



Baringa



BARCLAYS

Navigating sustainable retrofit in real estate

October 2024

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With over 800 energy experts and 130+ partners, working globally from 4 hubs in Europe, the US, Asia and Australia we have held leading status in the FT's management consultancy rankings for 5 years running, are a B Corporation, and have retained Great Places to Work status for the last 15 years. What sets us apart is that we are deep energy experts, who achieve real commercial value for our clients while putting citizens, customers, and employees at the centre of our approach.

Find out more at www.baringa.com



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As a key player in the real estate industry, JLL is deeply committed to sustainability and innovation. We help our clients navigate the evolving demands of the market, including net-zero targets, smart building technologies, and ESG (Environmental, Social, and Governance) strategies, with the aim of building a more sustainable future. At JLL, we believe in shaping the cities of tomorrow by aligning real estate strategies with broader societal goals, ensuring a positive impact for clients, communities, and the environment.

Discover more at www.jll.com

Travis Perkins ^{plc}

Travis Perkins plc is the UK's largest distributor of building materials to trade customers.

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For more information, please visit www.travisperkinsplc.co.uk



TrustMark is the only the only UK Government-Endorsed Quality Scheme for home improvements. It is a not-for-profit, social enterprise

TrustMark, in conjunction with Trade Bodies and Competent Persons Schemes, has created a Retrofit Supply Chain committed to delivering high levels of quality and, maintaining the required standards of technical competence, trading practices and consumer protection.

TrustMark is the custodian of the retrofit standard PAS 2035 – where TrustMark registration is mandated for Government funded and capital schemes for energy efficiency including the Social Housing Decarbonisation Fund and Energy Company Obligation (ECO) schemes.

For these schemes, and other retrofit funding models supporting the Able to Pay sector such as those provided by Banks, TrustMark provides quality assurance oversight.

Information on retrofit improvements captured on the TrustMark Data Warehouse is used by policy makers, energy companies and other organisations to monitor quality of rollout, provide customer protection and make decisions to help scale retrofit across the UK.

TrustMark collaborates across the Retrofit value chain to support meeting the UK's net zero ambitions.

Find out more at www.trustmark.org.uk

Foreword

The journey toward sustainability in real estate has never been more urgent. With the built environment contributing 23% of the UK's annual carbon emissions¹ and approximately 80% of today's buildings expected to remain in use by 2050,² accelerating the retrofitting of existing assets is crucial for achieving significant carbon reductions.

Sustainable retrofitting is not just a response to evolving regulations and the increasing demand for greener, more efficient spaces; it is a strategic imperative with both immediate and long-term benefits. It can drive value creation through reduced operating costs, enhanced asset value, and improved occupancy rates. This report provides timely and critical insights into how sustainable retrofitting can accelerate these efforts, help to mitigate stranded asset risk, and enhance long-term value.

Barclays Corporate Banking recognises the importance of collaboration in driving sustainability while achieving strong financial outcomes. As a trusted banking partner, we are committed to supporting the real estate sector's decarbonisation journey. By aligning our efforts with client goals, we aim to help businesses unlock new opportunities and provide tailored financial solutions. We are committed to understanding the challenges faced by our clients in light of evolving regulation and to providing the sector-specific knowledge and innovative financial solutions needed to embrace change and expand business horizons.

Recognising the complexity of the real estate ecosystem, this report has been developed in association with key industry players, including Baringa, JLL, Travis Perkins plc, and Trustmark. Together, we have combined expertise across finance, real estate advisory, consulting, supply chain, and certification to provide you with a holistic view of sustainable retrofitting challenges and strategies.

This report is more than just a collection of strategies; it is a call to action. It offers essential insights and recommendations to guide your efforts in upgrading, managing, and operating spaces sustainably. Together, we can transform the real estate sector into a force for positive change, ensuring a more sustainable, resilient, and profitable future.



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¹ Climate Change Committee Sixth Carbon Budget

² UK Green Building Council: Climate Change Mitigation

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1. Executive summary

Accelerating sustainable retrofitting is crucial to the UK's net zero journey

The UK has set a legally binding target of becoming net zero by 2050, at which point 80% of the structures that exist today are expected to still be in use.³ The Minimum Energy Efficiency Standards (MEES) required for legally letting commercial properties are tightening, with the current EPC rating requirement of 'E' set to rise to 'B' by 2030. This shift puts around 70% of UK commercial properties at risk of non-compliance if they don't meet the updated standards.⁴

Sustainable retrofitting is therefore essential to decarbonising the commercial and residential real estate sectors and achieving net zero. However, retrofitting rates remain below the levels required to meet the UK's ambitions and need to triple from the current 1%, to 3% of stock per year.⁵

There is a strategic imperative to sustainably retrofit

Sustainable retrofitting can offer significant commercial and non-commercial advantages, including increased asset value, 'green-premiums' on rental incomes and occupancy rates, operational cost savings, enhanced market competitiveness, and future-proofing your assets against regulatory risk.

Furthermore, studies have evidenced increased occupier satisfaction, along with potential improvements in health and well-being, while also reducing environmental impacts, including air pollution.⁶

A complex ecosystem with many challenges and barriers

Landlords and building owners can face a complicated landscape when engaging in sustainable retrofits. While there can be significant potential for positive impact, the landlord/owner can encounter several challenges and barriers that span regulatory, financial, supply chain, and operational areas.

- **Regulatory and policy barriers:** incentives for retrofitting are often inadequate, and complex and inconsistent regulations, conflicting policy objectives, and bureaucratic hurdles can lead to delays in project approvals and implementation.
- **Financial barriers:** retrofitting often requires high initial investment, while returns can be uncertain, making financial planning challenging. High interest rates can worsen the cash flow pressure and financial burden.
- **Supply chain issues:** a shortage of skilled workers, the potentially higher costs for sustainable materials and the inconsistent availability of those materials due to supply chain disruptions can all lead to delays in project timelines.

³ UK Green Building Council: Climate Change Mitigation

⁴ Knight and Frank: meeting the commercial property retrofit challenge (2024)

⁵ JLL. (2022). Retrofitting Buildings to be Future-Fit: The journey to decarbonization

⁶ Curl and Kearns (2017), International Journal of Housing Policy

- **Operational challenges:** challenges occur when engaging tenants (as retrofit projects often disrupt occupiers and ongoing business activities), managing multiple stakeholders, navigating complex lease structures, understanding existing building structures and accessing and maintaining high-quality data poses significant hurdles.
- **Knowledge and data gaps:** a general lack of awareness about the benefits of retrofitting and insufficient knowledge of available technologies hinder progress. Accurate building data is often hard to access, and there is a need for more support and guidance to improve understanding of energy performance and retrofit strategies.
- **Navigating a complex stakeholder ecosystem:** the stakeholder ecosystem is intricate and interwoven, with each participant connected through a web of varying incentives, motives, and objectives, complicating coordination. Effective communication can be challenging, and information asymmetries amongst different actors in the system can result in delayed decision making and may lead to misaligned priorities.

Simplify the complexity and improve progress

To help successfully navigate the challenges and barriers of sustainable retrofitting, three key actions can help businesses make meaningful progress.

1. **Embed sustainability into long-term planning:** integrate sustainability into existing operations by breaking down the retrofit journey into manageable, phased tasks. By doing things in the right sequence, at the right time – such as aligning retrofits with maintenance schedules, lease expirations, and strategic priorities – businesses can overcome many financial and operational challenges.
2. **Seek support and guidance:** engage professionals such as real estate advisors, sustainability consultants, and financial institutions for insights on strategic planning, regulatory processes, and financing. These experts can offer valuable insights and can help ensure that projects align with your organisation’s sustainability goals while remaining financially viable.
3. **Be data-driven:** use real-world data to make informed decisions about where and how to implement retrofits. Energy Performance Certificates (EPCs) alone may not provide the full picture, so accurate, detailed energy consumption data should guide interventions. Tailored strategies based on actual building performance will lead to more effective retrofits.

These actions can provide structure, reduce uncertainties, and help navigate the interconnected challenges of sustainability. With clear plans, expert support, and accurate data, companies can streamline the retrofit process, align incentives across stakeholders, and ultimately drive meaningful progress in retrofitting their buildings and portfolios.

Act now to secure future competitiveness

The time to act is now. Sustainable retrofitting is a commercial opportunity for businesses to drive long-term value, maintain competitiveness, and future-proof their portfolios. Immediate action can enhance resilience against asset devaluation and position companies as leaders in the transition to a sustainable real estate market. As sustainability standards are anticipated to become more stringent, early adaptation will be crucial for compliance and long-term success and offer advantages in navigating evolving regulations.

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2. The fundamentals of sustainable retrofitting

2.1 Introduction

This report offers a roadmap for understanding and implementing sustainable retrofitting strategies across the commercial and residential real estate sectors. It begins by outlining the core concepts of sustainable retrofitting, with a focus on its role in helping to meet net zero targets. We then explore the complex stakeholder ecosystems that shape retrofit projects, followed by an analysis of the key challenges and barriers faced across different sectors and businesses.

After identifying these challenges, the report moves on to actionable solutions and insights aimed at accelerating progress and driving greater uptake of retrofitting within the industry. It concludes with key takeaways and recommendations to support your sustainable retrofit journey.

The report is enriched by data from a recent market survey of 250 UK professionals across sectors including offices, retail, institutional residential organisations, social housing, industrial operations, and data centres. The research provides key insights into the challenges, opportunities, and practical solutions being experienced by landlords and owners today.

Achieving net zero: real estate's vital contribution

In 2019, the UK set a legally binding target to achieve net zero carbon emissions by 2050,⁷ with an interim goal of a 78% reduction by 2035,⁸ as outlined in the latest Carbon Budget by the Climate Change Committee (CCC). To meet these targets, the built environment has been identified as a critical sector for decarbonisation, currently contributing 17% of the total GHG emissions across the UK.⁹ This reflects the urgency and scale of the transformation required within commercial and residential real estate.

To date, grid decarbonisation has driven most of the progress in reducing carbon emissions in the built environment, but it is also behind target with delays to Hinckley C nuclear power plant and offshore wind projects.¹⁰ Retrofitting rates remain significantly below the level needed to meet the UK's 2050 target, with the current retrofitting rate of around 1% per year needing to triple to at least 3% of stock per year to align with the UK's 2050 net zero target.¹¹

⁷ Department for Business, Energy & Industrial Strategy. (2019, June 27).

⁸ Climate Change Committee. (2020, December 9).

⁹ Department for Levelling Up, Housing & Communities. (2023, July 13)

¹⁰ Department for Business, Energy & Industrial Strategy. (2022, February 1).

¹¹ JLL. (2022). Retrofitting Buildings to be Future-Fit: The journey to decarbonization

When analysing greenhouse gas emissions ‘by source’ – which attributes emissions to the specific industries in which they occur and excludes those from electricity generation – commercial real estate has shown minimal progress compared to the 1990 baseline.¹² The residential sector, including social housing, has achieved an approximate 25% reduction in emissions over the same period, but largely due to warmer-than-average temperatures and reduced gas consumption because of high gas prices and likely behavioural changes by tenants.

70% of properties with a regulatory risk

The Minimum Energy Efficiency Standards, introduced in 2018, require commercial landlords and property owners to achieve a minimum EPC rating of E to legally let their properties. The government has confirmed plans to raise this standard to a minimum EPC rating of C by 2028, and further to B by 2030. It is estimated that 70% of commercial properties could be at risk of non-compliance and asset obsolescence under these new requirements.¹³



Sustainability requires a holistic approach

Sustainability in real estate extends beyond decarbonisation. It encompasses community well-being, ecosystem protection, and long-term economic viability. The sector is increasingly adopting a broader range of solutions, including water efficiency measures, recycled and circular materials, onsite renewable energy generation, healthier indoor environments, lower-carbon heat emitters (such as air-source heat pumps), smart meters and EV infrastructure. In the social housing and residential sector, solutions need to account for and accommodate the livelihoods of the people who live there.

Balancing these diverse considerations – people, nature, and profit – is important to achieving truly sustainable outcomes.

Working collaboratively together to accelerate sustainable solutions

In response to these challenges, the real estate ecosystem is adapting to drive sustainability from multiple angles. Financial institutions are developing green financing products that support retrofitting, while some material suppliers and merchants are prioritising sustainable materials to support eco-friendly practices. Collaborative efforts across stakeholders – from financiers to local councils – are helping to overcome barriers and accelerate progress toward a more sustainable sector.

¹² Department for Business, Energy & Industrial Strategy. (2022, February 1).

¹³ Knight and Frank: meeting the commercial property retrofit challenge (2024)

2.2 The business case for sustainable retrofit

Almost all respondents in our market survey (96%) said that their organisations have key performance indicators (KPIs) linked to sustainability; however, **only one in ten said that sustainability is very important** to their business, indicating that there could be some dissonance regarding the prioritisation of sustainability.¹⁴

There is early value from sustainable retrofitting

Sustainable retrofitting can offer a strong value proposition, delivering both financial and operational benefits. Enhanced energy efficiency can translate to lower operating costs, which can enhance profitability and mitigate risks related to future regulatory changes. Retrofitted buildings may see increased asset value and higher rental rates, as they attract occupiers and investors with a growing focus on sustainability. Taking a proactive approach also safeguards against future potential financial penalties from non-compliance.

The five main drivers for sustainability retrofits were reported to be:

1. Improved energy efficiency,
2. Increased property value,
3. Reduced void periods,
4. Future-proofing assets, and
5. Corporate sustainability goals.

According to GRESB, the expected "stranding year" for buildings in its global database – covering 150,000 assets – is as early as 2024, highlighting the urgency for landlords to act before their properties lose value. Moreover, a JLL report forecasts that in London, demand for low-carbon buildings is expected to outstrip supply by 35% by 2030.¹⁵ Currently, this demand is most pronounced in prime office space, but it is expected to scale rapidly across the broader market. These market incentives suggest that landlords who proactively adopt sustainable retrofitting measures will be better positioned to attract tenants and maintain asset value.

It is also important to recognise the differences among different sectors, as the primary drivers for sustainable retrofit can vary. The focus on financial, operational, and social benefits differs depending on the sector:

- **Offices:** designed to improve employee well-being and productivity, achieve cost savings, and attract top talent through a better work environment.
- **Retail:** targeted at enhancing energy efficiency, reducing operating costs, and improving brand image.
- **Industrial:** concentrated on optimising industrial processes, with potential benefits including on-site renewable energy generation and resource efficiencies.
- **Residential:** aimed at enhancing tenant experience, potentially increasing rental rates, and ensuring compliance with environmental, social, and governance (ESG) standards.
- **Social Housing:** focused on EPC ratings, reducing energy bills, improving living conditions, and boosting resident satisfaction.

¹⁴ Baringa Market Survey

¹⁵ JLL. (2024). *The green tipping point*.



Case study

Futureproofing with EV chargers and solar power

Padmanor Investments Limited is a UK-based commercial property investment company, focusing on long-term sustainable investments. One notable project is Southern House in Winchester, an office building accommodating a 24/7 NHS 999 & 111 call centre service, where Padmanor have introduced Electric Vehicle (EV) charging infrastructure and PV solar panels.

In 2018, Padmanor saw an opportunity to future-proof the site by integrating EV chargers. The work was conducted during a planned car park expansion and, while the primary goal was to increase parking capacity to support the 600 shift-working staff employed by tenants, Padmanor had the foresight to recognise the shift in consumer uptake of EV and therefore the benefit of increased charging points for use at a workplace. Initially, 18 chargers were installed, with capacity reserved for future expansion to 30. By applying for additional electricity supply from the local Distribution Network Operator (DNO), they secured capacity and reserved their right to additional power.

The availability of workplace charging has not only increased convenience for staff but has also led to behaviour changes supporting sustainability practices, with more employees opting to drive electric vehicles. The number of EV charging hours on-site has doubled annually, a trend that is expected to continue.

To complement the EV chargers, Padmanor also installed solar panels at Southern House. These panels feed directly into the same landlord supply powering the EV chargers, reducing transmission losses and improving overall energy efficiency of the site.

Padmanor's forward-thinking approach focuses on long-term asset value. By integrating EV charging infrastructure and solar power into this site, they have ensured Southern House is equipped to support a low-carbon future, meeting both current and evolving needs.



2.3 What it means to retrofit sustainably

Expanding sustainable solutions beyond traditional retrofitting

Traditional retrofitting involves modifying and upgrading existing buildings to improve the buildings' operational efficiency, deliver structural improvements and make mechanical, electrical and cosmetic upgrades. This is to retain higher rental values, improve occupier attraction, future-proof, and increase market value. However, the approach lacks the specific focus on sustainability goals.

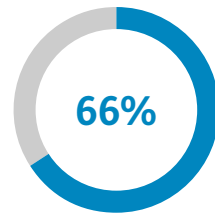
Sustainable retrofitting builds on traditional practices by emphasising environmental and social outcomes. It is a comprehensive renovation approach focused on reducing a building's environmental impact and improving its sustainability.

This involves enhancing energy efficiency, minimising greenhouse gas emissions, and incorporating sustainable practices such as advanced insulation, renewable energy integration, water conservation, and the use of eco-friendly materials. Sustainable retrofitting aims to transform buildings into more efficient, environmentally responsible, and resilient assets.

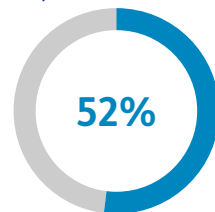
Currently, there is no single standard or definition of sustainable retrofit. Collaborative efforts are attempting to simplify and bring unity to the sector, for example the Net Zero Carbon Building Standard. It is anticipated that this will help remove uncertainty amongst building owners, facilitating greater uptake of sustainable retrofits by creating a 'common language'.¹⁶



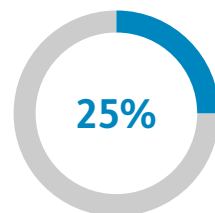
“ Two thirds (66%) of respondents confirmed that sustainable retrofitting is a concept that they are familiar with.”



“ Just over half (52%) acknowledging that they are already engaged in sustainable retrofitting.”






















“ One quarter (25%) of respondents said they would not consider doing retrofits with sustainability as the primary driver.”



¹⁶ UK Net Zero Carbon Building Standard

Tailoring solutions for diverse building and business needs

Sustainable retrofits are a catalogue of solutions that can vary in scale, scope, and complexity depending on the needs and goals of the project. They generally fall into three categories: light retrofit; mechanical, electrical and plumbing (MEP) retrofit; and deep retrofit¹⁷ – with increasing levels of scope, cost and complexity respectively. However, not all solutions are CAPEX intensive or require vacant possession, such as the deployment of LED lighting and installation of heat-pumps that can be used to achieve a target EPC rating of B.¹⁸

| | Light retrofit Performance optimisation and basic remodelling, replacement, or adaptation of existing building elements which tend to concentrate on a single aspect or feature | MEP* retrofit Significant works that result in a fundamental change to the mechanical, electrical, and plumbing (MEP) equipment in the building | Deep retrofit Significant works of size or scale that result in a fundamental change to the building structure and/or services |
|---|---|---|--|
|  LED fittings |  |  |  |
|  BMS** optimization |  |  |  |
|  Ventilation | |  |  |
|  Heating/ cooling systems | |  |  |
|  Wall/roof insulation | |  |  |
|  Glazing replacement | | |  |

*MEP = Mechanical, Electrical and Plumbing
**BMS = Building Management Systems

Figure 1: Framework for sustainable retrofits¹⁹

¹⁷ JLL. (2022). Retrofitting Buildings to be Future-Fit: The journey to decarbonization

¹⁸ Knight and Frank: meeting the commercial property retrofit challenge (2024)

¹⁹ JLL. (2022). Retrofitting Buildings to be Future-Fit: The journey to decarbonization

2.4 Coordinating the complex web of stakeholders in retrofitting

Before addressing the challenges and barriers of sustainable retrofits, it's worth understanding the key stakeholders involved in a typical sustainable retrofit programme. Identifying these players and their interactions offers valuable context for the complexities and dynamics at play.

A coordination and communication challenge

The stakeholder ecosystem in sustainable retrofitting is intricate, with landlords needing to navigate and align across seven distinct stakeholder groups, including financial institutions, design consultants, contractors, and client tenants. These relationships are driven by varying incentives, motives, and objectives, making coordination a complex task. Adding to the challenge is the wider supply chain of labour and materials, which remains largely invisible to landlords.

Figure 2 illustrates the typical value chain of a sustainable retrofit programme, highlighting the core components and their interconnectedness. This intricate web of interactions increases the complexity of communication and can risk progress, with stakeholders often needing to engage with multiple parties simultaneously. This, combined with unseen elements of the supply chain, can raise risks, inflate costs, and lead to misaligned priorities or incentives, slower decision-making, and a challenging project execution environment for sustainable retrofitting.

“ Stakeholder buy-in was listed as one of the top five main challenges to undertaking sustainable retrofits.”

“ Three in five respondents reported that occupier cooperation is a significant barrier.”



Stakeholder ecosystem

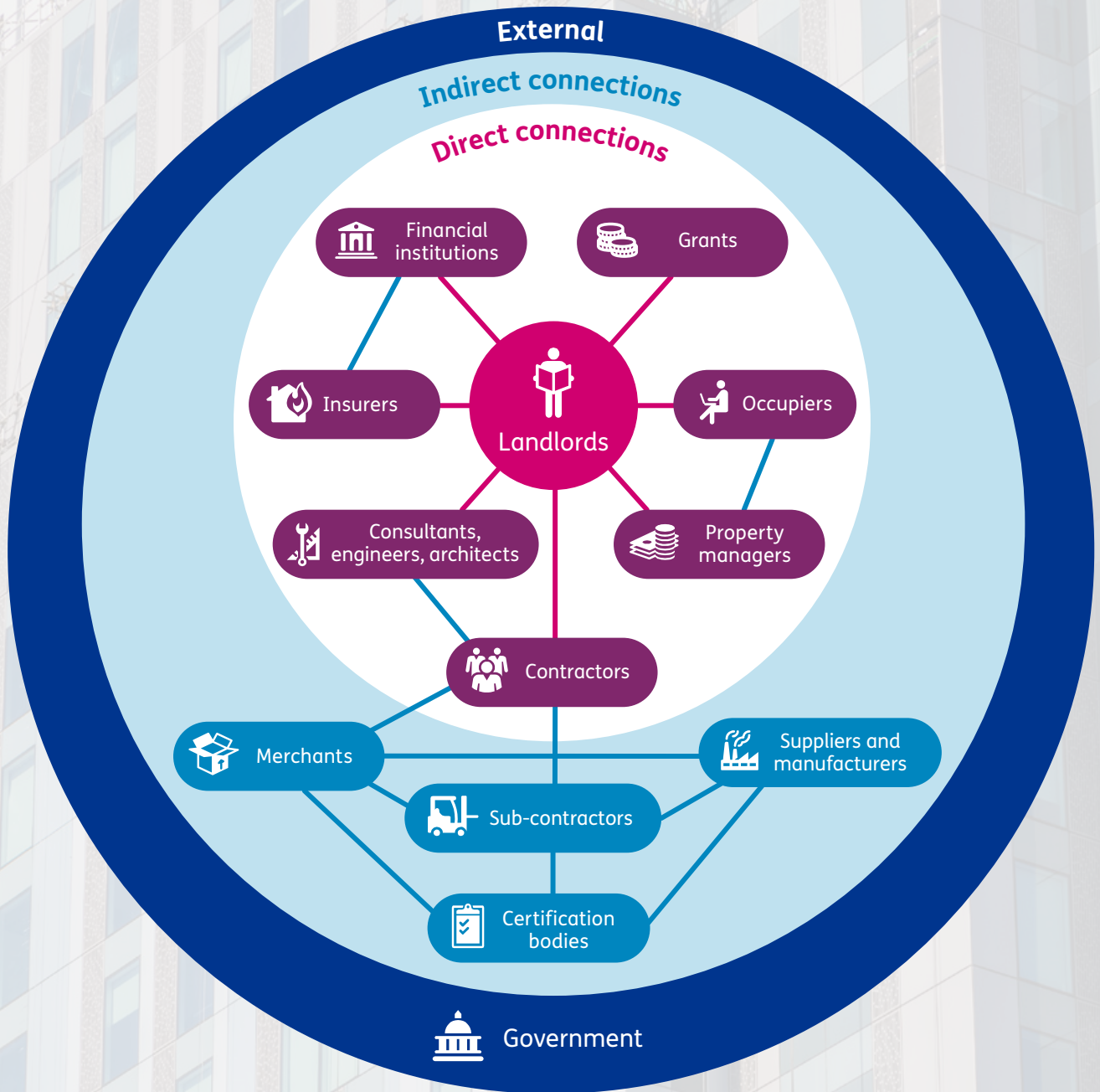


Figure 2: A map of the key stakeholders across the retrofit ecosystem²⁰

²⁰ Baringa Insights



Case study

Transforming the West End's iconic Fenwick Building

For over 30 years, Lazari has been a family-owned property developer and investor dedicated to transforming London's landscape by refurbishing and repurposing existing buildings. With a diverse portfolio that includes c.150 office and retail spaces, primarily in the prestigious West End, Lazari is committed to creating buildings with high-quality environments that blend modern functionality with sustainable practices.

Lazari's commitment to sustainable development is evident in their deep retrofit and development at 63 New Bond Street, Mayfair, the former Fenwick department store and neighbouring property. This extensive project has an overriding focus on sustainability while transforming the iconic Fenwick buildings into world-class retail and office spaces. By choosing to retrofit, rather than totally demolish and rebuild, Lazari have been able to prioritise preserving the building's historic façades, aligning with their family-run business's ethos of leaving a positive legacy for future generations. This approach has also ensured that much of the carbon within the building's structure remained captured, with an overall aim to reuse over 40% of the existing structure and 75% of the heritage facades to significantly reduce embodied carbon.

From the outset, Lazari recognised the importance of expert guidance and assembled a team of outstanding consultants and advisers to address complex issues, particularly around sustainability and decarbonisation. Engaging this team early in the process, Lazari set an ambitious target of keeping embodied carbon below 500 kg/m². Despite initial feedback suggesting this was likely unfeasible, they succeeded and this target is currently being achieved.

Lazari's focus extended beyond the environmental aspects of sustainability, also prioritising social elements such as the well-being of occupants. The new design of the building includes expansive atrium spaces, abundant natural light, and dedicated areas to enhance community and employee satisfaction in expansive internal/external terracing and a roof garden. Lazari has also integrated cutting-edge metering and measurement systems to optimise energy usage and building performance.

The success was bolstered by inclusive stakeholder engagement; from financiers to local councils, all parties were involved throughout the project. This collaboration ensured that the right people could be called on swiftly to address challenges when they arose. This dedication was instrumental in securing an accelerated planning permission on the first attempt – a significant achievement for a building of this size in the West End, enabling the project to commence on-site much earlier than most projects of this size and complexity.

Lazari's approach demonstrates that sustainability and commercial success are not mutually exclusive. The decision to selectively retrofit, reflects an acknowledgement that, without substantial upgrades, the iconic building could have become a stranded asset. Through this sustainable approach, Lazari is positioning this landmark building to meet the highest standards of environmental performance, attract premium tenants, and achieve high occupancy rates.



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Key industry challenges to achieving sustainable retrofitting

Sustainable retrofitting often encounters various challenges across both commercial and residential real estate sectors. The table below provides an overview of the key challenges and barriers to implementing sustainable retrofits effectively.

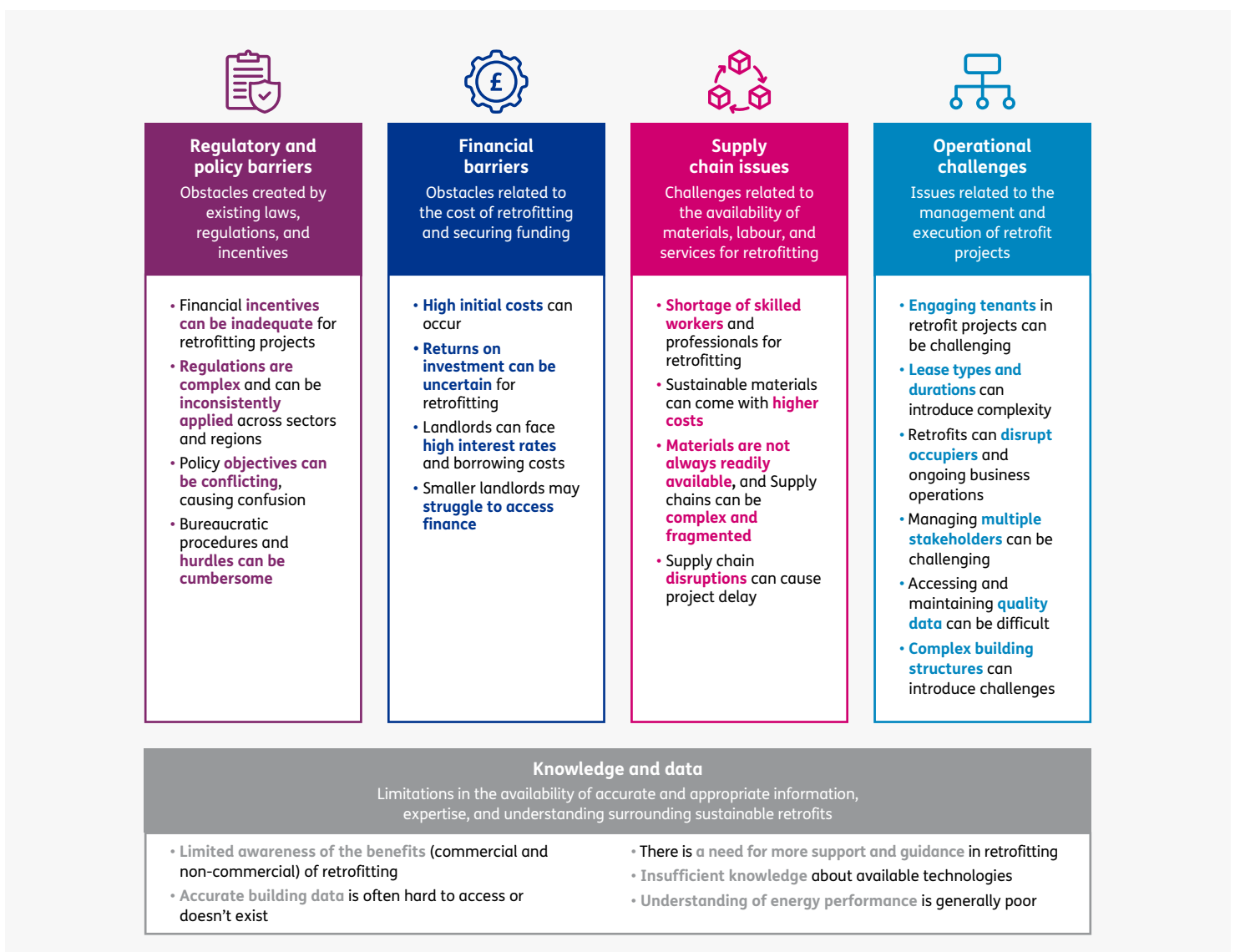


Figure 3: Challenges and barriers in sustainable retrofitting are complex and widespread²¹

²¹ Baringa Insights

The top five barriers across all sectors were identified as:

1. Supply chain challenges,
2. Funding availability,
3. Business scale (ie not being big enough),
4. Access to adequate design and planning skills, and
5. Securing buy-in from all stakeholders.



3.1 Different sectors responding to diverse challenges

While the types of challenges and barriers to sustainable retrofits are broadly consistent across the commercial and residential real estate sectors, their impact and importance vary depending on the context. Our market research highlighted key differences between these sectors. In the residential sector, significant barriers were found to include leasing structures, occupier cooperation, and securing financing. In contrast, in the commercial sector, the availability of adequate skilled professionals and contractors emerged as more of a concern.

These sector-specific differences underscore the need for tailored solutions and strategies to address the distinct challenges each sector faces.

Business size plays a role in undertaking sustainable retrofit

In addition to sector-specific differences, business size can play a significant role in determining the ability to navigate these obstacles. It was identified as one of the top five barriers to undertaking deep sustainable retrofits from our market research. Micro, small, and medium-sized enterprises (SMEs) often face challenges such as limited access to capital, difficulty securing funding, and a lack of in-house expertise needed to implement effective retrofit strategies. In contrast, while larger corporations may have access to more resources and comprehensive data, they can encounter greater operational complexity coordinating retrofit efforts across diverse property portfolios and ensuring regulatory compliance. These differences underscore the importance of tailored approaches that consider the unique needs and capacities of businesses.



3.2 Regulatory change to drive action

For many landlords, regulations and legislation are a significant driver for undertaking sustainable retrofits. While some industry-leading organisations are proactive in their ESG and sustainability initiatives, others may prioritise maximising rental income and minimising vacancies. This divergence highlights a key industry challenge that current regulations may not be sufficiently stringent to drive widespread adoption of sustainable retrofitting in the commercial sector.

A notable exception here is in housing, where housing associations face more rigorous requirements. They must adhere to the Decent Homes Standard, which mandates that rental properties meet specific quality criteria. Failure to comply can lead to regulatory sanctions, financial penalties, or consumer rating downgrades. This stricter regulatory environment for housing associations highlights a more compelling push towards sustainability in the residential sector compared to the commercial real estate market.

Preparing for more rigorous standards and future regulations

It is anticipated that building standards, legislation, and regulation will likely become more rigorous, reflecting the global push for organisations to decarbonise. Within the UK, an example of these regulatory developments includes the evolving MEES, which consistently raise benchmarks for building performance. This standard, required for legally letting commercial properties, is tightening from a current EPC rating requirement of 'E' rising to 'B' by 2030. It is likely that future policy changes may require buildings to directly reduce emissions, as well as incorporate considerations of embodied carbon.



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Our three key enablers to guide sustainable retrofitting

There is no one-size fits all approach for sustainable retrofitting. The approach will require tailoring to each business. However, this section discusses three key enablers that can help address the challenges and barriers:



1. Developing long-term strategic building plans,



2. Seek support and guidance, and



3. Be data-driven.



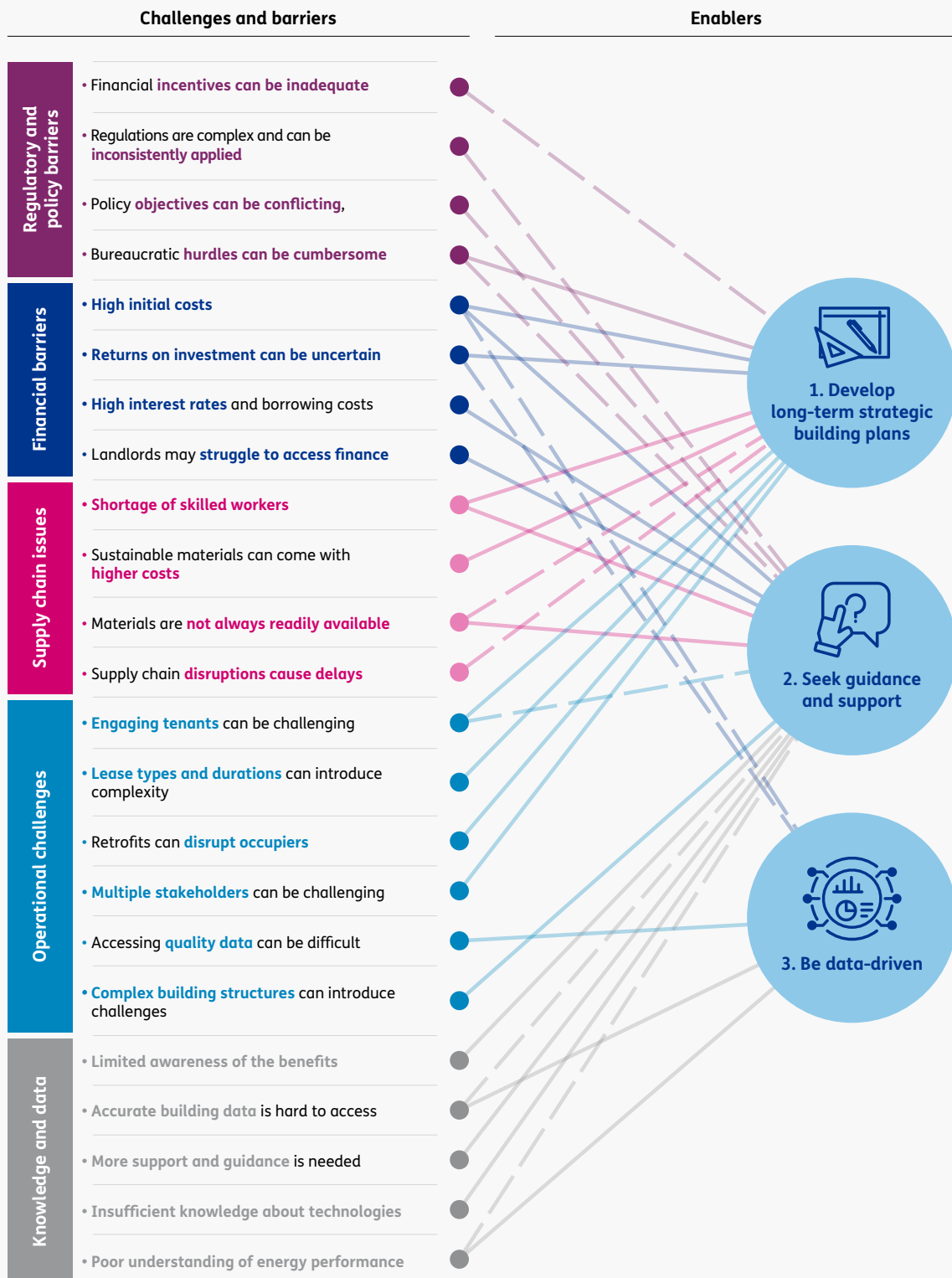


Figure 5: Mapping challenges to three key enablers that support sustainable retrofit²³

²³ Baringa Insights



4.1 Develop long-term strategic building plans

One of the best ways to embark on a sustainable retrofit journey is to start with a plan. By breaking the project into manageable, incremental tasks, aligned within your organisation's financial priorities, you can implement initiatives at the right time and in an effective manner. Most building management strategies will already consider upcoming and planned costs, funding requirements, and stakeholder communication. Sustainable retrofitting requires a long-term commitment and can be built into these existing plans. Doing this allows you to develop a Strategic Building Plan (SBP), serving a key element of this journey.



Strategic building plans integrate sustainability and existing data and processes

An SBP can offer a holistic view of a building's operations and management over an extended period. It integrates sustainability into the operational framework, helping to facilitate a smooth transition towards net zero status. A well-constructed SBP should include several key elements to streamline the retrofit process:

1. **Sustainability goals and targets:** clearly defined sustainability goals, such as carbon emissions, energy use, and water consumption targets that align with your organisation's overall strategy.
2. **Regulatory compliance:** identify current and anticipated regulations, building codes, and sustainability standards to ensure ongoing compliance.
3. **Customised building needs:** tailor the plan to the specific requirements of each building, accounting for its type and unique operational needs.
4. **Tenancy considerations:** schedule major upgrades and retrofits to coincide with lease expirations to minimise disruption and optimise vacancies.
5. **Integrated maintenance:** align sustainability with regular maintenance schedules, such as opting for a heat pump when replacing a boiler.
6. **Awareness of products and solutions:** keeping on top of the latest materials, technologies and solutions can help ensure your plans include the most up-to-date options available.
7. **Communication and reporting:** maintain transparency with stakeholders through regular updates on progress, savings, and lessons learned.

Strategic Business Plans will help you to overcome many challenges

An SBP is a multi-year working document that should be regularly updated and refined in response to new technologies, regulatory changes, and organisational priorities. The principle of ‘plan the work, work the plan’ is essential to ensuring its ongoing effectiveness.

An SBP seeks to address many of the challenges and barriers discussed in Section 3:

- **Costs:** minimise incremental costs by aligning upgrades, repairs, and replacements with scheduled maintenance. Taking a long-term view allows you to spread expenses over time and avoid large, upfront investments. It’s also essential to recognise that different retrofit activities will yield varying payback periods; understanding these differences will help you prioritise actions and optimise your investment over time.
- **Disruption:** by factoring in lease timelines, you can schedule retrofits during periods that are least disruptive to occupiers. For multi-tenanted buildings, you can implement a phased approach, complemented by occupier engagement strategies to ensure smooth communication and alignment of incentives.
- **Data:** effective data management is crucial; “you cannot manage what you don’t measure.” Your plan should specify data requirements and collection methods, going beyond basic EPC ratings to include real-world energy consumption and performance metrics.
- **Complexity:** a detailed plan breaks down the retrofit process into clear, actionable tasks, reducing perceived complexity and making the project more manageable.



Strategic Business Plans lay the foundation for success

From our research – and in support of SBPs – ‘better understanding of how to prioritise retrofits within an existing portfolio’ and ‘increased collaboration and alignment of incentives between landlords and tenants/occupiers through green leases’ were both identified as the two best ways of encouraging better uptake of sustainable retrofitting.²⁴

By formulating a SBP, you set a solid foundation for a successful and sustainable retrofit, aligning your goals with practical, actionable steps that address both immediate and long-term needs.

²⁴ Baringa Market Survey



Case study

JLL plays key role in driving LaSalle's net zero carbon success²⁵

LaSalle Investment Management faced the challenge of developing a robust and consistent Net Zero Carbon (NZC) audit strategy and technical brief for their portfolio in the EMEA region. The portfolio consisted of various asset types, including student accommodation, multi-family, commercial, and retail properties.

To address this challenge, JLL partnered closely with LaSalle. They conducted extensive consultations with the client to understand their objectives for the NZC audits and transition. Based on this collaboration, a comprehensive audit strategy was developed, which involved assessing the asset portfolio and creating suitable clusters for assessment purposes. In addition, a detailed technical brief for NZC audits of the assets was developed, and they facilitated consultations with other framework consultants to ensure consistency and robustness of the assessments.

As part of a panel of external consultants, JLL is responsible for undertaking the NZC audits and providing general technical support to the client in implementing the NZC audit programme. The results of these audits will inform LaSalle about the necessary building interventions, associated costs, and implementation practicalities required to achieve NZC.

JLL's advice and technical support played a role in shaping LaSalle's NZC audit strategy, and their ongoing involvement enables a gradual transition of their portfolio towards NZC.



4.2 Seek support and guidance for effective retrofitting

Starting a sustainable retrofit is a complex journey but navigating it should not have to be done in isolation. Expert guidance is never too far away, with support available from banks for financing options, and advice from sustainability consultants, specialist engineers, regulatory bodies, and value-chain partners such as merchants, manufacturers, and construction companies.

Two of the top five priorities that would encourage greater uptake of sustainable retrofitting include:

- Increased **'education and awareness about funding options'**; and
- Improved **'education and awareness about options for sustainability improvements and the delivered benefits'**.

²⁵ JLL Client Story: JLL plays key role in driving LaSalle's net zero carbon success

Specialist industry support can be found from real estate advisors

Real estate advisory firms offer expert guidance tailored to the individual needs of businesses embarking on their sustainable retrofit journeys. Whether you're in the early stages of planning or looking to refine your existing strategy, these advisors can provide insights across all aspects of retrofitting programmes. They can help to navigate the complexities of sustainability standards, assess potential retrofit opportunities, and ensure that projects align with sustainability goals as well as business objectives.

With in-depth knowledge and expertise of the real estate market, advisory firms are well-equipped to assist businesses of all sizes and sectors in overcoming challenges such as regulatory compliance, hard-to-decarbonise structures, occupier engagement and communication strategies, and supply chain sourcing difficulties.

They can offer expertise that spans the entire retrofit process, from creating a decarbonisation strategy, initial energy assessments, carbon audits, and feasibility studies to design and implementation, and ongoing performance monitoring. Their wide industry experience can assist in identifying the most effective solutions to improve energy efficiency, meet regulatory demands, and maximise asset value. By working with a trusted advisor, businesses can ensure that their retrofit projects take a holistic approach, helping to future-proof assets against the risks associated with poor sustainability performance.

Financial support can help navigate funding options

For banks, managing the sustainability impact of their portfolios is increasingly becoming both a regulatory requirement and a strategic priority. Therefore, approaching your bank early on is advantageous for two key reasons:

1. Banks have a vested interest in supporting your journey towards building decarbonisation, as it aligns with their strategic principles and commitments to net zero. By discussing your retrofit plans, you can explore financial products specifically designed to support your sustainability goals, creating a mutually beneficial partnership in achieving sustainability targets.
2. A loan may come with sustainability-related KPIs and metrics tied to the covenant, offering benefits such as potentially better financing terms when these targets are met. By gaining an early understanding of what these conditions might entail, and how you can shape these together with your bank, you can proactively prepare for future financial interactions, gather the necessary data, and establish processes to meet these obligations, thereby avoiding any potential penalties like margin increases and contributing to genuine, impactful progress.

By working with your bank, you may be able to collaboratively address potential risks of stranded assets in the future. Early engagement could help mitigate the potential financial risks associated with higher financing costs, regulatory non-compliance, or poor sustainability performance, which could result in “brown discounts” – lower rent and asset value due to inadequate sustainability measures. While many banks can provide flexible financial solutions tailored to retrofit projects, they are only one of several available options, especially alongside government grants in the social housing sector.



Case study

Manchester International Office Centre's strategic approach to decarbonisation²⁶

Manchester International Office Centre (MIOC) is a 100,000 sq. ft building originally constructed in 1954. Initially designed for a single tenant in the aerospace industry – and to double as a field hospital during the Cold War – the building has evolved over time and now houses around 50 tenants in office units of varying sizes. To future-proof the property and maintain its value, Till Asset Management, the company managing MIOC, has implemented a series of strategic retrofit upgrades focused on decarbonisation.

Key upgrades include replacing the outdated wet-gas heating system, upgrading single-glazed windows to triple glazing, and installing a modern air conditioning system. These major retrofit changes have been carefully phased to align with tenant lease renewals and vacancies, minimising disruption and maintaining high occupancy rates. In one case, Till Asset Management coordinated some deep retrofitting work with a tenant's planned showroom stock rotation to minimise interference with business operations.

The impact of these efforts has been clear. MIOC has maintained a premium on rental rates and increased footfall, reflecting higher tenant satisfaction. Energy consumption has decreased, and occupancy rates have remained strong. Without these upgrades, management acknowledges the building's value would likely have dropped, particularly given the growing importance of sustainability in the real estate sector.

The project has also been guided by a strong collaborative approach. Till Asset Management worked with Barclays, who provided financing structures to support the retrofit of this project, and broader sustainability goals as well as with professional consultants and property managers to ensure the smooth delivery of the retrofit programme. They sought advice from Heating, Ventilation, and Air Conditioning (HVAC) specialists and energy advisors to navigate the complex technical challenges associated with transitioning from a gas heating system to more sustainable alternatives.

Till Asset Management has effectively navigated the complexities of retrofitting a multi-tenanted, older building while maintaining both financial and environmental sustainability in a rapidly evolving market.

²⁶ Baringa interview with Till Asset Management



4.3 Be data-driven: the key to optimising success

When consulting with experts in sustainable retrofitting, one common recommendation is the importance of accurate, detailed, and consistent data gathering to support retrofit projects. Reliable data, particularly related to a building's thermal efficiency and energy consumption, helps in making informed decisions about where and how to implement retrofits most effectively.

Real world data is needed to optimise success

Traditionally, EPCs are used widely across both residential and commercial sectors. However, there is growing consensus that they are not fit for purpose. The UK's National Housing Federation supports the reform of EPC methodology, believing that EPC ratings are a “flawed measure of energy efficiency and can drive awkward behaviour in their current form.”²⁷ In 2025, the methodology is set to be replaced for residential properties by the ‘Future Homes Standard,’ which will prioritise low carbon heating and energy efficiency and also change the calculation method with the ‘Home Energy Model.’²⁸

An EPC, simply being an individual score of a building's designed energy efficiency, fails to accurately reflect the actual energy use of a building. Research comparing EPCs with actual energy consumption (using Display Energy Certificates) often reveals that buildings rated EPC A or B can have actual primary energy consumption values that are double the predicted levels.²⁹ Putting the focus on tracking detailed, real-world energy consumption and how buildings operate is important to ensure they are utilised in the optimum way.

Data insights can help tailor retrofitting strategies

This data not only helps in assessing current efficiency but also in tailoring retrofit strategies to meet specific operational needs and sustainability goals. For example, looking at a high-rise building, the south facing aspect may heat up quicker and remain at higher temperatures for longer than the north facing side, thereby necessitating a different level or type of intervention. Further, the floors at the top of a building may remain warmer for longer than the lower levels, again influencing the type of retrofit initiative that may be needed.

By focusing on comprehensive data collection and analysis, you can better understand and plan the specific initiatives that will have the most tangible impact, rather than simply trying to improve an EPC score.

“Better access to data to understand how to prioritise retrofits was the #1 ranked option to encourage greater uptake of sustainable retrofitting.”

²⁷ National Housing Federation. (2021). Defining net zero for social housing

²⁸ Department for Energy Security & Net Zero (2023). Home Energy Model: Future Homes Standard assessment

²⁹ Knight and Frank: meeting the commercial property retrofit challenge (2024)



Case study

CHP's approach to sustainable housing: data, innovation, and impact³⁰

CHP, a housing association based in Chelmsford, serves the Essex region with a portfolio of nearly 12,000 homes. With 45% of their rented housing stock built between the 1940s and 1970s, they face unique challenges in retrofitting older homes to meet modern energy efficiency standards.

CHP has made decarbonisation a core objective of the company, recognising the need to address the carbon footprint of their older housing stock. Their strategy includes various retrofit measures, such as installing loft and external wall insulation, deploying solar photovoltaic (PV) systems with battery storage, and preparing homes for future air-source heat pump installations through wave 2.2 of the Social Housing Decarbonisation Fund (SHDF). These initiatives are part of a broader effort to improve energy efficiency and maintain affordability for their customers.

To ensure the effectiveness of their retrofit initiatives, CHP has focused on collecting and analysing real-world data on home performance. They have partnered with technology providers like Switcher to install smart thermostats that monitor and optimise heating, providing detailed insights into actual home performance. This data-driven approach allows CHP to go beyond the limitations of standard Energy Performance Certificates (EPCs) and tailor retrofit measures to the specific needs of each property as well as put individual support for customers where needed.

A recent example of this strategy in action involved a concrete tower block undergoing cladding removal during the winter. Despite the insulation loss, real-world data showed that many homes in the block maintained temperatures of up to 19°C without heating. This insight enabled CHP to opt for targeted interventions rather than costly whole-building retrofits, leading to more effective and efficient outcomes for them and their customers.

CHP's journey, however, has not been without challenges, for example they have struggled to find qualified contractors due to a shortage of accredited professionals. They also found that generating resident engagement can be difficult and some customers are reluctant to accept even free upgrades to their homes due to concerns about disruption.

To address these issues, CHP has employed different methods to improve engagement, for example by appointing a Resident Liaison Officer and promoting peer-to-peer engagement through customer champions. They also collaborate with other housing associations and local education providers to tackle the skills gap. This includes developing training programs and courses for future retrofit projects – implementing tangible actions to support challenges faced in their decarbonisation journey.

³⁰ Baringa interview with CHP



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Sustainable retrofitting is essential and urgent

Retrofitting existing buildings is critical to reducing carbon emissions in the built environment. Approximately 80% of today's buildings are expected to remain in use for decades,³¹ and retrofitting rates need to triple from 1% to 3% per year,³² underscoring the need for immediate action to upgrade these assets in line with net zero targets. The urgency is amplified as legislation and regulations are likely to become more stringent in the near future.

Sustainable retrofitting makes strategic sense

Sustainable retrofitting is more than a compliance measure; it represents a strategic approach to enhancing the value and performance of assets. By proactively adopting retrofitting practices, building owners can reduce operating costs, increase asset value, and retain long-term competitiveness. Early adopters will also be better positioned to adapt to evolving regulations and market demands, securing a competitive edge in the marketplace.

Effective practices for sustainable retrofitting

Embarking on a sustainable retrofit journey can be overwhelming due to the complexities, barriers, and challenges involved. However, this shouldn't prevent you from taking the first step. Some practical approaches to help navigate this path include:

- **Simplicity and Planning:** sustainable retrofitting does not have to be overly complex. Starting by integrating sustainable retrofitting into long-term strategic plans can lead to more effective and efficient outcomes. You can develop a Strategic Building Plan (SBP) to guide your long-term sustainability goals and coordinate major retrofitting activities with lease expirations or regular maintenance to minimise disruptions and reduce costs. This phased, strategic approach, helps in managing complexities and ensures that your retrofit initiatives align with both financial and operational objectives. Viewing retrofitting as an ongoing journey, rather than a one-time project, enables flexibility and adaptation to new technologies and evolving regulations.
- **Specialist Support:** engage with your peers and industry experts, such as consultants, banks, and supply chain partners, to navigate the complexities of retrofitting. Specialist support can help identify financial options, optimise project planning, and ensure regulatory compliance.
- **Data-Driven Decisions:** leverage accurate, real-world data on energy use and building performance to tailor retrofit strategies. Data-driven approaches enable prioritisation of actions, optimised investments, and better overall outcomes.

³¹ UK Green Building Council: Climate Change Mitigation

³² JLL. (2022). Retrofitting Buildings to be Future-Fit: The journey to decarbonization

Collaboration is key to success

Collaboration among stakeholders can be key to the success of sustainable retrofitting projects. From landlords and tenants to financial institutions and local councils, fostering a collaborative environment is essential. Transparent communication, shared goals, and aligned incentives can help overcome challenges, drive innovation, and ensure projects are completed successfully.

Act now to secure future competitiveness

The time to act is now. While the path to sustainable retrofitting may present challenges, early action can help with future-proofing assets, reducing carbon footprints, and maintaining competitiveness. Embrace the opportunity to lead the transformation of the real estate sector into a force for positive, sustained, change.

“Improved collaboration platforms emerged from our market research as the most effective action industry stakeholders can take to support sustainable retrofits.”



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Navigating sustainable retrofit in real estate – Commissioned by and in partnership with Barclays.
In collaboration with and with contributions from JLL, Travis Perkins plc and TrustMark.

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