

Housing Retrofit Strategy:

Empowering communities
through retrofitting



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Foreword



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Deputy Mayor and
Cabinet Member for
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Cllr Will Cooper
Cabinet Member
for Better Homes,
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Lewisham Council is committed to tackling the climate emergency and to ensuring that every resident has access to a warm and safe home. Housing is the borough's largest source of the carbon emissions that are driving climate change and this makes retrofitting – upgrading insulation, replacing inefficient heating systems, and integrating renewable energy – a crucial part of our ambitions for climate action.

Retrofitting is not just an engineering challenge – it is a social transformation. Our homes are the foundation for the essential things in life, including our most important relationships, our health and a sense of belonging within a community. Home is also the base from which we make our way in the world through work or education. Well-designed retrofit programmes strengthen communities, empower residents, deliver better health outcomes and create skilled local jobs.

The Council owns and manages 19,000 homes across the borough, and as a landlord investment in our residents' homes is a key priority. Improving insulation, lighting and heating can help cut energy costs benefiting everyone as well as meeting the environmental ambitions that are shared by many of our residents.

With over 130,000 homes across the borough transitioning to low-carbon housing requires

strategic investment, strong partnerships, and a long-term commitment. The work comes with a huge price tag, the cost of fully retrofitting all homes in the borough is estimated at £3.2 billion, an amount that far exceeds available resources. The challenge ahead is significant. This is not a programme of work that falls to the Council alone or to any single organisation, it is a challenge that requires sustained and collective efforts.

In response this Strategy sets out a phased, pragmatic approach that prioritises high impact projects and builds the foundations to scale up delivery over time. The Strategy seeks to make the most of opportunities to bring funding into the borough while at the same time building early and sustained engagement with residents. This engagement is essential in ensuring retrofit projects are practical, cost-effective and aligned with the realities of daily life.

A home is more than just walls, windows, a roof and heating. It is a space of identity and belonging. Yet, across the borough, too many homes are cold in winter, stifling in summer, and costly to heat. The driving forces of this Strategy are about taking care – care for people, care for homes, and care for the planet. By working together, we can ensure that every resident benefits from the transition to a low-carbon future.

Executive summary

Much of the UK's housing was built when energy efficiency and climate change were not considerations. As a result, large numbers of people in Lewisham struggle to meet the cost of heating their home and housing as a sector is the source of half the borough's carbon emissions. Retrofitting homes with measures such as improved insulation, upgraded windows, low-carbon heating systems and solar panels respond to these issues by reducing emissions, lowering energy costs, and improving indoor comfort.

As part of the Council's Climate Emergency Action Plan, the Housing Retrofit Strategy aims to reduce energy use and emissions, supporting Lewisham's ambition for the borough to be net zero carbon by 2030. Alongside decarbonisation the programme will also deliver broader benefits, including enhanced housing quality, reduced exposure to energy price increases, better health and air quality, and opportunities for green jobs and skills.

The strategy is built on four key principles. It prioritises **people-first solutions** that are affordable and minimise disruption to residents. All retrofitting projects will adhere to **high-quality standards**, ensuring safety, effectiveness, and long-lasting impact. The approach is both **practical and flexible**, with solutions

tailored to different housing types and budgets. Finally, the Council is committed to **maximising value for money** by accessing funding opportunities and aligning retrofitting efforts with broader housing improvements.

The strategy acknowledges the **high cost and diverse nature of solutions across housing tenures**. Fully retrofitting all homes in the borough is not something the Council can or should do. Instead, the strategy adopts a pragmatic approach that leverages partnerships, innovation, and funding opportunities to prioritise high-impact projects.

The action plan outlines a phased approach, balancing short-term progress with long-term goals. It begins with **Core Projects**, which use existing resources to implement quick, impactful changes, such as improving insulation in council-managed homes. Stretch Projects build on this foundation by expanding activities to include a wider variety of housing types, requiring additional funding and staff to scale up efforts. Innovation Projects test new technologies and approaches, providing valuable insights for future scaling, informed by lessons learned in earlier phases and aligned with long-term funding and policy developments.



The Council's approach includes scaling up projects over time to expand the reach of retrofitting measures, build capacity, and address systemic challenges in achieving long-term sustainability goals.

To ensure the strategy's success, the Council will focus on several key areas during implementation:

- **Resident communication and engagement:** The Council will seek to take a comprehensive approach to informing residents about the benefits of retrofitting, address concerns, and encourage participation. Building trust through early engagement and transparent processes will be essential to minimising disruptions and gaining community support.
- **Equality, Diversity, and Inclusion (EDI):** Retrofitting efforts will be inclusive, addressing the needs of all residents, with particular emphasis on providing support for vulnerable groups. This includes tailoring solutions to individual circumstances, seeking to ensure no one is left behind in the transition to greener homes.

- **Strengthening local supply chains:** To support large-scale retrofitting, the Council will seek new opportunities to invest in training and upskilling local workers, creating green jobs, and fostering a robust supply chain. By partnering with local organisations and educational institutions, the Council aims to build the capacity needed for sustained retrofitting efforts.
- **Collaboration:** The Council will work with social landlords, charities, and community groups to streamline delivery, share knowledge, and maximise local impact. These partnerships will ensure retrofitting aligns with broader community goals and housing improvement efforts.
- **Improved data collection and monitoring:** Robust systems will be developed to track progress, measure impacts, and ensure accountability. Regular monitoring will help the Council adapt its strategy to changing circumstances and optimise resources for maximum benefit.



1. Introduction

Today, housing is recognised as a major contributor to carbon emissions, accounting for half of Lewisham's total emissions. This highlights the urgent need for action. The Housing Retrofit Strategy is a central part of [Lewisham Council's Climate Emergency Action Plan](#), supporting the ambition for the borough to be net zero carbon by 2030. Alongside the environmental benefits delivery of the strategy also create opportunities for:

- Improved housing quality
- Protecting residents from rising energy costs
- Better indoor and outdoor air quality
- Economic growth through green jobs and skill development

Local authorities do not have responsibility for upgrading all homes and a wide range of different sectors will need to work together to retrofit housing across Lewisham at the scale needed. Nevertheless Lewisham Council recognises its pivotal role in coordinating efforts, accelerating progress, and attracting investment for council-owned housing.

The estimated cost of fully retrofitting all homes in the borough is £3.2 billion, reflecting the scale of this challenge. However, this strategy adopts a pragmatic approach:

- Focusing on achievable, immediate steps
- Demonstrating success through innovation and partnerships
- Building the evidence and capacity needed to scale up as policies, funding, and the economy align to meet climate goals

This forward-thinking approach lays the groundwork for Lewisham to lead in addressing both the climate crisis and housing inequalities.



2. Definitions and key principles

In this strategy, housing retrofit refers to measures aimed at improving energy efficiency and decarbonising heating and hot water systems in homes. Retrofitting promotes clean energy, reduces heating costs, and supports the goal of lowering carbon emissions, while also enhancing health and advancing social equity.

The climate crisis and social justice are closely intertwined. Cold, poorly insulated homes contribute significantly to carbon emissions and create affordability challenges for heating, negatively affecting residents' health and well-being. These homes also tend to have higher long-term maintenance costs, placing additional burdens on residents. Retrofitting poorly performing homes presents a critical opportunity to improve warmth and comfort, enhance indoor air quality, and reduce emissions.

When done effectively, retrofitting can deliver a wide range of transformative benefits, from creating healthier and more energy-efficient homes to supporting broader environmental and social goals.

Outcomes and benefits of good housing retrofit



Improved local air quality



Increased comfort, health and wellbeing



Reduced energy demand



Increased water efficiency



Reduced demand on the local grid



Improved sense of community



Reduction in maintenance costs



Increased climate resilience



Reduced dependence on fossil fuels



Progress towards net zero carbon targets



Reduction of condensation damp and mould



Mitigate fuel poverty

Retrofit is an opportunity to adopt a holistic approach to home improvement, focusing on creating healthy, warm, and affordable homes. This strategy enables strategic alignment, bringing together public health, fuel poverty, capital investment, and climate mitigation objectives to deliver comprehensive benefits for residents and the borough.

The delivery of this strategy is guided by key principles:

- **Put people first:** Retrofit initiatives will prioritise affordability and ensure that households are not burdened with energy bills or costs that outweigh the direct benefits of the work
- **Pragmatism:** Solutions will be tailored to the specific characteristics and constraints of individual homes, using an evidence-based approach to costs and resources. The strategy remains flexible, ready to adapt to new funding opportunities and technologies
- **Quality:** High standards of accreditation will be maintained to manage risks and ensure reliable, effective delivery of works
- **Value for Lewisham:** Efforts will focus on three key areas: aligning existing resources with retrofit goals to ensure current assets and funding are directed effectively, maximising benefits by strategically integrating retrofitting with broader investment programmes, and actively seeking external funding to accelerate progress and enhance outcomes for all residents



3. Challenges and opportunities

Strategy area	Challenge	Opportunity
Fuel poverty	Many homes are poorly insulated, leading to high heating costs that residents cannot afford, affecting their health and well-being	Retrofitting creates warmer homes, reduces energy bills, and improves health, particularly for vulnerable groups like older residents
High costs	Fully retrofitting all homes is estimated to cost £3.2 billion, far exceeding current budgets	Securing external funding and private investment can unlock the necessary resources, while larger projects reduce costs through economies of scale
Disruption to residents	Retrofitting can be invasive and disruptive, especially for large-scale works like insulation or heating system upgrades	Streamlining the process and involving residents early can minimise disruptions and build trust
Supply chain gaps	The workforce lacks the capacity and skills to deliver retrofitting at scale, with a bottleneck in specialised trades like renewable heating	Training and upskilling local workers can boost the economy while creating a skilled workforce for the green jobs of the future
Complex housing types	Flats, shared buildings, and historic properties present unique challenges due to structural, legal, or conservation requirements	Developing tailored solutions can address these challenges while preserving heritage and extending the lifespan of older buildings
Limited awareness	Many residents are unaware of the benefits of retrofitting or may be reluctant due to perceived costs or disruption	Showcasing successful projects and clear communication about cost savings and health benefits can increase awareness and participation
Healthier, resilient homes	Homes with inadequate insulation are more vulnerable to extreme weather, requiring urgent upgrades to cope with climate change	Retrofitting enhances resilience against climate-related challenges, such as extreme heat or cold, while reducing the carbon footprint of homes
Economic growth	Limited local expertise and infrastructure for retrofit delivery hinder the borough's ability to respond to this need effectively	Growing the local supply chain and fostering innovation in green technologies can create jobs and position Lewisham as a leader in sustainable housing transformation

4. Lewisham housing retrofit baseline

4.1 All Lewisham homes

This section gives an overview of tenure, housing characteristics, and current environmental performance of the 137,755 homes in Lewisham.

Full decarbonisation of housing across the borough requires significant improvements to the energy efficiency and the replacement of fossil fuel heating systems with alternatives that can be powered by low and zero carbon technology. The total cost of this work is estimated at £3.26 billion, or an average of £23,695 per home (excluding VAT). These estimates have been made using advanced modelling software drawing on existing energy performance information on housing stock across the borough.

The implementation of fabric and energy efficiency measures is expected to deliver significant benefits, including improved energy ratings. Households will experience lower fuel bills, saving an average of £635 annually, reducing costs to £1,027 per home. Additionally, borough-wide carbon emissions are projected to decrease dramatically from 381,166 tCO₂e per year to 49,547 tCO₂e per year, equating to 0.36 tCO₂e per home. By 2050, as the energy grid transitions to low-carbon sources, emissions are expected to fall further to just 1,139 tCO₂e per year, or 0.01 tCO₂e per home.

4.2 Lewisham Council housing stock

The estimated cost to fully retrofit Lewisham Council's 19,845 homes is £470.5 million, averaging £23,709 per home (excluding VAT). This investment is expected to yield substantial benefits, including improved energy ratings. Residents will enjoy lower fuel bills, with annual savings of £321 per home, reducing average costs to £1,055. Additionally, carbon emissions are projected to decrease significantly, dropping from 45,411 tCO₂e to 11,335 tCO₂e annually by 2040, making a major contribution to the borough's climate goals.

4.3 EPC and SAP profile

SAP, or the Standard Assessment Procedure, is a government-approved metric for measuring a building's energy efficiency on a 1–100 scale, with higher scores indicating better performance. SAP assessments form the basis of Energy Performance Certificates (EPCs) for individual homes.

SAP serves as a valuable background measure, particularly for determining eligibility for funding streams like the Social Housing Decarbonisation Fund. However, it is increasingly used alongside targets for space heating demand to prioritise improvements in building fabric.

Numer of homes:
19,845

Average (mean) SAP:
70

Average CO₂e per home:
2.29 tonnes

Average space heat demand:
72 kWh/m²/yr

Average space heat demand,
homes below EPC C:
72 kWh/m²/yr

Average annual fuel bill:
£1,376

In Lewisham, the median SAP rating is 65.48, which falls below the London median of 69, highlighting the need for targeted energy efficiency upgrades across the borough. Lewisham has 88,255 properties below EPC C, with 42,189 in the private rented sector averaging a SAP rating of 64. Among these, 27,413 private properties are below EPC D, including 634 rated EPC F and G.

The Council's housing stock averages a SAP score of 70, consistent with the national average for social housing. However, 6,428 council homes (32%) fall below SAP 69 (EPC C), highlighting the need for targeted retrofitting efforts to improve energy efficiency across both private and public housing.

4.4 Housing typologies

The borough's housing stock consists of 80,480 flats, 4,980 maisonettes, 51,998 houses, and 297 bungalows, each presenting distinct challenges and opportunities for retrofitting.

Flats and maisonettes, which together account for the majority of homes, pose significant complexities for retrofit initiatives. Installing heat pumps in flats is challenging due to limited space for external units, requiring alternative solutions such as communal air or ground source heat pumps, or efficient electric heating systems

like high retention storage heaters or emerging technology such as infrared electric heating.

Shared roof spaces and the leasehold/freehold relationship further complicate the installation of solar panels. Moreover, retrofitting entire blocks often requires the agreement of all homeowners, leaseholders, and landlords, especially for measures like external wall insulation (EWI) or communal heating systems, which are only feasible when applied consistently across the block.

In contrast, houses and bungalows, which account for 52,295 properties, are comparatively more straightforward to retrofit. Landlords and homeowners typically have greater autonomy to implement measures like wall insulation without needing consensus from neighbours. They also tend to have space, such as gardens, for heat pump systems and roofs suitable for solar panel installation.

However, houses and bungalows come with their own challenges, including a larger external wall area, which increases the investment needed for insulation and window upgrades. By understanding these differences, delivery can be tailored to effectively address the specific needs of each housing type.

4.5 Wall construction types

Wall construction plays a critical role in determining retrofit strategies, as walls are the primary source of heat loss in homes. The borough's housing stock includes a variety of wall types, each with distinct retrofit challenges and opportunities.

The majority of homes, 75,297, have solid brick walls, commonly found in pre-1930s Victorian and Edwardian terraces, which require internal or external wall insulation (IWI/EWI) to improve energy efficiency. While these methods are effective, they can be costly and disruptive. In contrast, 51,784 homes have cavity walls, which are more cost-effective and straightforward to insulate using cavity wall insulation (CWI).

Other construction types include 6,895 system-built homes, which require specialised solutions like structural EWI to address poor thermal performance, and 3,579 timber-framed homes, which demand tailored approaches. Additionally, a small number of sandstone, granite, and cob homes present unique conservation and technical challenges.

Delivery of area-based approaches to retrofit will need to be based on understanding these common archetypes and developing programmes that align solutions with funding while addressing the complexities of each property type.

4.6 Heating systems

Heating systems in Lewisham are predominantly gas-based. To achieve net zero carbon, these gas heating systems need to be replaced with low-carbon alternatives. Heat pumps are the preferred option, utilising renewable heat from air, ground, or water for space heating and hot water. Low-carbon heat networks and energy-efficient direct electric heating will also contribute to decarbonising heat.

Full decarbonisation needs a whole-house approach, prioritising energy efficiency improvements before installing low-carbon heating systems. For homes with high heat loss, the aim should be to reduce space heat demand to 90 kWh/m²/year through fabric upgrades. This benchmark ensures cost-effective transitions from gas to low-carbon systems like heat pumps or heat networks.

In cases where space constraints prevent heat pump installation other approaches such as direct electric heating alongside measures like solar panels, battery storage, and time-of-use tariffs are options to improve affordability and efficiency.

Understanding the retrofit baseline: Lewisham's housing landscape

Lewisham's housing stock is diverse, with 137,755 homes varying in tenure, construction, and environmental performance. The analysis that has developed this strategy outlines the challenges and opportunities associated with improving energy efficiency and transitioning to low-carbon heating systems.

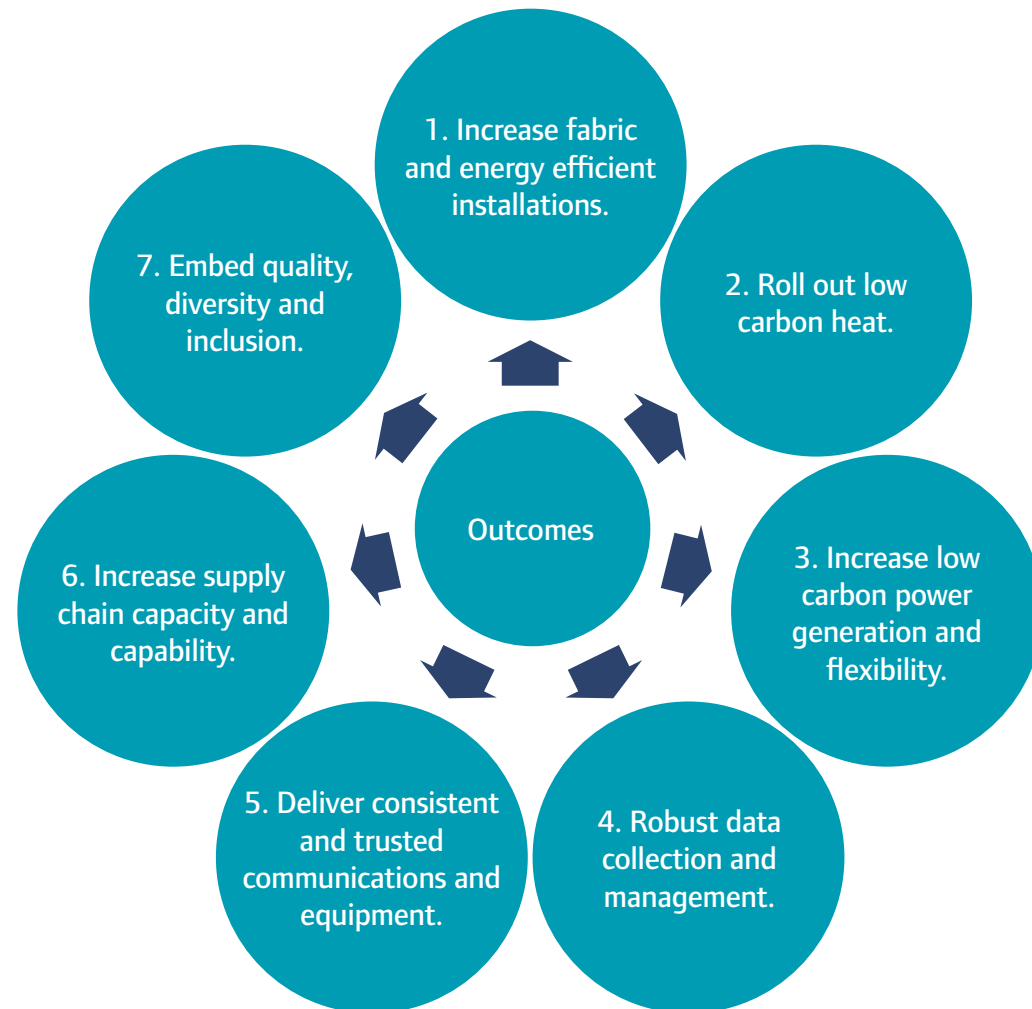
- **Current state:** The median SAP rating of 65 falls below the London average, with 88,255 properties below EPC C, highlighting the need for extensive retrofitting
- **Housing types:** From solid brick walls requiring insulation upgrades to system-built homes needing specialised solutions, each housing type presents unique retrofit challenges
- **Heating systems:** Predominantly gas-based systems will transition to low-carbon alternatives, such as heat pumps and efficient electric heating, supported by fabric improvements to reduce heat demand

5. Retrofit action plan

This section sets out the specific actions the Council can take in the immediate and longer term to scale up delivery of retrofit across Lewisham.

The development of this strategy has identified seven key outcomes to guide the Council's approach. These outcomes serve as a framework for planning and executing the roadmap of projects, ensuring alignment with strategic goals while addressing the diverse needs of the borough.

Strategy outcomes which we use to guide our roadmap of projects



1. Increase installation of fabric and energy efficiency measures

These measures are categorized into two areas:

- **Basic fabric measures:** These include insulating cavity walls, lofts, floors, and hot water cylinders, upgrading non-heritage windows, installing energy-efficient doors, draughtproofing, and adopting low-energy lighting. These measures represent the "low-hanging fruit" of retrofitting, offering value for money with relatively low installation costs and delivering significant energy savings and enhanced comfort. The existing supply chain has the capacity to scale up these installations immediately. This strategy prioritizes large-scale implementation for council homes and actively promotes the benefits of retrofitting to private landlords and homeowners, encouraging their engagement.
- **Challenging fabric insulation measures:** These focus on solid wall insulation (both external and internal) and upgrading heritage windows to improve energy performance. These measures require specialized supply chains, which are currently limited, alongside increased funding to address higher associated costs. In the short to mid-term, the Council plans to build capacity and confidence through



innovation projects, skill development, and close collaboration with the planning team to manage risks in heritage retrofits. Insights from these efforts will inform planning guidance, aiming for accelerated installations in the long term.

2. Rollout of low-carbon heating

The focus is on implementing low-carbon heating solutions, including individual heat pumps, communal heat pump systems, and district heating. In homes where heat pumps are unsuitable due to space constraints or where district heat networks are infeasible, electric heating alternatives, such as infrared heating, will be utilised. The goal is to ensure that low-carbon heating remains affordable while phasing out fossil fuel heating. A fabric-first approach will continue to be promoted for cold, leaky homes, while increasing capacity for long-term rollouts. The Council has already initiated low-carbon heat networks across the borough and will continue expanding these efforts.

3. Increase generation, storage, and flexible use of low-carbon power

This outcome focuses on boosting the adoption of solar PV systems, ideally combined with batteries or thermal storage, to maximize the use

of locally generated, clean energy. Promoting energy flexibility through time-of-use (ToU) tariffs will help households optimize the affordability of low-carbon electricity from the grid, supporting the transition to a sustainable energy future.

4. Establish a robust evidence base for action

Good data and governance are foundational to the success of the retrofit strategy. The Council aims to enhance its capacity for informed decision-making, progress monitoring, activity coordination, accountability, and transparency. Efforts will focus on improving data collection and reporting capabilities to support these objectives.

5. Empower residents through consistent and trusted communications and engagement

Aligned with Lewisham Council's broader retrofit strategy, the communications and engagement plan focuses on:

- Introducing and explaining retrofit in practical terms, linking it to climate goals and council aspirations.
- Highlighting co-benefits such as more comfortable homes, lower bills, new green jobs, a cleaner environment, and contributions to tackling climate change.

- Developing new engagement models based on resident and community lived experiences, fostering co-created delivery approaches.

6. Increase supply chain capacity and capability

The Council is collaborating with Southwark and Lambeth through a tri-borough initiative to bolster the local supply chain. This initiative focuses on green skills development to support retrofit ambitions, creating employment opportunities and delivering economic benefits to the area.

7. Embed Equality, Diversity, and Inclusion (EDI) into retrofit delivery

Retrofit programs must address the diverse needs of all community members, regardless of age, disability, or ethnicity, to promote fairness, reduce disparities, and enhance social well-being. The Council is committed to embedding EDI considerations proactively into its retrofit initiatives, with a particular focus on supporting vulnerable residents to ensure that retrofit designs and delivery directly respond to their needs.

5.1 Retrofit roadmap

While progress has already been made in housing decarbonisation, achieving long-term goals requires systemic changes, additional funding, and increased delivery capacity. The retrofit roadmap is the programme of works to deliver the strategic objectives. It outlines the Council's role by establishing the projects to be delivered, coordinated, and promoted.

While the Council has already made positive strides in housing decarbonisation, achieving ambitious long-term goals will need broader systemic changes including additional funding and delivery capacity.

The roadmap therefore seeks a strategic balance between short-term achievable projects that are within our existing capacity (core projects), with mid- and longer-term projects (stretch/innovation projects) which require more resource to unlock but will drive delivery of a scale up retrofit over time.

To this end, projects are grouped in the roadmap as follows:

1. Core delivery projects

These are immediate, actionable projects that build on existing initiatives and funding commitments. For the Council's housing stock, the focus is on leveraging external grants and aligning wider programmes to maximise retrofit opportunities.

2. Stretch projects

These projects require enabling actions, such as expanding Council capacity and securing additional budgets. There is no commitment to delivering these projects without the additional capacity and resources required. They establish new retrofit approaches but depend on increased resources and may need adaptation as policies and funding landscapes evolve.

3. Innovation projects

These initiatives test new solutions to gather insights and build confidence for scale-up. They depend on additional funding and may

be implemented in collaboration with other boroughs or stakeholders to share learning and resources. There is no commitment to delivering these projects without the additional capacity and resources required.

The Council also has long-term scaling up ambitions to deliver retrofit solutions at scale across all tenures. The details of these stretch projects are not included in this strategy. Our goal is to support and enable the scale up of retrofit based on insights from our core, stretch, and innovation projects, combined with wider system development and sector learning over the next few years.

The roadmap prioritises social housing in the short term, with efforts for owner-occupied and private-rented sectors ramping up later, leveraging learning and capacity-building from social housing projects. Over the next two to three years, the Council will focus on core delivery projects while building the business case and monitoring systemic changes to enable stretch and innovation efforts.

Delivering Lewisham's retrofit vision

Lewisham's Retrofit Action Plan defines a clear strategy for achieving sustainable housing transformations. By aligning immediate actions with long-term goals, the Council ensures a balanced approach that meets the diverse needs of its residents and supports climate ambitions.

- **Core outcomes:** Seven key outcomes guide the strategy, focusing on energy efficiency, low-carbon heating, renewable energy generation, robust data management, effective communication, supply chain growth, and embedding equity
 - **Strategic grouping:** Projects are categorised into core delivery, stretch and innovation, enabling adaptability and scalability as resources and policies evolve
 - **Inclusive focus:** The plan integrates Equality, Diversity, and Inclusion (EDI) principles to ensure fair access to retrofitting opportunities and maximise social well-being
- Fabric and energy efficiency measures



5.2. Fabric and energy efficiency measures

This section outlines key fabric and energy efficiency measures aimed at improving insulation, upgrading heating systems, and enhancing the overall energy performance of homes in Lewisham to reduce carbon emissions and energy costs.

5.2.1. Core delivery projects

- **SHDF Wave 2.1** (Project 1a): Partially funded by the Social Housing Decarbonisation Fund, this project will deliver fabric and energy efficiency upgrades to up to 250 Council-owned homes in 2024/25

5.2.2. Stretch projects

- **Basic fabric retrofit for council stock** (Project 1b): The project aims to integrate energy efficiency and decarbonisation into Lewisham Council's housing stock investment program, targeting 3,881 tenanted properties below EPC C with cost-effective retrofit measures, while aligning with broader repairs, safety requirements, and anticipated government standards

- **Raise standards in Council stock communal heating systems** (Project 1c) by ensuring compliance, installing metreing and controls, and developing a maintenance and investment plan aligned with decarbonisation and stock condition survey findings.
- **Social landlord consortium** (Project 2): A partnership with local social landlords to develop retrofit strategies, secure joint funding, and upskill teams
- **Improving private rented sector (PRS) Homes** (Project 3): Enforcing minimum energy standards through landlord licensing schemes, targeting 20,000 properties, with the ambition to raise homes to EPC E and potentially EPC C in the future
- **Funding for low income privately owned properties** (Project 4): Deliver retrofit projects for low-income owner-occupiers and renters, contingent on Government funding
- **Disabled facilities grant retrofit** (Project 5): Extend the use of grants to fund retrofit measures and support services for disabled residents

- **Area-based delivery** (Project 8): Develop retrofit programmes targeting specific neighbourhoods to reduce costs, enhance social value, and streamline processes. This approach minimises disruption, integrates energy and public realm projects, and supports local job creation and skills development

5.2.3. Innovation projects

- **External wall insulation (EWI)** (Project 6): Pilot a EWI project on one of the Council's blocks to demonstrate aesthetic and environmental benefits while reducing fuel poverty
- **Internal wall insulation (IWI)** (Project 7): Collaborate with other boroughs to establish a standardised IWI approach, piloting installations in vacant council properties to minimise disruption
- **Net zero neighbourhoods** (Project 9): Work with other boroughs and good practice nationally on area based cross-tenure models of retrofit developing new funding models. Identify opportunities to apply lessons to activity in Lewisham

Hounslow's Net Zero Neighbourhood model

Hounslow's innovative Net Zero Neighbourhood initiative serves as a pioneering example for large-scale retrofitting efforts. This model focuses on retrofitting a designated area to achieve net zero carbon emissions by combining energy efficiency upgrades, low-carbon heating, and renewable energy generation.

Key features of the Hounslow approach include:

- **Community-centric financing:** A unique funding mechanism allows repayments for retrofitting costs through energy savings, making upgrades accessible and cost-neutral for residents
- **Integrated solutions:** The model incorporates comprehensive measures such as external wall insulation, solar panel installations, and district heat networks tailored to the specific needs of the neighbourhood
- **Collaborative engagement:** Active collaboration with residents, local businesses, and stakeholders ensures alignment with community priorities and maximises participation
- **Scalability and replication:** The Hounslow pilot is designed to provide insights for scaling up the approach to other areas



5.3. Low-carbon heat

The roadmap includes a range of projects to support the transition to low-carbon heating in Lewisham, prioritising heat networks, air source heat pumps (ASHPs), and innovative heating solutions for homes where conventional systems are not feasible.

5.3.1. Core delivery projects

- **Heat network zones** (Project 12a): Identified through Lewisham's Energy Masterplan, heat network zones in Catford, Lewisham Town Centre, and North Lewisham are being developed as pathways to decarbonise heating. Potential low carbon heats sources include waste heat from incineration of refuse and data centres alongside potential decentralised energy sources such as heat pumps connecting into networks supplying multiple buildings. Initial techno-economic modelling has been completed to inform planning policies, attract private investment, and advance detailed project development

5.3.2. Stretch projects

- **Heat network zones expansion** (Project 12b): Building on Project 12a, this project focuses on securing funding and advancing detailed development to create investment-ready heat network projects for identified zones
- **Individual air source heat pumps** (Project 13): Targeted marketing to owner-occupier households to promote the benefits of ASHPs, focusing on homes with suitable energy efficiency (EPC C) and garden space. This project links to fabric upgrade initiatives and tailored support to help residents transition to low-carbon heating

5.3.3. Innovation projects

- **Energy-efficient electric heating** (Project 14): For homes unsuitable for heat pumps or district heating, this project will test new direct electric heating technologies, such as far-infrared heating and phase-change thermal storage. Demonstrators in council properties will evaluate impacts on affordability, energy use, and damp or mold mitigation. Solar PV will be installed where feasible to supply clean energy for these systems
- **Communal heat pumps** (Project 15): Costed plans for communal ground source (GSHP) and air source heat pump (ASHP) systems will be piloted on council sites. Insights from these demonstrators will inform future deployment across council housing stock

The projects aim to decarbonise heat at both individual and community levels while addressing barriers such as funding, technical feasibility, and resident engagement. The roadmap balances short-term deliverables with innovation to support scalable and sustainable heating solutions for the borough.

5.4. Low-carbon energy generation, storage, and flexibility

Lewisham's retrofit roadmap includes targeted projects to promote renewable energy generation, increase energy storage capacity, and enhance flexibility in energy usage. These projects aim to support decarbonisation while reducing costs and improving energy resilience.

5.4.1. Stretch projects

- **Solar campaigns** (Project 16a): Subject to additional capacity, the Council will deliver campaigns promoting the benefits of solar panels to homeowners, raising awareness about renewable energy and encouraging installations
- **Planning support** (Project 16b): Extend solar promotion efforts to properties in conservation areas and heritage buildings by providing guidance and simplifying the planning application process for solar PV installation

5.4.2. Innovation projects

- **Joint procurement models** (Project 17): Explore bulk purchasing and joint procurement models to reduce solar panel installation costs. Lessons learned from previous programmes, like the Mayor of London's Solar Together initiative, will inform this project's approach
- **Grid flexibility** (Project 18): Develop targeted engagement to promote the use of smart metres and time-of-use (ToU) tariffs. These tools enable households to benefit from lower electricity rates during periods of excess renewable energy on the grid, reducing bills and grid pressure. Encouraging battery storage can further enhance energy flexibility and cost savings
- **Battery demonstration projects** (Project 19): Test battery installations alongside flexible energy use in fuel-poor homes. This initiative integrates with low-carbon heating projects (e.g., Project 14) to improve affordability and decarbonisation outcomes for residents

These initiatives aim to make low-carbon energy generation, storage, and usage more accessible and cost-effective for residents. By combining awareness campaigns, innovative procurement, and energy flexibility projects, the Council seeks to enhance sustainability and affordability across the borough.

5.5. Data collection and management

Accurate and comprehensive data collection and management are foundational to delivering Lewisham's retrofit strategy. By improving stock data, monitoring performance, and utilising borough-wide energy insights, the Council aims to inform strategic decisions, track progress, and enhance housing quality.

5.5.1. Core projects

- **Council stock data improvement plan** (Project 20): Conduct stock condition surveys for up to 80% of the Council's housing stock, including energy performance assessments and 500 Housing Disrepair surveys. The data will guide asset strategy, strategic investment plans, and retrofit initiatives such as SHDF2.1 and SHDF3 delivery programme
- **Regenter Brockley data improvement** (Project 25): Work with Regenter Brockley, managing 1,838 Council homes, to ensure high-quality energy performance data. Proactive data collection will support a smooth integration of these homes into the Council's housing retrofit approach when the private finance initiative concludes in 2027

5.5.2. Stretch projects

- **Data collection and strategy reporting** (Project 21): Develop a clear, consistent system to monitor and report progress on the retrofit strategy, ensuring accountability and transparency.
- **Performance monitoring** (Project 22): Subject to funding, roll out energy efficiency and environmental sensors to track data on moisture, ventilation, CO₂ levels, and energy use. This preventative measure will address damp and mould risks while reducing the need for costly remediation
- **Local area energy plan data update** (Project 24): Build on the Local Area Energy Planning process, conducted with the GLA and South East London boroughs, to analyse infrastructure needs for climate mitigation. Further resources will enable the application of this analysis at the borough-specific level, integrating retrofit into broader energy demand planning

By enhancing data collection and management capabilities, the Council will seek to ensure a robust evidence base for decision-making and effective progress tracking.



5.6. Communications and engagement

Effective communication and engagement are vital to the success of Lewisham's retrofit strategy. The Council aims to connect with residents, landlords, and stakeholders in ways that resonate, ensuring widespread support for retrofit initiatives and broader decarbonisation goals.

5.6.1. Core projects

- **Launch and promote the Retrofit Strategy** (Project 26): Raise awareness of the Council's retrofit strategy across the borough
- **Promote retrofit to owner occupiers and private rented sector homes** (Project 27): Encourage homeowners and landlords to adopt retrofit measures through targeted campaigns and partnerships
- **Support low-income and vulnerable households:**
 - Lead the South London Healthy Homes Project, providing practical energy-saving advice, advocacy, and installation of efficiency measures

- Deliver targeted campaigns to maximise the uptake of **ECO Flex funding**, collaborating with contractors and local stakeholders like SELCE to support vulnerable households
- Offer advice and facilitate access to funding for retrofit, such as loft insulation upgrades through initiatives like 'Lewisham Loves Lofts'
- **Promote retrofit in conservation areas and heritage buildings** (Project 28): Provide clear guidance on permitted works and planning processes, helping residents make informed decisions about energy efficiency upgrades in challenging properties
- **Extend the Selective Licensing Scheme** (Project 29): Expand licensing to an additional 20,000 private rental properties, creating engagement and enforcement opportunities to raise energy efficiency standards
- **Lobbying and partnerships** (Project 30): Collaborate with groups like the London Retrofit Practitioners Group to influence policy, attract investment, and achieve national recognition for retrofit initiatives

5.6.2. Stretch projects

- **Develop an online Retrofit Knowledge Hub** (Project 31): Create a comprehensive, user-friendly online resource for residents, providing information on energy efficiency improvements, financing options, and scheduled works
- **Council homes resident engagement plan** (Project 32): Engage council tenants through a tailored approach including roadshows, social media, films, and publications like Lewisham Life to build support for retrofit projects
- **Conservation area appraisals** (Project 33): Increase capacity in the Planning Conservation Team to update guidance for retrofitting heritage and conservation properties
- **Leaseholder engagement** (Project 34): Work with the London Retrofit Practitioners Forum to develop and implement guidance for retrofit projects involving leaseholders.

The Council prioritises clear, accessible communication to ensure understanding and support for retrofit efforts. By engaging residents, landlords, and stakeholders, and tailoring messaging to specific groups, the Council aims to maximise participation, accelerate retrofit adoption, and foster community buy-in for its decarbonisation objectives.

5.7. Supply chain development

Delivering the retrofit programme necessitates a robust and skilled workforce. Modelling estimates the need for 896 tradespeople per year over a 25-year programme, with 45% specialising in renewable heat systems.

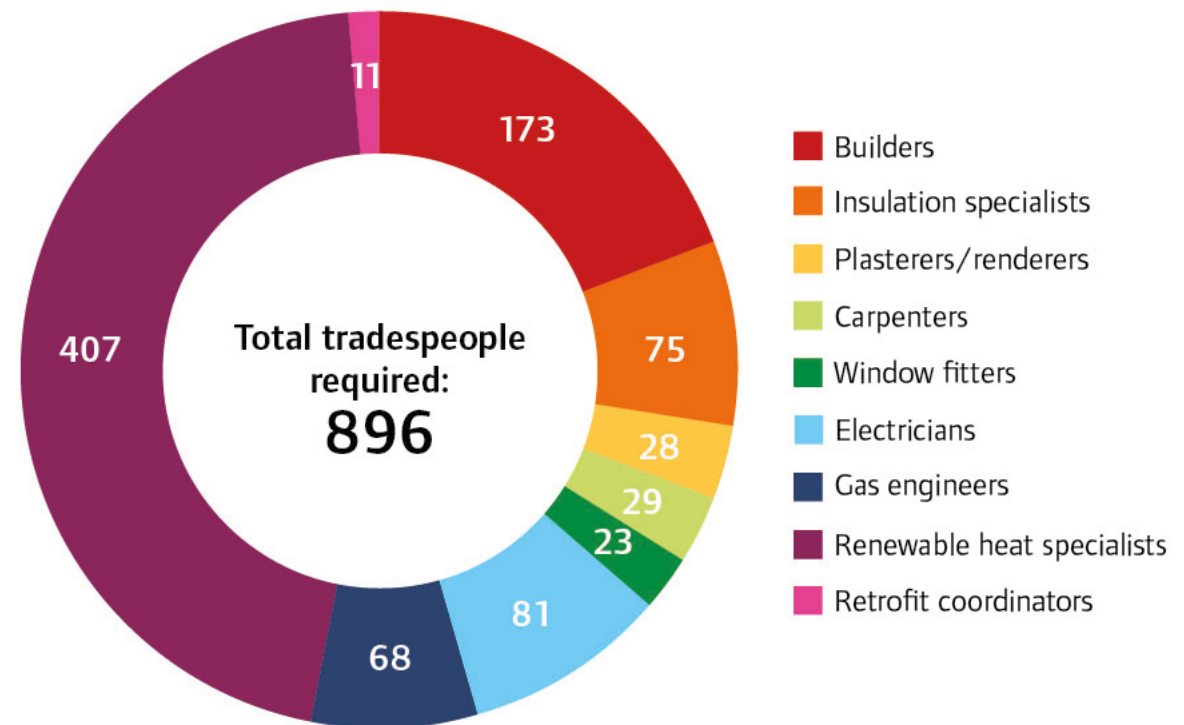
Current efforts

Lewisham Council, in partnership with Lambeth and Southwark, is developing a tri-borough skills strategy with the following objectives:

1. Increase interest and accessibility for residents into low-carbon construction and energy careers
2. Support local skills providers in climate adaptation
3. Strengthen the local supply chain with certified businesses capable of delivering retrofit work
4. Boost market confidence and local capacity to deliver decarbonisation measures, stimulating demand

As part of this strategy, the consortium has partnered with the Skills Centre to assess the feasibility of establishing a Fabric Retrofit Skills Training and Recruitment Centre. This initiative focuses on building skills in fabric insulation, heat pump installation, and solar PV systems.

Tradespeople required for the housing retrofit programme in Lewisham.
Figures are based on Parity Pathways software modelling



5.7.1 Stretch projects

- **Collaborating with training providers** (Project 36a): The Council will work with existing training organisations to develop and roll out retrofit-related skills programmes, addressing workforce needs to support the scaling up of retrofit activity

5.7.2 Innovation projects

- **Customised training centre** (Project 36b): A longer-term goal to establish a dedicated training facility tailored to the specific skills required for retrofit projects. This centre would focus on specialised areas such as renewable heating systems, advanced insulation techniques, and low-carbon energy technologies

By combining immediate action with long-term planning, the Council aims to address the skills gaps in retrofit delivery. This approach ensures that local residents can access job opportunities while building a qualified workforce to support Lewisham's ambitious decarbonisation goals. The tri-borough collaboration provides a scalable model for expanding training capacity and stimulating demand for retrofit services.

5.8. External stakeholders

Collaboration with external stakeholders is essential for overcoming funding and resource barriers in retrofit delivery. The Council aims to maximise available funding and develop partnerships to accelerate retrofit initiatives.

Helping residents access funding for retrofit

- **One-stop-shop services:** Work with SELCE, Ecofurb, and Retrofit Works to support households in accessing funding through GBIS, ECO, and other streams
- **ECO flex programmes:** Facilitate household access via the Fuel Poverty team
- **Social Housing Decarbonisation Fund (SHDF):** Partner with committed RSLs to secure funding for retrofit projects
- **Private sector support:** Leverage Local Area Delivery 4 (LAD4) funding for privately owned homes
- **Low-interest financing:** Explore borrowing opportunities from MEEF and the Green Finance Fund for projects like low-carbon heat networks

The long-term ambition is to unlock private financing to scale retrofit across tenures, with pilots such as the Net Zero Neighbourhoods project exploring innovative approaches.

Collaborative stakeholder engagement

- **Local organisations:** Collaborate with SELCE, Ecofurb, and Retrofit Works to provide comprehensive retrofit services, including assessments, planning, funding access, contractor selection, and quality assurance
- **RSLs:** Develop a consortium for shared funding applications, resource pooling (e.g., PAS2035 assessors), and joint solutions for common housing archetypes
- **UK Power Networks (UKPN):** Engage with the district network operator to:
 - Develop a joint strategy for decarbonisation and peak demand reduction
 - Promote flexibility measures like smart metres and time-of-use tariffs
 - Align heat decarbonisation projects with infrastructure investment plans

By fostering partnerships and leveraging shared resources, the Council aims to build a collaborative, scalable approach to retrofitting homes across Lewisham.

5.9. Embedding equalities, diversity, and inclusion in retrofitting practices

The Council's approach to retrofitting will seek to address equalities, diversity, and inclusion (EDI) in a practical and achievable manner, aligned with its capacity and resources (Project 37). This includes embedding EDI principles into retrofit projects to ensure that all communities benefit from improved housing conditions and energy efficiency.

The Council will work to identify and address barriers that different groups may face in accessing retrofitting initiatives. Recognising that some households, such as those in multigenerational living arrangements, may have unique energy needs, the Council aims to explore tailored solutions within its current capabilities.

Engagement strategies will leverage community networks to communicate the benefits of retrofitting and encourage participation. Trusted local leaders, faith organisations, and cultural groups will be engaged to help disseminate information and build trust among residents.

Efforts will also focus on minimising structural inequalities. For example, low-income households living in poorly insulated homes will be prioritised for support within available resources. Similarly, the Council will work with landlords in the private rental sector to encourage compliance with energy efficiency standards.

To support inclusivity, the Council will conduct Equality Impact Assessments (EIAs) and provide training for staff and contractors to enhance awareness and sensitivity to the diverse needs of Lewisham's residents. Collaboration with registered social landlords (RSLs) and other stakeholders will ensure that best practices are shared and implemented effectively.

While the Council is committed to addressing systemic inequalities, it acknowledges that a full realisation of EDI principles requires broader systemic change and additional resources. As such, the Council will continue to advocate for external funding and partnerships to expand its capacity to deliver inclusive retrofitting projects.



What does it mean to fully address equalities, diversity, and inclusion in retrofitting?

Fully addressing EDI in retrofitting means ensuring that every resident, regardless of their background, has access to energy-efficient housing and the associated benefits. This includes tailored solutions for households with specific needs, proactive engagement with marginalised communities, and addressing barriers such as language, cultural differences, or physical disabilities. While the Council strives to embed these principles into its retrofitting efforts, achieving this vision will require ongoing collaboration, innovation, and investment.



6. Defining and measuring progress

This section outlines Lewisham Council's approach to achieving net zero carbon retrofitting, including the necessary measures, costs, and a framework to guide and monitor progress. It aims to align stakeholders with the strategy's ambition while ensuring effective communication and implementation.

6.1. Net zero carbon retrofit

The retrofit strategy's primary goal is to reduce operational emissions from heating and powering homes, supporting the Council's net zero carbon ambitions. A net zero operational home is energy-efficient and powered by low-carbon energy, balancing affordability with sustainable energy use from on-site generation or the grid.

The five key steps to achieve net zero operational emissions are

1. Improve thermal performance:

- Insulate walls, floors, and roofs
- Install energy-efficient windows and doors
- Enhance airtightness through draughtproofing, filling gaps, and using controlled ventilation systems

2. Reduce electricity demand:

- Install energy-efficient appliances and low-energy lighting

3. Transition to low-carbon heating:

- Replace fossil fuel heating systems with heat pumps or low-carbon heat networks. Where these are unsuitable, prioritise efficient electric heating solutions, such as infrared systems

4. Power homes with low-carbon electricity:

- Use on-site solar PV systems and access the grid's transitioning low-carbon supply

5. Enhance energy flexibility:

- Utilise smart metres, time-of-use tariffs, batteries, and hot water tanks to optimise energy usage and costs

6.2 Council homes retrofit programme

The retrofit programme for Lewisham Council homes outlines a phased approach to improving energy efficiency and decarbonising heating systems. This includes:

- **2025–2030:** Installing cavity wall insulation (CWI) to enhance energy efficiency as a foundational step
- **2030–2035:** Implementing internal wall insulation (IWI) and external wall insulation (EWI) to further reduce heat loss
- **2025–2030:** Piloting communal ground source heat pumps (GSHP) and communal air source heat pumps (ASHP) to test scalable low-carbon heating solutions
- **2030 onward:** Rolling out low-carbon heating systems across council properties
- **2025 start:** Addressing hard-to-treat homes, particularly flats in solid-walled buildings, by reducing heat demand with measures like energy-efficient doors, draughtproofing, upgraded windows, solar PV (where feasible), and efficient electric heating

The programme is supported by a comprehensive stock condition survey in 2024, which will inform a new long-term investment plan. The approach described here is provisional and an input into the long-term investment plan. Outputs from the Housing Retrofit Strategy will be aligned with broader asset management goals to ensure cost-effectiveness, efficient delivery and maximum impact.

6.3. Resident engagement plan for Lewisham's retrofit strategy

The Resident Engagement Plan for Lewisham's Retrofit Strategy prioritises inclusivity, adaptability, and best practices in local engagement, ensuring that resident needs remain central throughout the retrofitting process. It incorporates culturally sensitive approaches and reflects a resident-centred ethos aligned with the Council's broader Resident Engagement Strategy (2024–2028). Developed through events, focus groups, door-knocking campaigns, and surveys, the plan integrates the diverse voices of Lewisham's communities to deliver meaningful outcomes.

The engagement strategy is designed to build trust and awareness, address concerns, and ensure residents feel supported at every stage. It focuses on raising awareness of retrofitting benefits, addressing specific concerns for at-risk demographics, and establishing trust by communicating both immediate and long-term advantages. Transparency is central, with clear and consistent updates provided throughout the process. This strategy also empowers residents by equipping them with resources and fostering community support to sustain and optimise the use of new systems.

The engagement plan is implemented across several phased stages. The **Awareness and Buy-In Phase** begins two to four months before installation, addressing resident concerns, clarifying project details, and building commitment. During this phase, data is collected through surveys and informal interviews to understand resident communication preferences, availability, and special requirements. Engagement materials, such as translated guides and culturally appropriate messaging, are tailored to ensure accessibility for all demographics.

In the **Design Phase**, which occurs one to three months before installation, residents play an active role in shaping the project to suit their needs and preferences. Visits and consultations are consolidated to minimise disruption, and a single point of contact is assigned to streamline communication and prevent engagement fatigue, especially for vulnerable residents. This ensures that all voices are heard and considered during the planning process.

During the **Installation Phase**, the focus shifts to maintaining smooth communication and minimising disruptions. Regular updates are provided through newsletters, digital bulletins, and SMS-based feedback systems, enabling residents to share immediate reactions and allowing for quick adjustments when necessary. Community members are engaged in the retrofit process, fostering a sense of shared responsibility and pride. Additionally, interested residents are trained in retrofit technologies, building local expertise and increasing community involvement.

The **Handover and Education Phase** ensures residents are equipped with the knowledge to maximise the efficiency of their retrofitted systems. Resident leaders are trained to assist their neighbours with new technologies, fostering

confidence and local support. Educational resources, such as a video library with short guides on system operation and maintenance, are made available online and through social media to ensure accessibility.

Finally, in the **Post-Works Support Phase**, the Council provides follow-up visits during the first heating season to address questions about system efficiency and resident concerns. New tenants moving into retrofitted homes receive the same training and resources as the original occupants, ensuring seamless adaptation and continued satisfaction.

The plan also integrates enhanced support and inclusivity measures to ensure accessibility for all residents. Materials undergo accessibility audits to provide large print, high-contrast formats, audio versions, and translations into multiple languages. Cultural mediators and community translators are employed to foster trust and engagement among diverse residents, ensuring everyone feels included and informed.

Monitoring and evaluation are key components of the engagement plan. Resident feedback is collected at every stage using a combination of in-person, digital, and SMS-based surveys to

assess communication quality and engagement effectiveness. Regular reviews incorporate this feedback to refine the plan, ensuring it evolves to meet residents' needs and remains transparent and accountable.

This comprehensive engagement plan reflects Lewisham's commitment to placing residents at the heart of the retrofit strategy. By actively involving the community and prioritising inclusivity, the Council ensures a smoother process, better outcomes, and stronger support for sustainable housing initiatives.

6.4. Case study: adapting retrofitting for cultural and historical significance – the Hermitage

Retrofitting can be tailored to preserve the cultural and historical significance of homes, especially in heritage buildings and conservation areas, as demonstrated by the Hermitage project in Lewisham. This Art Deco social housing block, located in London's first conservation area, underwent extensive upgrades while respecting its architectural integrity. Improvements included energy-efficient Crittall windows, demand-controlled ventilation systems, and a solar PV system with Allume's SolShare technology, which distributes renewable energy to all 28 flats. These measures increased the building's EPC rating from an average SAP of 60 to C, achieving 32.82% annual carbon savings and 29.95% energy savings.

The project also addressed structural repairs, roof replacement and insulation, and biodiversity enhancements, such as installing swift and bat boxes. Non-energy upgrades, like brick and concrete repairs and improved drainage, contributed to resident comfort and the building's longevity. While SHDF funding covered about one-quarter of the £2.6 million cost, the project exemplifies Lewisham's commitment to balancing energy efficiency with preserving historical character. The Hermitage highlights how retrofitting heritage buildings can enhance energy performance, support biodiversity, and extend the lifespan of culturally significant properties while ensuring residents benefit from a safer, more comfortable living environment.



Glossary

Term	Definition
Retrofit	Making changes to existing homes to improve energy efficiency and decarbonise heating and hot water systems
SAP (Standard Assessment Procedure)	A government-approved metric for measuring a building's energy efficiency on a scale of 1 to 100. Higher scores indicate better performance
EPC (Energy Performance Certificate)	A certificate rating a building's energy efficiency from A (most efficient) to G (least efficient), required for properties being built, sold, or rented
Fabric-first approach	Prioritising improvements to the building envelope (e.g., walls, floors, roofs, windows) to reduce heat loss before other technologies
CWI (Cavity wall insulation)	Filling the gap between two layers of bricks in cavity walls with insulating material to improve thermal performance
IWI (Internal wall insulation)	Insulation installed on the inside walls of a building to improve energy efficiency, often requiring specialised skills
EWI (external wall insulation)	Insulation applied to the exterior of a building to improve energy efficiency and protect against weather
GSHP (ground source heat pump)	A low-carbon heating system that extracts heat from the ground for space heating and hot water
ASHP (air source heat pump)	A heating system that extracts heat from the air for space heating and hot water, suitable for various property types
Time-of-use tariffs (ToU tariffs)	Electricity pricing schemes encouraging energy use during off-peak hours when rates are cheaper and renewable energy is more available

Term	Definition
Fuel poverty/vulnerability	A condition where households cannot afford adequate heating due to high energy costs and poor insulation
Decarbonisation	The process of reducing carbon dioxide emissions, particularly by transitioning to low-carbon or renewable energy sources
PAS2035	A UK standard for assessing, designing, and managing retrofitting projects to ensure quality, safety, and effectiveness
Smart metre	A device recording real-time electricity or gas usage, helping consumers track usage and manage costs
SHDF (Social Housing Decarbonisation Fund)	A government programme aimed at improving energy efficiency and decarbonising social housing
Solar PV (photovoltaics)	Technology converting sunlight directly into electricity, often used in retrofitting to provide renewable energy
Heat networks	Systems delivering heat from a central source to multiple properties via insulated pipes, offering a low-carbon solution
Energy flexibility	The ability to adapt energy usage patterns using smart technologies or storing energy during low-demand periods to optimise efficiency
Conservation area	A designated area of historical or architectural significance where development must preserve its character and heritage