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Part 1

Financial constraints: overcoming financial barriers to scaling retrofit

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Executive summary

Unstable funding structures, fragmented finance, and insufficient capital mobilisation fundamentally constrain the UK's ability to scale social housing retrofit. While national grant schemes such as the Social Housing Decarbonisation Fund (SHDF) have catalysed activity, their short-term, competitive design has created stop-start delivery cycles that undermine supply chains, investor confidence, and local capacity.

Evidence shows five structural financial barriers:

- a. High upfront costs and insufficient private capital leverage
- b. Short-term and fragmented funding cycles
- c. Competing local authority budget pressures
- d. Complex and inaccessible finance systems
- e. Limited borrowing headroom and landlord capital constraints

Without reform, retrofit delivery will remain fragmented, reactive, and grant-dependent. However, emerging practice

demonstrates viable alternatives. Coventry City Council's 15-year Strategic Energy Partnership (SEP), the West Midlands Combined Authority's Local Net Zero Accelerator (LNZA), and West Berkshire's Climate Change Bond illustrate how blended finance, devolution, and community investment can create longer-term, scalable funding ecosystems.

To move from pilot projects to a sustained retrofit economy, policymakers should:

- Diversify funding sources to reduce reliance on short-term grants.
- Establish long-term financing frameworks to enable strategic planning.
- Promote community investment mechanisms.
- Leverage public-private collaboration to mobilise investment.

Financial reform is not merely a funding issue; it is a structural prerequisite for delivering Net Zero at scale.

Introduction

Retrofitting social housing is central to meeting the UK's carbon reduction targets, reducing fuel poverty, and strengthening local supply chains. Yet the current financial architecture does not support delivery at scale.

The retrofit funding landscape remains characterised by short-term grants, constrained public finances, and limited capital innovation. These structural weaknesses prevent long-term planning, discourage private-sector participation, and limit housing providers' ability to undertake deep, whole-house upgrades.

Addressing financial barriers is therefore, foundational to unlocking broader system reform in procurement, quality assurance, and coordination. Further background, methodology, and the overall summary of

findings are presented in the main research brief, ***“Unlocking procurement for net-zero - overcoming barriers in social housing retrofits.”***

This brief focuses specifically on financial constraints, while additional companion briefs examine other procurement challenges:

Part 2: Quality assurance issues - strengthening data, skills, and supply chains for effective retrofit delivery examines quality assurance issues, including data, supply chain, and skills challenges

Part 3: Coordination conundrum - overcoming fragmentation to deliver retrofit at scale explores coordination challenges and governance structures for retrofit delivery.

2. The barriers and challenges

a. High capital costs and lack of innovative financing

The substantial upfront costs of retrofitting present a major financial hurdle. Retrofitting expenses range from £15,000 to £70,000 per unit, with harder-to-treat homes falling at the higher end of the spectrum. Financing these costs is particularly challenging for low-income households and HAs that cannot pass expenses onto tenants. A lack of innovative financing mechanisms compounds this problem; market-based studies show that short-term grants discourage private sector participation and scale economies in retrofit delivery (Cauvain, Karvonen, & Petrova, 2018). At the policy level, fragmented governance and limited capital flows have been identified as major obstacles to sustainable decarbonisation efforts (Bergman & Foxon, 2020). Establishing low-interest loan programs, green bonds, and revolving retrofit funds could help alleviate these financial burdens and drive investment in energy-efficient housing upgrades (CPC, 2021; UKGBC, 2020; GFI, 2022).

b. Short-term funding and project disruptions

One of the primary challenges in retrofit funding is reliance on short-term government grants, typically allocated for 12 months. These short funding windows lead to peaks and troughs in installation rates, causing project disruptions and inefficiencies (Palmer et al., 2018; Dyson, 2023; Rafique and Yuan, 2025). Recent studies confirm that this short-termism hinders strategic coordination among local authorities and housing providers, often disrupting supply chains and workforce continuity (Charles, 2025). For

instance, findings from the Midlands Net Zero Hub show that government's stop-start funding patterns in the Social Housing Decarbonisation Fund (SHDF) have led to major delays in project implementation, particularly for hard-to-treat homes (Wisker & Hub, 2025). Additionally, rent caps and welfare reforms further restrict available funds, limiting housing providers' ability to invest in long-term retrofit strategies. Multi-year funding commitments and flexible grant structures are needed to ensure sustained progress.

c. Funding competition and budgetary constraints

Local Authorities must balance retrofitting programs with other pressing priorities such as fire safety measures, routine maintenance, and new affordable housing development. As a result, retrofit projects often struggle to secure consistent funding. This competition for resources creates financial uncertainty, making it difficult for housing providers to commit to large-scale retrofitting initiatives (Edmen, 2021; Nanda et al., 2022). Research shows that these competing demands are intensified by fragmented financial governance structures, where retrofit funding is not ring-fenced, leading to instability in delivery across local authority portfolios (Tingey, Webb, & van der Horst, 2021). Similarly, decarbonisation case studies in Northern England reveal that local authorities frequently divert funds to address urgent maintenance or compliance needs, slowing long-term retrofit ambitions (Rainsford, 2021). Strategic budget allocation and funding ring-fencing for decarbonisation efforts could help mitigate these challenges.

d. Complexity of finance and accessibility barriers

Navigating the financial landscape for retrofit projects is often complex, particularly for social landlords and vulnerable communities (UKGBC, 2020). Separate budgets for maintenance and improvement work create bureaucratic hurdles, while fragmented funding mechanisms make it difficult to access financial support. Furthermore, financial aid for upfront costs is slow and inconsistent, further delaying project implementation. These barriers are consistent with findings from London-based research, which highlights the administrative complexity of retrofitting finance and the limited technical capacity among social landlords to navigate grant systems (Peel, Ahmed, & Saboor, 2020). Simplifying finance access and streamlining funding pathways could facilitate greater uptake of retrofit initiatives.

e. Limited financial resources for social landlords

Social landlords operate under tight financial constraints, needing to balance retrofitting investments with the construction of new affordable homes and compliance with building safety regulations. These competing demands mean that retrofit projects often receive limited funding, particularly in regions where housing providers rely heavily on government grants. Findings from recent work on landlord behaviour show that reliance on public funds discourages innovation in retrofit delivery and limits the ability to pursue deep energy efficiency upgrades (Handford, 2022). Developing innovative funding models, such as blended finance or public-private partnerships, could provide much-needed financial support (Happold, 2021; Dyson, 2023).

3. Good practice examples

i. West Berkshire climate change bond (2020)

Challenge: Like many local authorities in the UK, West Berkshire Council faced significant challenges in securing long-term funding for climate action projects. With limited access to national government funding, strict borrowing guidelines, and a legal obligation to maintain a balanced budget, the council needed an alternative financial mechanism to support its climate initiatives.

Solution: In 2019, after declaring a climate emergency, the council explored various funding options and eventually collaborated with Abundance Investment to pioneer the UK's first Community Municipal Investment (CMI), also known as the West Berkshire Climate Change Bond. The £1 million five-year climate bond, launched in July 2020, aimed to finance projects aligned with the council's Environment Strategy and accelerate progress toward its ambitious district-wide 2030 Net Zero target, 20 years ahead of the national goal. The bond allowed local residents and external investors to contribute directly to climate-positive projects while earning a financial return (Holder, 2020). The bond successfully financed multiple sustainability projects, including (UK100, 2022):

- Solar PV installations - £520k was allocated to install solar panels on six council-owned buildings, including schools, a leisure centre, and council offices.
- Energy-efficient infrastructure - £80k funded LED retrofits for traffic lights at 17 locations, reducing energy consumption by 38,207 kWh annually, equivalent to a 21-tonne CO2 reduction. Additionally, 217 steel streetlight columns were replaced with

longer-lasting aluminium alternatives, leading to an estimated £20k annual maintenance savings.

- Active travel & rural access - the council improved cycling and walking infrastructure, investing £100k to upgrade a towpath between Thatcham and Brimpton and creating new footpaths to encourage sustainable transport.
- Flood Alleviation & Habitat Restoration - £100k supported tree planting and habitat creation as part of flood mitigation efforts in Dunstan Park and South East Thatcham. The council also partnered with the Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust (BBOWT) to enhance biodiversity through capital improvements.

Stakeholders and community engagement:

The success of the bond was driven by strong community engagement, with local residents playing a significant role in its funding and implementation. They contributed 23% of the total investment, with local investors committing twice as much as non-residents, demonstrating strong local support for sustainability initiatives. To further strengthen community involvement, the council employed various engagement strategies, including virtual focus groups, climate conference presentations, and social media campaigns to educate residents on the importance of climate action. These efforts not only encouraged initial investments but also fostered long-term commitment, with many investors reinvesting their returns into additional environmental initiatives, such as the Wildflower Verge Project in collaboration with the Berkshire, Buckinghamshire & Oxfordshire Wildlife Trust (BBOWT).

Financial and environmental impact: The bond was structured at 1.2% interest, which was cheaper than traditional Public Works Loan Board (PWLB) borrowing. This reduced financial risk while ensuring a sustainable funding model for the council's green initiatives. The project's overall impact included increased renewable energy generation capacity, significant carbon emission reductions through improved energy efficiency, enhanced community participation in sustainability efforts and cost savings in long-term infrastructure maintenance (Holder, 2020).

Lessons learned and future prospects: As the first initiative of its kind in the UK, the West Berkshire Climate Change Bond provided a replicable model for other councils seeking alternative climate financing. Challenges included navigating regulatory requirements, educating investors, and ensuring community buy-in, but these were successfully managed through strong partnerships and clear communication. Following this success, West Berkshire Council is now exploring a larger-scale climate bond initiative, including a proposed £10.5 million solar farm, demonstrating its commitment to long-term environmental sustainability (UK100, 2022).

ii. Coventry City Council strategic energy partnership (SEP) (2023 – 2038)

Challenge: Coventry City Council, like other local authorities in the UK, has struggled to deliver large-scale retrofit programmes due to fragmented funding streams, short-term government grants, and limited internal capacity to manage complex energy infrastructure projects. These constraints made it difficult to plan long-term decarbonisation strategies and attract sustained investment.

Solution: The Coventry SEP is a 15-year collaboration between Coventry City Council and E.ON UK, launched in September 2023, designed to accelerate city-wide decarbonisation through long-term, sustainable investment in retrofit, renewable energy, and infrastructure electrification.

The partnership represents a long-term delivery model in which the public and private sectors jointly plan, finance, and implement energy transition projects. Governance is provided through a joint oversight board chaired by Coventry's Director of Climate Change and Sustainability alongside senior representatives from E.ON. This structure ensures strategic oversight, performance monitoring, and alignment with the city's Climate Change Strategy (2020–2030).

Programme delivery is coordinated through a dedicated implementation unit staffed by both council officers and E.ON specialists. This integrated approach allows projects to be developed and delivered consistently over the 15-year partnership period. The SEP is structured around four strategic pillars (McDermott, 2024):

- a. **Clean local energy** - deliver low-carbon and renewable energy solutions for homes, public buildings, and businesses, including heat pumps, solar PV, and district heat networks.
- b. **Jobs & skills** - create local employment and training opportunities, focusing on green skills and energy retrofit capacity development.
- c. **Innovation & scale** - pilot new technologies such as battery storage, smart meters, and energy management systems at scale to enhance retrofit effectiveness.
- d. **Community benefit:** embed social value and community engagement across all delivery phases to maximise local impact and inclusivity.

Funding and investment: Within its first 18 months (2023–2024), the partnership mobilised over £10 million in combined public and private investment, integrating funding from the Public Sector Decarbonisation Scheme (PSDS), Home Upgrade Grant (HUG), and direct capital contributions from E.ON UK through performance-based energy contracts. This hybrid model has ensured both financial resilience and scalability by allowing project revenues and savings to be reinvested into future retrofit initiatives.

Key activities and initiatives: Key activities have centred on three core programmes:

- Large-scale domestic retrofit - targeting over 100 pilot homes with insulation, heat pumps, and rooftop solar PV
- Public estate decarbonisation - energy efficiency upgrades across council offices, leisure centres, and school
- Renewable infrastructure deployment - EV charging networks, smart grid pilots, and local solar generation feasibility studies.

Impact: Collectively, these activities have delivered significant outcomes over 2,000 tonnes of CO₂ savings and an estimated £1.3 million in social value through community engagement, training, and supply chain development (Coventry City Council, 2024).

Future plans (2025–2030): The future plans for the SEP include:

- Retrofit an additional 20,000 homes, integrating digital energy monitoring.
- Launch of the Coventry Solar Partnership, targeting 25MW of local generation capacity.
- Establish Coventry Climate Investment Fund, blending municipal bonds with private ESG investment.
- Creation of a regional retrofit academy

iii. West Midlands Combined Authority's (WMCA) local net zero accelerator (LNZA) programme (2024 – 2026)

Challenge: Achieving Net Zero will require substantial financial investment, estimated at £30-72 billion for decarbonising homes alone, excluding businesses and wider infrastructure. Given the limitations of public funding, the region must attract private finance and create a consumer-driven demand for low-carbon solutions (WMCA, 2024). WMCA is implementing innovative financing mechanisms to address this challenge through its Trailblazer Devolution Deal with the UK Government. This deal grants the region greater control over Net Zero grant funding, starting with a devolved retrofit pilot, which aims to leverage private investment and remove barriers to local Net Zero financing.

Solution: To address this challenge, the WMCA launched the LNZA programme as part of its Trailblazer Devolution Deal with the UK Government. The programme provides the region with greater control over Net Zero funding and supports the development of a new regional financing mechanism.

The LNZA programme adopts a place-based investment approach, ensuring that decarbonisation investments reflect local housing conditions, economic priorities, and workforce needs. A key objective is the creation of a regional Net Zero Fund, which will blend public and private capital to support large-scale decarbonisation projects.

The fund will combine multiple sources of finance, including concessional public funding, commercial investment, and philanthropic capital. This blended finance model aims to increase capital availability for retrofit programmes and other Net Zero initiatives such as Net Zero Neighbourhoods.

Running from April 2024 to March 2026, the programme focuses on developing the institutional and financial infrastructure required to support long-term investment. (WMCA, 2025).

Expected outcomes: By the end of the programme, WMCA aims to:

- Establish a governance framework for managing the regional Net Zero Fund.
- Develop a pipeline of investable decarbonisation projects.
- Create a clear risk–return structure to attract private investment.
- Expand collaboration between public authorities, financial institutions, and private sector partners.

The Net Zero Fund is expected to become fully operational by 2027–2028, providing a long-term financing mechanism for the region’s Net Zero transition (WMCA, 2024).

4. Lessons learned

The three good practice examples demonstrate that overcoming the financial barriers to large-scale retrofit requires moving beyond short-term grant funding towards diversified, long-term, and place-based financing mechanisms. Several key lessons emerge that can help address the financial barriers outlined above.

i. Diversified funding sources can reduce reliance on short-term grants.

Retrofit programmes should not depend solely on short-term government funding cycles. Blending different sources of finance such as

public funding, private investment, and community capital, can create more stable and resilient funding structures. Diversified financing helps mitigate funding volatility and enables retrofit programmes to continue even when government funding streams fluctuate.

ii. Establishing long-term financing frameworks can enable strategic planning.

Short funding windows limit local authorities’ and housing providers’ ability to plan large-scale retrofit programmes. Multi-year financing arrangements provide the stability needed for strategic planning, long-term project pipelines, and consistent programme delivery. Long-term frameworks also support supply chain development and allow contractors to invest in skills, equipment, and capacity.

iii. Promoting community investment mechanisms can allow residents to become more engaged while raising additional capital.

Community-backed investment mechanisms can provide local authorities with an additional source of finance for climate and retrofit initiatives. Instruments such as Community Municipal Investments (CMIs) allow residents and local stakeholders to contribute directly to local decarbonisation projects while receiving a financial return. This approach not only raises additional capital but also strengthens public engagement with climate action. By enabling residents to participate financially in local sustainability initiatives, councils can increase public support for retrofit programmes while mobilising new funding streams.

iv. Public–private collaboration can mobilise investment.

Partnerships between the public and private sectors can help mobilise larger pools of capital for retrofit programmes. By sharing risks, aligning incentives, and coordinating delivery structures, public–private collaboration can unlock private investment while ensuring that projects deliver both environmental and social outcomes.

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