business models or technologies (or will perhaps avoid such projects entirely). Others will intentionally seek projects with a social and/or environmental impact and may have higher tolerance for risk to achieve those impacts (see Figure 3.1).

Figure 3.1. Spectrum of capital



Source: Bridges Fund Management (2015)

In blended finance, a variety of capital sources can be deployed together, at a stage of development or place in a capital structure, to meet the specific needs of the project, the local authority and the investors involved. If local authorities are to succeed and be efficient in their approaches to investors and the capital markets, it is important that they develop an understanding of the evolving objectives, constraints and risk tolerance of the various types of investors, and that resources are made available to support this work. In support of this goal, the project undertook a top–down analysis of the spectrum of capital potentially available for LNZPs. What follows provides a starting point for further expansion.

Pension funds

Pension schemes can offer long-term, low-cost capital. Most schemes explicitly integrate responsible investment and environmental, social and governance (ESG) criteria into investment decision-making and increasingly have specific thematic pools of capital dedicated to climate or other ESG outcomes. Several schemes are developing explicitly locally directed funds or portfolios (see Box 3.1). With an ability to invest across different instruments and asset classes and establish mandates focused on certain places, pension schemes appear natural potential place-based partners for local authorities.

In particular, the Local Government Pension Scheme (LGPS), which collectively manages £354 billion in assets, is a promising potential source of place-based financing and partnerships (LGPS, 2024). A recent LGPS survey found 64% of the scheme's funds are planning to increase allocations to local investments (Impact Investing Institute, 2024).

Box 3.1. The emergence of 'local impact' portfolios

Several local impact portfolios have been launched or are under development by UK pension funds. These are primarily focused on smaller-scale infrastructure, housing and/or private equity. Examples include:

- The **Brunel Pension Partnership**'s £115 million Cornwall Local Impact Fund portfolio for the Cornwall Pension Scheme. It makes social and environmental impact investments across affordable private rental housing in the county, and invests in UK-wide renewables, while also having a separate Cornwall-focused renewables mandate.
- **South Yorkshire Pension Authority**'s plans to allocate up to 5% of its assets, or about £500 million, to a Placed-Based Impact Investment Portfolio, of which two percentage points is to be directed to housing, 1.3 percentage points to local development lending, and 1.5 percentage points to private equity and debt.
- **Greater Manchester Pension Fund**'s £50 million Invest 4 Growth portfolio, which makes commercial investments that have beneficial economic, social or environmental impacts. The fund also uses its £401 million Impact Portfolio to invest regionally in supported living accommodation, renewable energy and loans to SMEs.
- **Durham County Council Pension Fund**, which has committed £18 million to enable the launch of a new private equity investment fund that supports SMEs across the North East to create high-quality local jobs in the region, while targeting an appropriate rate of return for its investors.
- **Nottinghamshire Pension Fund**, which invested £1.5 million in Nottinghamshire Community Energy in 2016 to help construct and manage a solar farm to produce clean energy.

Sources: Department for Levelling Up, Housing & Communities (2023); South Yorkshire Pensions Authority (2024)

A growing proportion of local authority pension funds or pools are allocating some of their assets to private markets, including the types of infrastructure projects that LNZPs fall under. Increased allocations to 'private equity' were also encouraged by the last Government. However, few local authority pension funds directly invest in private markets due to their complexity and illiquid nature, with this instead being delegated to investment managers. This means local authorities seeking such investments will likely need to engage with both the scheme/pool and its designated managers, increasing complexity for local places.

In addition, within their infrastructure portfolios, pension funds (or their managers) have historically preferred the lowest-risk operating projects, or 'brownfield' infrastructure, because of the absence of development or construction risks and immediate access to cashflows. As savings pools, this risk tolerance is appropriate and likely to remain prevalent in the market. However, as schemes seek to meet their own climate targets, demand for earlier stage and higher-risk greenfield projects is growing, particularly in the energy transition space – if the right projects, partners and risk-adjusted returns can be presented.

The new Government's National Wealth Fund (NWF) could prove a promising partner to pension schemes looking to undertake local net zero projects that are at an earlier stage or have a higher risk profile than is typically acceptable.

Commercial banks and the bond markets

Commercial banks can offer project debt to support local climate investments. This type of finance does not transfer ownership of a project, asset or business to the lender and is unlikely to be available for opportunities at their earliest stages, but where supportive local authority, asset or corporate cashflows exist or are certain to exist to repay, it could be an option as part of a blended capital structure.

Whether considering project finance, asset finance or corporate finance, banks can offer a lower cost of capital than equity because of factors such as risk and subordination/security, reflecting the lower risk assumed. Projects must be 'bankable' (i.e. have an appropriate risk and cashflow profile), and counterparty credit quality can be key.

Also in the debt space, the bond market represents a large potential source of capital that could be galvanised in support of net zero and the just transition. Indeed, there is growing appetite among investors for corporate or sovereign bonds that are linked to environmental and/or social impact – the global issuance of such bonds rose rapidly in the 2010s and now totals about US$1 trillion per year (Gardiner and Freke, 2024).

Local authorities outside the UK are active issuers of green bonds, and a subset of these address just transition issues; these could be an attractive option to fund portfolios of LNZPs, provided that, as above, revenue streams for projects exist to underpin them.

Corporate/developer capital

Companies, particularly in the energy sector, are often overlooked as a type of investor, but they are very active in the energy transition and infrastructure space. They have capability to develop early-stage projects, have operational experience, and are often willing to take risk and undertake feasibility studies and technical assessments. They typically take a commercial approach to projects and partnerships, but 'social value' can be embraced and incorporated into contracts and performance assessments (e.g. Bristol City Leap, a partnership between Bristol City Council and Ameresco UK aimed at helping the city meet its target of becoming carbon neutral by 2030 through an investment of nearly £500 million in low-carbon energy infrastructure over the next five years).

As part of our capital review, we examined 20 recent net zero place-based investment case studies in the UK involving local authorities. All were of a scale under £70 million, save for Bristol City Leap (£750 million), but the vast majority of public–private partnership projects were conducted with either an energy company taking the lead on project delivery or partnering with a local authority in some form. Examples include energy companies such as EDF, EON, National Grid Ventures, Octopus, RWE, SSE, Sellafield, and energy-as-a-service companies such as Ameresco.

Major utilities and energy companies have a need to transition their business models away from fossil fuels, and we see this shift and the associated capital deployment as an opportunity in the place-based investment space.

The new Government has committed to the entry into the market of a UK state-owned energy company, GB Energy, as a developer, owner and operator with an exclusive UK focus: with capital to deploy in partnerships and innate alignment on environmental and social objectives, it should offer significant potential to accelerate progress within the sector.

Development banks and other public funders

The UK has a number of publicly funded financial institutions that aim to deliver policy objectives – whether economic, social or environmental – that cannot be achieved on a purely commercial basis. These include the UK Infrastructure Bank (UKIB), British Business Bank and Treasury-run Public Works Loan Board (PWLB). In 2021, updated guidance for local authorities clarified the extent that PWLB loans can be used for climate change interventions (HM Treasury, 2021).

From the perspective of local authorities, public loans such as those provided directly by the PWLB and UKIB are still debt (albeit lower-cost debt), increasing the debt burden on local authorities and requiring revenue streams to repay it.

From a project perspective, development banks and agencies each have their own mandates and preferences. The UKIB has a mandate to consider LNZP investments that meet its climate and levelling-up objectives and is able to take 'first loss' positions or offer guarantees in support of them. Such blended finance approaches can use public funding to leverage larger volumes of private investment (Gordon, 2023). Historically, the UKIB has not been able to fund single projects at very early stages of development and is required to co-invest, rather than invest alone. Such investment in the future could get projects off the ground, catalysing supply chain, customer and other corporate spend, thus laying a foundation for future investment.

As mentioned above, the Government is also establishing a National Wealth Fund to "invest in the industries of the future", with an initial focus on green steel, green hydrogen, EV gigafactories and ports (UK Government, 2024). The UKIB and British Business Bank are being aligned under the NWF, and it will receive an additional £7.3 billion in public funding over the next five years (Green Finance Institute, 2024). It will be required to crowd in £3 for every £1 invested.

On the basis that there is a gap for development-stage finance for LNZPs (as discussed below), the question is whether the NWF and GB Energy are together able to fill or encourage others to fill this gap (ibid.). The National Wealth Fund Taskforce recommends that the NWF invests in a range of instruments at the higher end of the risk spectrum, and that it crowds in private capital on a deal-by-deal basis in the immediate term. This is consistent with the NWF playing a helpful catalytic role in local place-based projects.

Impact investors

Impact investors have a specific mandate to generate measurable social and/or environmental impacts alongside a financial return. They are sometimes prepared to accept lower returns or take on more risk than conventional investors. Examples in the UK include Better Society Capital and Bridges Ventures. As of 2022, the UK impact investment market was estimated at £58 billion.

Given their relatively small size, impact investors tend to invest in smaller-scale projects, but they have strong appetite for projects with community involvement. Innovation in this market continues, with impact investors evolving their approaches, including using quasi equity/debt (debt with governance), revenue share (repayment based on success), variable payment obligations (tying interest rates to delivery of positive impact outcomes) and outcomes contracts (repayments made wholly or in part based on social or environmental outcomes achieved). These tools can help mitigate the strict need for cashflows to pay down debt regardless of project outcome in the commercial bond market.

Community energy

Community energy organisations are typically non-profit entities, community benefit societies or CICs, financed by community participants (shares or bonds), grants and debt at very low costs of capital (e.g. from impact-orientated lenders). Crowdfunding via a platform is often undertaken alongside community energy initiatives to facilitate community ownership.

According to recent figures from Community Energy England, 583 community organisations in the UK had active projects as of 2024 across the energy, retrofit and transport spaces. However, most projects are comparatively small scale, with £225 million in total invested across the sector since 2017 (Community Energy Scotland et al., 2024). Despite this, such projects can offer significant social benefits, and work is being done nationally on how best to scale up this model to meet the climate and social challenges of the coming years (Department for Energy Security and Net Zero, 2024).

Philanthropic foundations

Philanthropy offers another potential source of financing for projects with high degrees of social and/or environmental impact. Investors typically provide grant funding and do not require payment or financial returns. Examples include the Big Lottery Fund, Comic Relief and Sainsbury Family Charitable Trusts.

However, funding is limited. Globally, just US$7.8–12.8 billion (£6–10 billion) of overall philanthropic funding of US$811 billion from 2015 to 2022 was directed at climate mitigation, for example (Desanlis et al., 2023). Foundations also usually require clear 'additionality' – that is, projects that are unable to raise other types of finance but can provide unique benefits or learning.

A sense check from the investment community: project workshop

There is substantial investor interest in financing the energy transition. As demonstrated at the start of this section, the spectrum of capital providers includes philanthropic investors, impact investors or those with other explicit ESG mandates, to non-specialist 'conventional' investors who recognise the commercial potential of the transition towards a net zero, nature-positive global economy. As well as recognising opportunity, many of these investors also see the risks inherent in business-as-usual, carbon-intensive assets and are seeking to decarbonise their portfolios as rapidly as is prudently possible.

Following our opportunity, business model and capital provider analysis, the Just Transition Finance Lab hosted an investor workshop in June 2024. The workshop involved a wide range of capital providers, including providers of commercial debt and equity, pension fund pools, impact investors, a crowdfunding platform, a community energy developer, and two specialist advisors.[6]

The workshop was designed to elicit feedback on opportunities for investment at each of the councils and how their investment readiness could potentially be improved. It aimed to test barriers and consider more innovative, blended finance concepts in the market and their potential application to these particular places. It also sought to explore the challenges and attitudes towards ensuring a just transition in place-based climate investment, in partnership with local authorities and affected communities.

Place-based 'teasers'

We prepared 'teaser'-style presentations for each place, to present to investors for initial feedback. These included:

- A place overview of Westminster and Cumberland.
- A summary of each place's climate, social and economic ambitions or targets.
- Each council's track record of raising finance and delivering climate or place-based projects.
- A summary of the key strategic tangible and intangible assets of each council, including, for Westminster, its Pimlico District Heating Network and strong stakeholder relationships, and for Cumberland, the Port of Workington and availability of land for future development.
- An overview of the investment opportunities potentially available to support the highlighted place-based goals.

The small scale of individual LNZPs has been frequently highlighted as a barrier to investment (Gorelick et al., 2023). Further, many of the investors in the room were 'meeting' each place for the first time, bringing their own investment objectives, criteria, restrictions and perspectives. We therefore considered it important to present the opportunity initially in the widest possible terms, while taking internal assurance from the fact that, except where highlighted, the majority of the opportunities presented had either established or implementable business models, including in-principle revenue streams, which could support future financing.

For Westminster, we again took the LAEP as a starting point and presented the full opportunity set contained within it, together with the indicative financial investment required, the deployment profile over time, installation targets for each technology or intervention type (across EV charging, heat networks, heat pumps, retrofit and solar) and the potential carbon-emission impact of delivering the programme.

For Cumberland, we noted that in time, the decarbonisation of cities like Carlisle could generate a set of investment opportunities similar (although smaller in scale) to those in Westminster. However, to do justice to Cumberland's potential, the region's wider and contrasting opportunity set was emphasised. In particular, the potential for major investment was highlighted across onshore and offshore wind; solar to support existing and new industrial or domestic sites; the decarbonisation of road transport; alternative fuel production (including green hydrogen); the expansion and redevelopment of the Port of Workington in the context of its essential role in industrial decarbonisation and the clean power supply chain; and natural capital.

[6] The workshop was held under the Chatham House rule.

Workshop feedback

All the investors present saw opportunity for investment in each place, in principle, based on the level of information provided and their own objectives, criteria and restrictions.

For all investors, the ambition, clarity and specificity of the Westminster LAEP was attractive. It provides installation volumes, costings, climate impact quantification, timings and technical feasibility analysis, all of which contribute to readiness by helping investors assess opportunities against their investment criteria. However, as Westminster itself was keen to caveat, a LAEP is a technical and prioritisation exercise that does not include the depth of commercial and financial analysis needed for capital to be deployed.

The breadth and scale of Cumberland's ambition, along with its capacity for innovation and impact, were seen as strengths, including the potential to integrate communities into clean power projects and promote Cumberland's role in preserving and enhancing natural capital. At the same time, in the absence of a LAEP, further technical development is required to quantify the investment need, technical feasibility, potential climate impact, and commercial and financial models that could apply to the opportunities within it.

In both cases, while ambition and potential were acknowledged, ongoing reassurance around council commitment, leadership, capacity to deliver, and (in relation to community energy) willingness to work with non-corporate organisations were flagged as pre-requisites to investment. It was noted that these pre-requisites apply to all place-based investment.

For Westminster, to be able to assess the viability of each individual opportunity, investors required further information on likely investment amounts, risk/return profiles, underpinning revenue streams, payback periods, specific properties or land, and the 'value story' from a social or impact perspective. Other key dependencies included how to tackle challenges such as planning, skills, and engaging SMEs and citizens. While planning restrictions can have a major impact on net zero projects across technologies, for Westminster, its wealth of heritage properties represents a unique challenge to be solved.

For Cumberland, investors expressed a preference for partnerships with a sponsor – such as a large energy company – with the scale, capital and operational expertise for more complex, interconnected opportunities, in addition to further technical work and development.

Insight: our place-level teasers enabled investors to assess a broad opportunity set through their own lenses. While actioning investment will require further engagement, it is more likely that investors will consider further investment (in both time and cost) if councils can demonstrate and present strong ambition (e.g. clear climate targets), a vision and a track record of delivery.

Testing appetite for early place-based net zero partnerships

We tested whether, based on the level of information provided, a place-based partnership could be considered with either or both councils as a framework for continuing more detailed conversations.

Cross-sector place-based partnerships (or joint ventures) have been developed in recent years, involving collaborations between investors and the public sector to develop, fund and deliver local net zero technologies. These include Bristol City Leap, between Bristol City Council, Ameresco and Vattenfall, and Legal & General and West Midlands Combined Authority's (WMCA) memorandum of understanding to work together to achieve WMCA's goals across real estate and local impact (WMCA, 2022).

For private sector counterparties, place-based partnerships have the advantage of scale and efficiency of a small number of counterparties, while also offering local authorities the advantages of deep relationships and expertise. Micro-place-based partnerships (for example, at neighbourhood level) are also gaining traction as a potential way to aggregate opportunity and achieve efficiencies.
An example is the Net Zero Neighbourhoods initiative developed by the Cities Commission for Climate Investment (3Ci), which brings together a number of local authorities and research organisations to explore potential for micro-place, cross-technology partnerships.

Private sector partners in place-based partnerships can bring their own finance (via a combination of balance sheet funding or raised finance), or parties can work together to apply the optimal blended capital structure to a package of opportunities. Operational and delivery expertise can be brought by one or more partners or procured where required.

However, place-based partnerships involve significant complexity, procurement and transaction costs, procurement barriers (which are beyond the scope of this report), and expenditure on analysis and structuring of the partnership opportunity and underlying potential net zero projects. Different technologies included can vary in characteristics and their risk and return profiles. Risk sharing between public, private and community stakeholders can be challenging – potentially placing responsibility for the highest-risk and most difficult areas with the public sector.

While participants for Westminster considered a whole place-based partnership feasible in principle, the scale of its retrofit challenge and lack of well-established revenue models within such a partnership could justify an early focus on specific opportunities within this space.

For Cumberland, its early days as a new local authority and the diversity and scale of its clean energy opportunity indicates that a smaller-scale partnership could be a more sensible first step. This might focus on a city (Carlisle) or a micro-place partnership (e.g. a clean energy hub at and around the Port of Workington). Such smaller-scale partnerships could also enable easier engagement by impact and community capital.

The potential for secondments between investors and both places was discussed, which participants were open to; however, these would be subject to funding.

In all cases, for investors to be able to justify the time and cost of working with councils to create bespoke models, the scale of the opportunity and the council's commitment to deliver and address known challenges are considered crucial. At the same time, for bigger, more complex opportunities, such as those associated with the port in Cumberland (which were considered attractive in principle), additional project-level technical and commercial analysis would be required in preparation. A broader range of partners/sponsors may also be needed to mitigate perceived technology, delivery and other development-stage risks. Workshop participants noted that any place-based partnership involving major infrastructure, while potentially meeting scale requirements, would then need to proactively make space for smaller impact investors and elements of community ownership.

Insight: a number of investors confirmed that they or their partner funds have the capacity to consider place- or micro-place-based partnerships – illustrating what we see as a positive shift in awareness and potential for place-based financing in the market. The more developed the opportunities that could form part of a place-based partnership, and the more proactive a place can be on how to address key challenges, the more likely investors are to be able to justify the time and cost of engagement.

A technology-focused or individual opportunity approach

Aggregating a number of opportunities within the same technology is another way to create potential scale for increasing the available capital for LNZPs. We presented opportunities by technology type to investors in both places, resulting in feedback and discussion around requirements and preferences. For example, in solar, where technology and financing models are mature, feedback was given on target returns, preferred business models (e.g. PPAs with a floor) and possible alternatives.

Specific risks and place-based mitigation strategies could also be discussed more clearly with investors when discussing single technology types. For example, participants expressed a need for long-term offtake agreements for alternative fuels and the potential of local options, and also the technical challenges of modelling EV charging demand.

Insight: the existence of supportive local or national policy was raised as an important enabler or barrier to investment when focusing on particular technologies (as single or aggregated opportunities). For example, London's Ultra Low Emission Zone was highlighted as a potential enabler, underpinning demand for EV charging, while a technology such as green hydrogen currently needs ongoing national business model support.

A renewables-focused partnership could be possible between each council, investors and potentially other stakeholders. While a lack of scale is typically cited as a barrier, it was noted that pension schemes also need to avoid too much geographic concentration. Working in partnership at technology level, compared with a place level, could therefore be an attractive means to facilitate diversification.

In Westminster, where the role of community energy in solar and retrofit is well established, quick wins could include engaging partners with experience in running community interest companies to play a key role in early project development and stakeholder engagement.

In Cumberland, installation of solar across public buildings, where feasibility analysis has been performed or could be quickly, was raised as an avenue to explore, potentially in partnership with local community energy groups. Our business model innovation exercise contained pointers on some of the ways in which this could be implemented. Cultivating technical and commercial proposals with existing advisers and potential new developer partners (including, for example, GB Energy) could be a valuable additional next step.

Innovation

Addressing some of the councils' biggest challenges in a way that achieves both their climate and social goals is likely to require innovation, blended finance and further market evolution.

We therefore tested parameters around two areas in the remainder of the workshop.

- For Westminster: financing retrofit at scale (£1–3 billion in the LAEP) without a yet well-established revenue model, in a way that ensures community value is achieved, skills training is provided, and council funds are utilised in a way that is both catalytic and socially just.
- For Cumberland: enabling both the development and deployment of capital at scale in major local infrastructure (including net zero) projects at an early stage; and promoting the retention of community value, ensuring communities have a voice and participation as Cumberland pursues clean green growth.

In particular, we considered the potential of the PAYS funding model for retrofit and to address some of the potential challenges. These included counterparty risk, the evolution of the insurance market, and considerations of equity involved in scaling up commercial partnerships, ensuring that public funding is not perceived as only benefitting the most well-off in society.

We further discussed the potential role of community energy in commercial projects of scale, i.e. whether, in addition to more typical wholly community-developed, -owned and -controlled projects, it could be possible for community organisations to participate as a minority in larger commercial projects to support wealth retention. The discussion touched on risk allocation, governance, and the range of different means (outside of ownership) by which retention of value and voice could be alternatively achieved.

Investors demonstrated interest in exploring both areas further. Acknowledging the lack of a blueprint in the market, the complexities and level of innovation required, they concluded that more sustained engagement at the place and market levels, and with academia, is likely needed.

4. Two proposals for deeper consideration

As a final stage, the project sought to take the business model assessment and feedback obtained at the investor workshop to elaborate on the two more specific potential proposals for further place-based development: a 'great retrofit' (Westminster) and community energy (Cumberland). These were selected because:

- Further technical analysis and political decision-making, beyond the scope of this report, are required to convert the number of individual opportunities highlighted by our business model exercise into either actionable investment or whole place-based partnership investment opportunities.
- The two areas of focus could have an impact at scale, beyond an individual opportunity, and be further applied or tailored to other places if successful.
- A wide range of stakeholders is likely to be required to continue the evolution of the concepts beyond the discussion in this report – the convening of the Just Transition Finance Lab and its partners has the potential to enable this.

A workshop was held with Westminster and Cumberland councils to seek high-level feedback on the proposals. The project and each council also explored the potential for ongoing knowledge-sharing.

A 'great' retrofit for Westminster

Westminster's retrofit challenges are multiple and representative of many across the country. They include:

1. Scale – the level of investment required and the need for revenue streams to support this, to the extent that investment is required from private sources.
2. Skills – the need for a material pipeline of projects to support skills development and apprenticeships, in turn supporting local incomes.
3. Justice – to ensure that those most at risk from fuel poverty and the cost-of-living crisis are prioritised appropriately, in the context of the challenges above.

The project sees value in further consideration of whether the nascent PAYS model could potentially be used in partnership with owners of large commercial properties, who could contract with a delivery vehicle, jointly owned by a local authority and energy service company (ESCO), and deploy the model in a way that practically supports the development of heritage retrofit skills and enables retrofits where there is less ability to pay elsewhere.

In theory, commercial partners can provide a limited number of creditworthy counterparties with whom to coordinate a retrofit PAYS programme, offering ongoing revenue to support external financing, and also providing a pipeline of sufficient scale to enable the local authority (or its partner) to offer apprenticeships in retrofitting historic buildings. WCC has strong relationships with some of the large landowners that have property portfolios across the borough.

However, given that the model would involve working with some of the wealthiest landowners in the UK, it would need to demonstrate clear social impact if it were to attract grant and impact financing. This could include creating access to retrofit and green finance skills, cross subsidisation, or finding ways to utilise the programme of work to enhance perceptions of net zero interventions by individual and SME stakeholders. Such strategies could potentially accelerate retrofit in harder to engage areas, building on solutions already proposed by Energy Systems Catapult and investors.

We have considered how to potentially integrate these into the standard PAYS model. In Figure 4.1, a community interest company is established by the local authority in partnership with a community energy company, using non-repayable sources of finance the local authority considers appropriate (such as grants or philanthropic capital, which could potentially be solicited from major property owners or other commercial partners in line with any existing corporate social responsibility programmes).

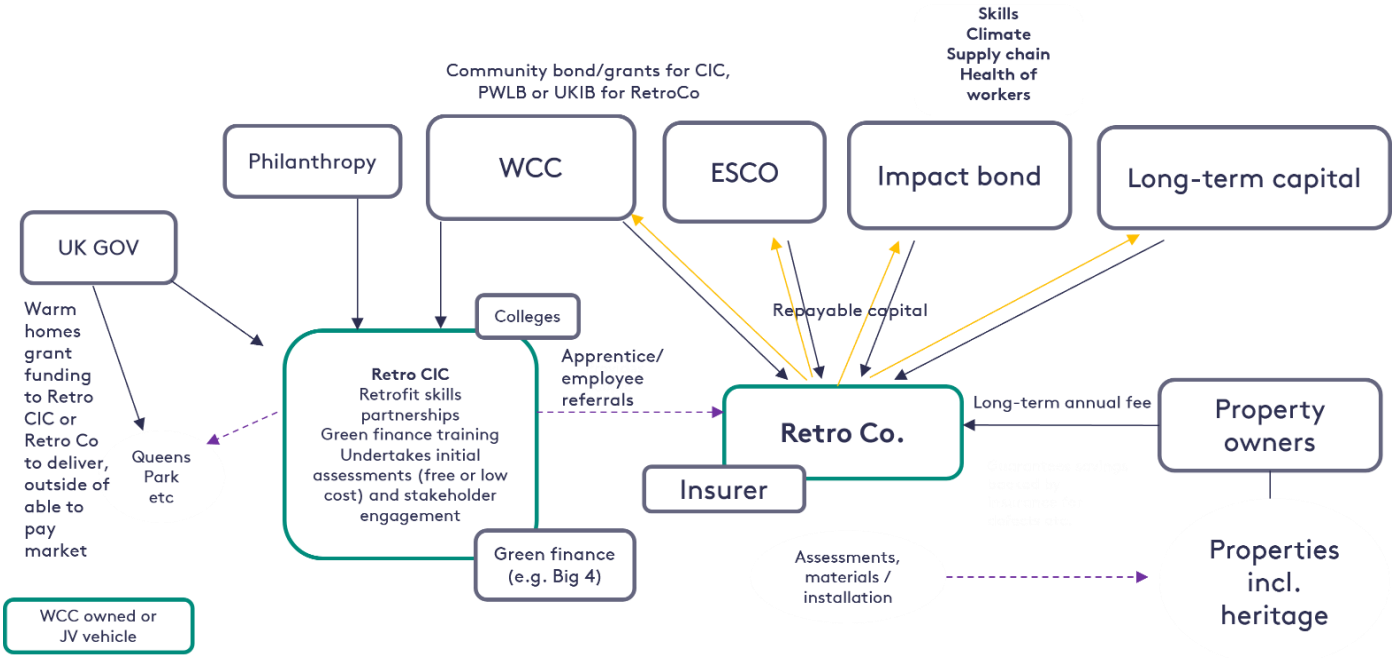
The CIC would be mandated to engage the populations of the more deprived areas of the borough on the benefits of retrofit, undertake assessments, and establish and deliver retrofit training programmes both generally and in those areas, in partnership with further education establishments where appropriate.

Partnering with a community energy organisation to establish this could ensure a base level of skills availability and experience in managing community stakeholders. Future retrofit installations on a PAYS basis, where residents retain a material share of savings or are supported by grant funding, could be delivered across the more deprived areas of a place via this vehicle. This area has significant potential to leverage the Government's commitment to partner with local authorities to invest £6.6 billion over the next parliament in domestic energy efficiency upgrades.

A separate retrofit delivery vehicle could be established in parallel, in partnership with an ESCO joint venture partner, initially funded by a combination of joint venture (JV) partner and grant capital and potentially repayable impact capital. The delivery vehicle would be a for-profit entity, established with a mandate to deliver retrofit across commercial partnerships under a PAYS model, but obliged to support and procure skills for the delivery of retrofit assessments, installations, operations and maintenance from the CIC by way of secondments or apprenticeships and applying fair work standards or principles. To the extent the CIC can meet its demand, the CIC will be able to generate ongoing revenue to sustain its continued operations (including delivery of retrofit where there is less ability to pay).

Both the CIC and delivery vehicle would require further structuring advice, establishment, and financial administration and management. Building on relationships with City-based professional services firms, these services, along with green finance work experience or secondments to the CIC, could potentially be provided.

Figure 4.1. The 'great' retrofit: process and stakeholders



Clearly, before such a model could be implemented, commercial partnership discussions, financial modelling and risk tolerance would need to be assessed further.[7] To the extent that risk or financial returns prove challenging for one or more partners, the UKIB's capacity to take a first loss position or provide guarantees could be explored. The ability of commercial participants to take into account the potential value of social outcomes, community involvement and partnership working could be tested in parallel.

First steps may include drawing up documentation to solicit expressions of interest from ESCOs as potential delivery or JV partners. The documentation could focus on the retrofit requirement but also note the potential for investments in heat networks and renewable energy installations in parallel.

Whether a variant of this or another potential structure is considered attractive by Westminster and its partners in the future, Westminster's potential to become a national leader in heritage retrofit best practice and to develop and export a unique skills base is a significant future opportunity.

Community energy at scale in Cumberland

The just transition is as much about the 'how' as the 'what'. Ensuring worker voice is heard and involving local communities in clean energy generation are fundamental to building support for the net zero transition, giving these local stakeholders agency over energy provision, reducing local opposition and, in some cases, providing ownership of and an economic stake in new energy infrastructure.

There are several approaches to retaining community value in the context of energy infrastructure investment and to enabling community voice, control and governance. Community ownership is one of these, alongside, for example, community funds, local representation on boards, local assemblies and discounted product (energy) provision. However, while the community energy market is growing, it remains comparatively small scale: in 2023, the total community energy capacity installed in the UK was 398 MW (Community Energy Scotland et al., 2024). Many community energy organisations have found raising funding at scale challenging. Where funding has been raised into community vehicles, this has primarily been in the form of grant funding, low-cost debt (which does not confer ownership) or comparatively small-scale community contributions.

There is an apparent drive for community involvement in a wide range of projects within places in Cumberland – from small, local generation to the ambitious £3 billion Project Collette 1 GW offshore wind farm proposal. Further exploration of community ownership models in Cumberland, at a variety of scales or across different technologies, could help to generate learning that advances the sector across the UK.

Several of the business models set out by the Catapult for Cumberland envisage some form of community involvement and a council role in facilitating this. They include the council acting as facilitator for community-owned generation assets, by providing land or buildings, and/or purchasing power from a community vehicle that owns generating assets (e.g. solar), after providing some grant funding to assist with feasibility. With the council in either of these roles, the community value retained or generated would be from individuals sharing the revenue paid – for example under a sleeved PPA with the council (in respect of public buildings or social housing) or a third party, or from the export of excess energy to the grid. Such projects may not directly reduce energy costs for community members but would (where the council is the energy purchaser) contribute to a reduction in the council's Scope 2 emissions in a way that earns revenue for the community, supporting community wealth-building. Access to debt finance at a cost of capital that enables a reasonable return for community participants will be required, and the preferences of local community energy organisations and their willingness to participate cannot be presumed. However, there are active community energy organisations in Cumberland with which further discussions about potential options could be explored.

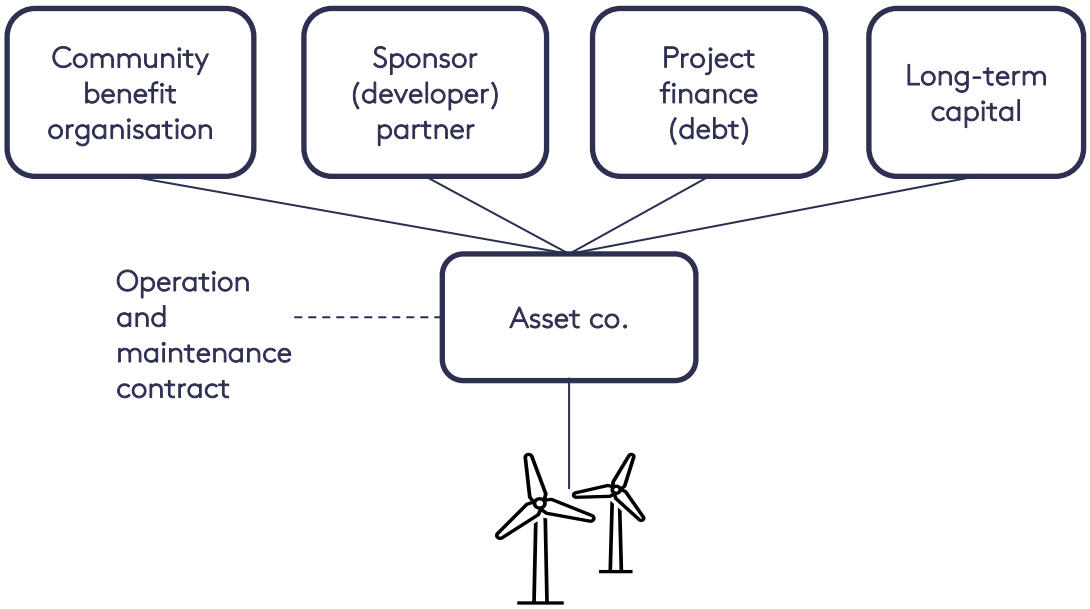
To attract capital at scale into larger, more complex projects, some longer-term investors at our investor workshop clearly indicated a desire for a lead private sponsor with the necessary scale, capital and expertise to de-risk and deliver. Innovation would therefore be required to combine the benefits of community energy with the benefits of attracting commercially driven projects at scale (across sectors).

7 The Green Finance Institute has produced a suite of materials to help lenders and brokers develop financial products for domestic retrofits. See www.greenfinanceinstitute.com/programmes/built-environment/

One such approach could be for community energy organisations to participate as minority co-owners of larger projects that are majority-owned by private sector actors. Theoretically, this approach could accommodate projects that are either originally developed by the community (provided the community is compensated appropriately for the development risk taken) or are developed by public or private developers. Figure 4.2 illustrates a typical project development capital structure with a lead sponsor that includes a community-owned equity share.

While such a model is simple enough structurally, key questions arise around governance, risk and return, and the extent of community value or control granted or retained. If a local authority were to encourage, facilitate or even mandate community participation in relation to projects in its place, these are questions that would need to be resolved.

Figure 4.2. A community 'co-ownership' structure for energy



Analogies exist that can be drawn upon. For example, public organisations are able to retain a key governance stake in projects of national significance – a 'golden share' – which enables them to outvote other owners in limited specific circumstances. A blueprint for 'community share' rights could be drawn up to facilitate further conversations. These might be very simple, requiring community share consent over, for example:

- Fundamental changes to the business
- Transfers of remaining equity to categories of purchaser outside of a pre-defined white list
- The application of Section 106 community funds.

More specific rights might cover:

- Consent over changes to key employment or supply chain terms or agreed principles
- Consent over key political advocacy positions
- Community board representation (such as observer rights).

Whether a community or commercial developer has initiated a project, and at what stage community share is discussed, could have a material impact on the direction of governance conversations.

Further complexity is added by the extent to which a community share is funded, bears economic risk (loss of capital), and benefits from economic rights and whether these are proportionate or not to its level of governance. This is challenging to address in the abstract. However, further exploration at place and project level of the points below could enable more examples in the market and increased standardisation over time.

Specific questions to be explored on a case-by-case basis could include:

- If a local authority has funded feasibility studies or initially contributed land or other assets to a project, could this be compensated with a community project equity share proportionate to the value contributed (as it would in a joint venture), which is allocated to the community rather than the local authority?
- Would it be feasible to crowdfund a target share in a commercial project, and to what extent?
- Is the risk of losing capital tolerable for community funders to any extent in return for value or enhanced governance? Can this risk be mitigated with the use of either preferred equity or UKIB guarantees?
- Could local authorities support those less able to pay to participate, by part-funding a community vehicle to acquire shares on behalf of a defined class of beneficiaries?
- Could commercial partners allocate economic rights to an unfunded community share as an overall transaction cost (with a tolerable impact on returns) and in recognition of the value of the de-risking effect of community buy-in and the potentially increased access to early grant funding, ongoing government support, and/or lower cost of capital from investors aligned with the just transition?

Progressing one or more community co-ownership projects for further discussion and evolution will require willing partners and further analysis, and it may be that further national or local policy incentives are required to provide the catalyst and resources to encourage return-seeking private capital and community organisations to actively work together. GB Energy's mandate to work with communities and local authorities is a welcome development in this regard.

Knowledge-sharing

The project also sought to explore the potential for knowledge sharing between the two councils. During a range of engagements with the councils, we touched on areas where they could learn from each other's activities, which generated the following observations:

- Westminster noted that putting a price-tag on the range of net zero infrastructure needed through the LAEP has been helpful in quantifying and articulating the potential pipeline.
- The LAEP process can be broken down into stages, and the first stage – local energy asset representation – was a particularly useful exercise. In Westminster's case, it provided a headline figure for the investment and installations/technologies needed to move towards the net zero target. Further stages can provide the breakdown of cost across installations over time and emissions impact, as well as technical potential and overall prioritisation. From an investment assessment perspective, this breakdown is extremely useful.
- Cumberland's corporate partnerships with Sellafield and social impact specialist BEC are more longstanding and advanced than many between local authorities and companies across the country. They include co-investment in local facilities, property and detailed social impact monitoring and measurement. Learning from such partnerships could be valuable for local authorities including Westminster to bring new ideas for co-investment, collaboration and opportunity creation to stakeholder relationships that have historically focused on traditional philanthropy or compliance-driven social value.
- The councils each expressed the desire to capitalise on this project to illustrate best practice and transfer lessons learned to other councils.

5. Recommendations

This project's exercise with two contrasting and ambitious councils has generated insights and activity that could be built on by both councils and the wider market in the near and medium term.

While different in characteristic and opportunity, each place faces similar challenges in how to best use limited resources and attract capital to achieve their net zero, social and economic goals. Developing and attracting capital into early-stage opportunities, building business and delivery models for emerging sectors that reflect considerations of fairness and generate the revenue required to finance them, and bringing all stakeholders on the journey requires significant resource, political will and expertise.

Westminster is already a leader at council level with well-established governance, targets and green finance initiatives. Its potential in the future in retrofitting the built environment is clear, as is Cumberland's potential to use its strategic assets to combine industrial decarbonisation with clean energy generation and play a key role in meeting national growth and clean energy targets. As we have shown, there are a range of further opportunities that each council could pursue with stakeholders throughout the phases of development, ultimately leading to the deployment of capital.

Below, we draw out broader recommendations from the project, for councils, government and investors.

Councils

As Westminster City and Cumberland are already doing, councils should pursue a parallel programme of council and opportunity investment readiness, notably including:

- At council level:
  - Setting ambitious targets and building a track record of delivery that demonstrate the political will and commitment to deliver on net zero and social objectives.
  - Anticipating and resourcing the additional partnership and stakeholder relationship work required to interact across the capital markets (public, private and community investors), and with workers and local stakeholders, to manage the interrelated drivers and dependencies of a just transition.
- At project level, undertaking Local Area Energy Plans, supported business model analysis, and funding technical feasibility assessments for relevant opportunities, and developing the stakeholder network needed to advance project readiness.

Government

There is a clear need for greater and more consistent long-term funding to local authorities for net zero delivery.

Specifically, there is a need for ongoing support in developing:

- Council-level 'investment-readiness' as described above, e.g. in drawing up targets and strategies, building planning capacity, internal training and governance, and for partnership and stakeholder engagement.
- Project-level investment-readiness, e.g. for technical concept, pre-feasibility, and other technical, commercial and financial preparatory work.

While some funding is available to local government for these activities, requirements to bid for short-term, revolving and disparate pots of funding can take resource and generate uncertainty, neither of which supports efficient or effective development.

GB Energy and the National Wealth Fund can support local, place-based development-stage projects. Investment at the development stage would support the space in the market currently primarily occupied by utilities and energy companies. This would include partnering with local councils to undertake early technical and commercial development activity for projects of scale, which can crowd in private investment later, at the lower end of the risk and cost of capital spectrum.

Beyond the direct financial domain, the Government can also drive the development of the skilled and good quality employment that is needed to underpin these investments, through the new Office of Clean Energy Jobs, for example.

Investors

There is a need for continued market engagement by investors and advisors, in partnership with councils, on financing models for retrofit and community energy, targeting institutional-scale financing in the coming years.

The continued growth of place-based mandates to promote focus, collaboration and early resource investment in defined geographies is also to be encouraged.

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