



The voice of our sustainable
built environment

COMMERCIAL RETROFIT

Scottish Policy and Practice



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UK Green Building Council
ukgbc.org



ACKNOWLEDGEMENTS

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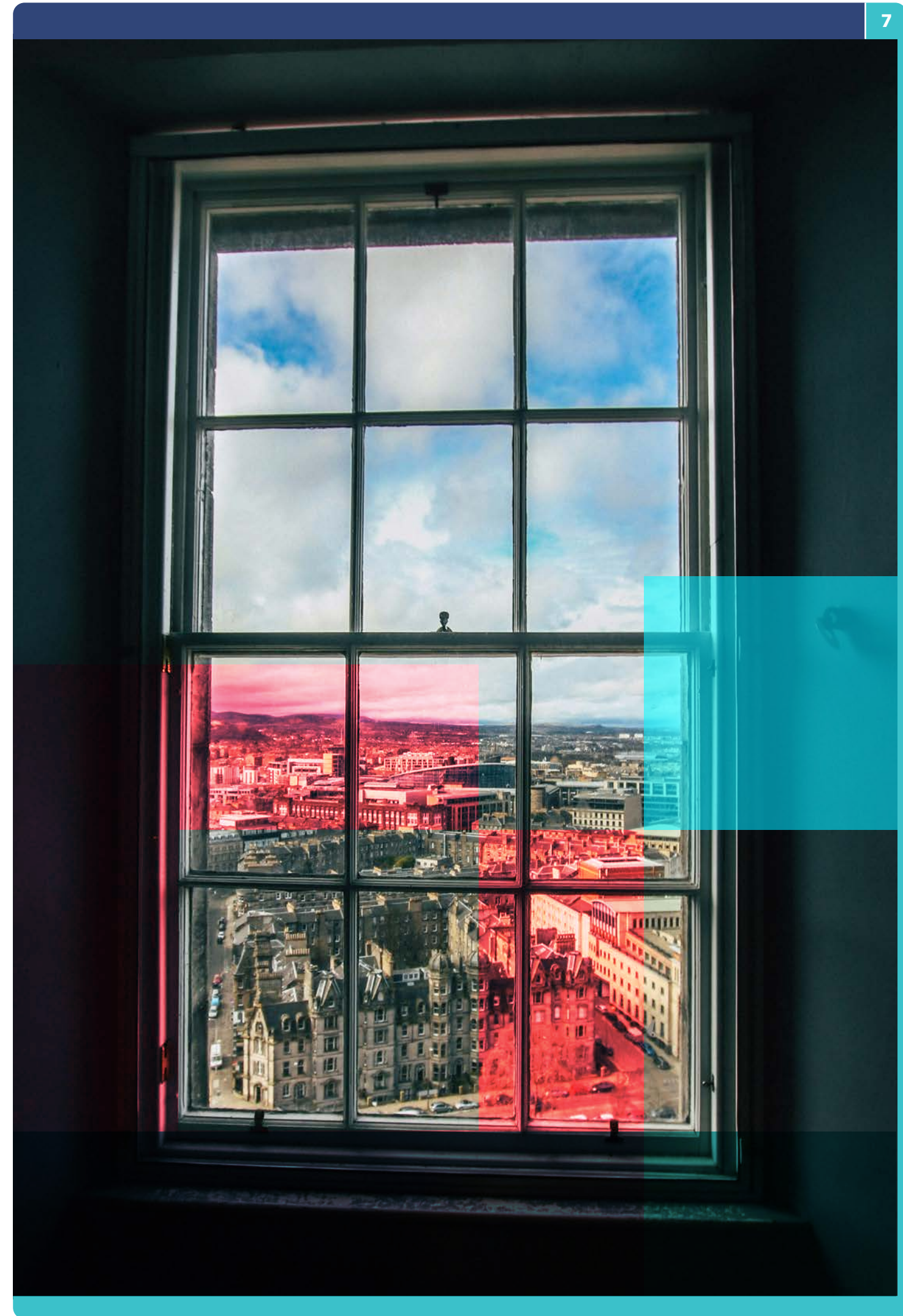
EXECUTIVE SUMMARY

Scotland has a strong history of climate action and in the past has shown laudable ambition in setting accelerated targets for decarbonisation. But recent political changes and the unfortunate scrapping of the 2030 climate targets have left industry questioning the pathway to net zero 2045, and the challenge of delivery ever more pressing. The built environment is responsible for a quarter of our total emissions, and although homes account for the majority, every part of the sector must be addressed if we are to reach our ultimate goal of a decarbonised economy and society.

Scotland's existing commercial building stock can and must be a lever in creating decarbonised, climate resilient places, but to ensure they do not fall behind in the race to net zero, the sector needs strong government leadership in the form of:

- A clear and stable policy pathway that takes a whole life carbon approach, setting out a timeline to 2045 so that deep building retrofit can happen at the most appropriate time in an asset's lifecycle, while maximising the immediate gains possible through optimisation and light retrofit in the short-term.
- Coordination of place-based programmes that deliver building decarbonisation and heat networks alongside wider climate resilience, biodiversity, and socio-economic benefits.
- Strategic action on factors that currently act as barriers to progress, including finance and taxation, and the split incentives between landlords and tenants, to unlock latent demand for decarbonisation in the sector.

UKGBC Scotland's network is eager to work with government and industry partners to help realise our common vision of a decarbonised built environment within the next two decades.



INTRODUCTION

WHY ARE THESE RECOMMENDATIONS NEEDED?

Scotland is at a critical juncture in its journey towards a more sustainable built environment. With existing commercial buildings responsible for a third of the built environment's carbon emissions, bold and ambitious government action is essential to catalyse the transition of this building stock to net zero emissions by 2045. This imperative extends beyond mere environmental stewardship; it encompasses economic resilience, social equity, and global leadership.

Yet progress is currently slow. To meet Scotland's climate commitments, the government had set a target for the equivalent of 50,000 of the country's 220,000 non-domestic buildings to be free from direct emissions by 2030. Feedback from the commercial building sector has shown, however, that a lack of clarity on the pathway to net zero, along with a range of barriers that are yet to be fully addressed, are delaying investment decisions, and causing uncertainty about the ability to fully decarbonise our building stock in the timescales required.

Ambitious policy and government interventions can be the catalyst to overcome these challenges. Decarbonising commercial buildings can yield tangible benefits for communities across the country, from improved air quality and public health outcomes to reduced energy loads and enhanced resilience to climate-related risks. As such, bold government action is not just a moral imperative, in line with the overarching Just Transition objectives; it is a strategic imperative that aligns with Scotland's values, ambitions, and aspirations for a thriving, sustainable future.

ROADMAP TO A NET ZERO CARBON BUILT ENVIRONMENT

In 2021 UKGBC published a Net Zero Whole Life Carbon Roadmap for the Built Environment, setting out a pathway for all of the UK to follow in pursuit of a fully decarbonised built environment by 2050. The 2023 progress report shows that, overall, progress is way off track, with significant effort required through the remainder of this decade to ensure that our goals do not slip out of reach.

The Roadmap sets out three headline actions for government in tackling emissions from existing non-domestic buildings.

- 1 Introduce** in-use energy performance-based rating schemes for non-domestic buildings in a phased approach between 2022-2029, including mandatory energy disclosure, minimum performance standards and fiscal incentives.
- 2 Review** Landlord & Tenant Act 1954 to require by law that all new business leases include green lease clauses, the standards of which should be developed with industry.
- 3 Retain** proposals for use of Minimum Energy Efficiency Standards (MEES) in the non-domestic sector in the short to medium term. Review the need for MEES as energy performance rating schemes become established.



DEFINITIONS

Although these actions were designed for a UK-wide context, the principles also apply specifically in Scotland. And while Scotland has previously been ahead of the curve in setting ambitious climate commitments, holding to these commitments as the challenges of delivery start to bite has been proving difficult. The CCC's latest progress report in March 2024 bluntly states that the Scottish Government is failing to translate goals to action. Even disregarding the failed commitment to 2030 that has since been scrapped, accelerated action is needed if Scotland is to maintain a credible pathway to net zero by 2045. The delayed update to the Climate Change Plan must include a coherent, transparent, and quantified plan on how Scotland will get back on track.

The urgency is clear; Scotland needs decisive and ambitious action from government to drive systemic change at the pace and scale required to reduce emissions in line with the pathway set out.

Commercial buildings: for the purposes of this paper, commercial buildings are defined as any building used for a commercial purpose (therefore excluding residential and public sector buildings, although overlaps in applicability exist, for example an office building occupied by a public body, or a multiple occupancy, multiple tenure building that includes both commercial and residential units).

Retrofit: Encompasses a wide range of interventions to improve a building's energy performance. UKGBC's Delivering Net Zero: Key Considerations for Commercial Retrofit paper divides measures into light and deep retrofit, largely based on the disruptiveness of the intervention to building occupants.

Net zero: A lack of consistency and clarity within the industry around definitions in the context of retrofit has contributed to a difficulty in establishing best practice approaches to support net zero carbon alignment. The UK Net Zero Carbon Buildings Standard is aligning a core group of stakeholders around agreed definitions of net zero for retrofit.



THE PATHWAY TO NET ZERO

UKGBC fundamentally understands that the transition to a net zero built environment must be driven by cooperation based on a shared understanding between government and industry. The scale of the challenge, and the timescales demanded by the climate crisis and our binding commitments, mean that the time for talk is past; we must act now, taking action towards a more sustainable, decarbonised built environment.

TIMELINE TO 2045 – WHERE ARE WE ON THE JOURNEY, AND WHAT'S LEFT TO DO?

In the 2021 Net Zero Whole Life Carbon Roadmap for the Built Environment, UKGBC set out the pathway of actions that will result in a net zero built environment by 2050. In recontextualising the principles behind these recommendations to the Scottish context and its accelerated timeline, it is apparent that interventions by the Scottish Government thus far, while positive, do not represent a complete set of policies that will drive the built environment to net zero.

For existing commercial buildings, there is significant potential to improve energy efficiency alongside the removal of direct emissions, reducing their draw on the electricity grid and heat networks, enabling a faster transition for the entire built environment. UKGBC believes that minimum standards and aligned fiscal incentives must be integral parts of this shift, creating demand and setting a new baseline for performance. This can only be worked out in practice, however, when based on a robust and fit-for-purpose performance rating mechanism, and when implemented with a whole-life carbon view of a building's climate impact.

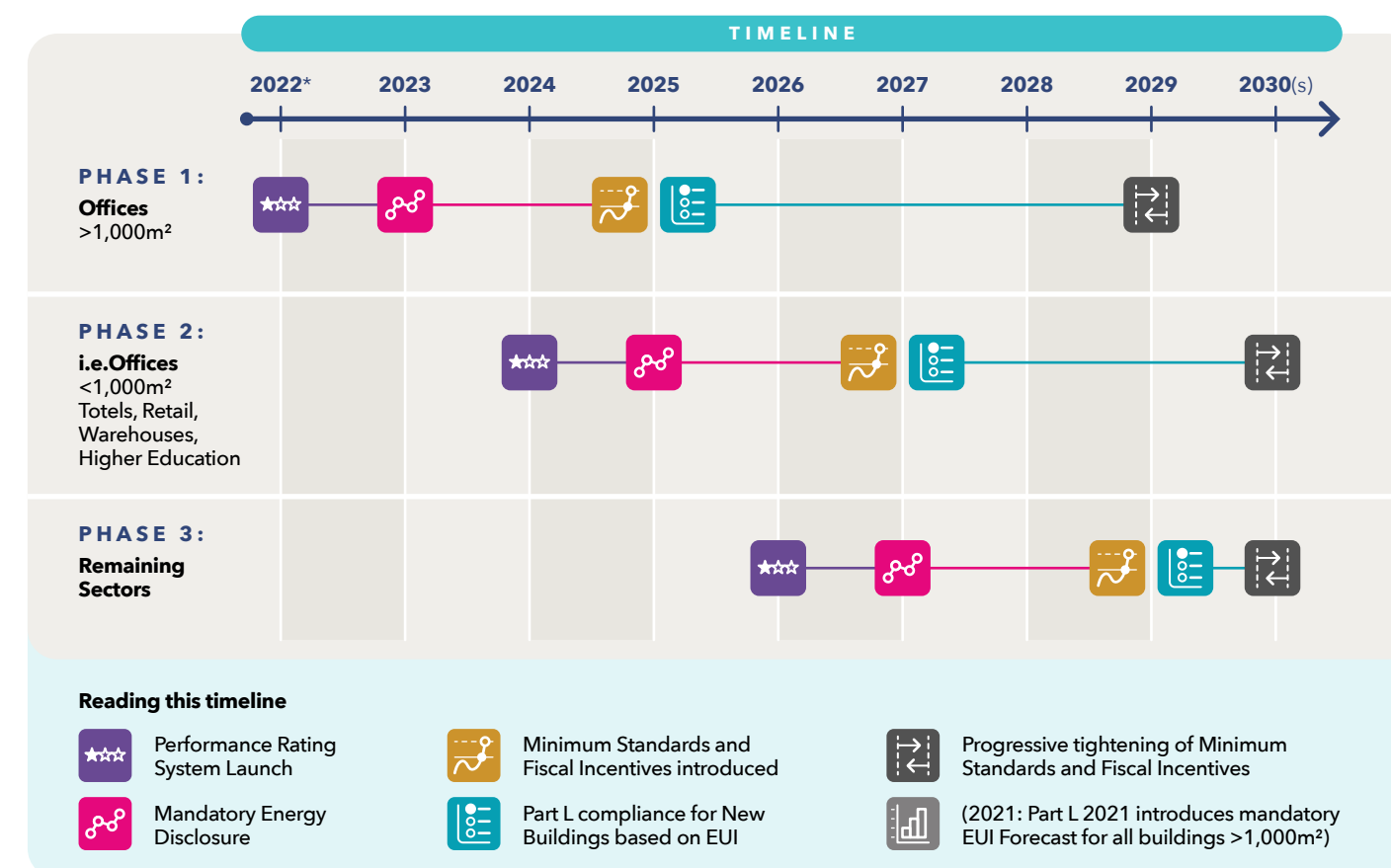


FIGURE 1: Graphical timeline for existing Scottish commercial buildings in the style of UK timeline above, showing 2021-2030.

Existing Government timeline:

- **2021:**
Heat in Buildings Strategy: set direction of travel for decarbonising Scotland's buildings.
- **2023:**
NPF4: consideration of embodied carbon and circularity in development planning.
- **2024:**
Heat in Buildings Bill: prohibition of polluting heating by 2045.
- **2025:**
Heat Networks Act secondary legislation: regulatory regime for heat networks.
- **2030:**
Target for 50,000 non-domestic buildings to have clean heating.

Still needed:

- **Current parliament:**
 - Amend EPC reform proposals to introduce performance-based rating scheme for non-domestic buildings, aligned with;
 - Amend Heat in Buildings Bill proposals phased introduction of minimum energy efficiency standards for commercial buildings.
- **2024:**
Set out a strategic, all-Scotland plan for heat networks beyond 2030 uptake target, that acts as a call to action on place-based delivery of retrofit.
- **2025:**
Support the first in a series of retrofit and decarbonisation-led place-based demonstrator programmes (ongoing).
- **2026:**
Parliamentary election as a key political opportunity to realign policy and regulation with refreshed net zero pathway.
- **2026:**
Amend non-domestic rates to remove disincentive to retrofit.
- **2026:**
Embodied carbon measurement and reporting for large projects.
- **2028:**
Embodied carbon limits, initially for large refurbishment projects

ACTION NEEDED

POLICY CERTAINTY

The industry needs clarity and alignment on policy direction and milestones on the net zero pathway before being able to make confident and informed investment decisions. The consultation on the Heat in Buildings Bill was an important step in this process, but for non-domestic buildings it left many questions unanswered in the face of a market that is ready and willing to act but is frustrated by a lack of the clarity necessary to navigate this transition in the face of the complexities of leases and longer lead times inherent in the commercial sector.

There are two fundamental pieces of the regulatory landscape that, if clarified, would allow the forward planning that the commercial sector requires; the standards of improvements that must be made to existing buildings, and the metrics by which they will be assessed. In calling for these two pillars to be addressed, the UKGBC network echoes the CCC's latest progress report in highlighting the need for clear plans to deliver energy efficiency and low-carbon heating in Scotland's non-domestic buildings that include "clear target dates for meeting standards [and] consider the role of targets that look beyond EPCs to more reliable measures of performance and emissions reductions." The New Deal for Business provides an ideal mechanism for government to engage with industry on how future regulation should be set and worked out in practice, and we encourage an open and frank discussion of the challenges and opportunities of regulating for energy efficiency.



■ **Recommendation:**
Introduce energy efficiency targets for commercial buildings, considering the variability of use, size, and tenure, along with clear dates and trigger points for meeting standards.

The commercial buildings sector is extremely diverse, making it less straightforward to set standards than for domestic buildings. However, we disagree with the Scottish Government's current proposal that the phasing out of fossil fuelled heating in buildings will drive enough energy efficiency improvements, in the absence of minimum standards. A minimum amount of energy efficiency work to enable a building to switch to a heat pump, for example, ignores the need to view individual buildings as part of Scotland's wider energy system, whether that be in terms of electricity grid demand or heat network capacity. The UK Net Zero Building Standard provides the latest and most thorough example of how standards can be set for different building typologies and uses and should be considered as a template for regulating energy use in Scotland's commercial buildings as the policies develop through 2024 and beyond.



■ **Recommendation:**
Introduce a performance rating scheme that is fit for purpose in the move to net zero.

The recent consultation on proposed changes to EPCs for non-domestic buildings presented welcome changes in attempting to make the scheme more fit for purpose as a tool in the decarbonisation of existing buildings, but it did not go far enough. To accurately report and compare the energy performance of commercial buildings, Scotland needs a performance rating scheme that is based on actual energy performance rather than nominal performance. Many commercial buildings are already equipped to measure and report in-use energy performance, and enough lead time and incentivisation for early action will enable a move to a scheme that will allow accurate reporting of the real energy use of buildings, in turn allowing more granular and responsive interventions to improve efficiency over time.

In the meantime, supporting the NABERS UK rating scheme for Scotland's commercial buildings would provide an alternative route, by highlighting a voluntary energy performance-based rating system for office buildings. NABERS UK provides a rating from one to six stars for offices, which helps building owners understand their building's performance versus other similar buildings, providing a benchmark for progress.

EMBODIED CARBON – WLC APPROACH TO RETROFIT

UKGBC's roadmap indicates embodied carbon accounted for 24% of built environment emissions in 2018 and is projected to rise to 50% by 2035, as operational emissions fall, yet embodied carbon is unregulated across the UK. This presents a real opportunity for Scotland to move ahead (not just in the UK, but to take a global leadership position) in taking a whole-life carbon approach to all activity in the built environment. While new construction accounts for most embodied emissions, the magnitude of retrofit that will be necessary to decarbonise the existing building stock means that it is vital to make sure that the associated embodied emissions do not counteract the good work done to address operational carbon. While the industry's understanding of embodied carbon is still developing, a vital first step in addressing this challenge is to build a better understanding of current sources of embodied carbon, while taking pragmatic steps to make the best use of existing assets by prioritising effective use of the existing building stock, based on an understanding of the whole-life impact of both retrofit and demolition and rebuild.

- **Recommendation:**
Use planning reforms to prioritise reuse of existing buildings and assets, and disincentivise demolition and new build.

The National Planning Framework 4 provides an important mandate for consideration of embodied carbon and principles of circularity in making planning decisions, but to realise a truly effective system of asset utilisation, Scotland needs a holistic set of shared policies across national and local government that take a whole-life carbon view of development and existing assets, prioritising sustainable reuse of existing buildings while navigating the need for high quality development that meets current building standards.

- **Recommendation:**
Introduce mandatory measurement and reporting of whole life carbon for large building projects (>1,000m²), followed by phased minimum standards for upfront embodied carbon as sufficient asset level benchmark data becomes available, along with associated fiscal incentives and penalties.

UKGBC has joined 10 other built environment expert bodies in calling for regulation of embodied carbon at the UK level, with mandatory measurement and reporting from 2026 and limits on upfront emissions introduced from 2028. For Scotland to maintain its climate leadership and meet its more ambitious targets it is vital that this timeline does not slip any further.



PLACE-BASED DELIVERY AND HEAT NETWORKS

Place-based delivery of decarbonisation programmes offers the chance to move with a rapidity beyond what's possible by targeting only individual buildings. It can also unlock much wider socioeconomic and environmental benefits for places, and as such can build a positive vision for the future of places, making net zero more attractive to local communities and commercial stakeholders.

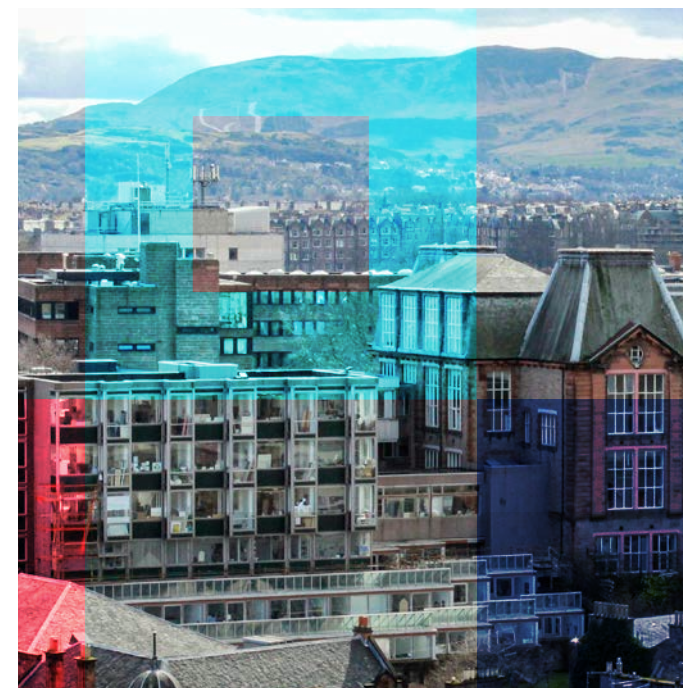
UKGBC supports the Scottish Government's pursuit of place-based delivery through the LHEES mechanism, and through its encouragement of heat network deployment as a catalyst for area-wide decarbonisation programmes. But there is the potential to think about place-based delivery in a more systemic way, moving away from viewing heat networks project-by-project, and towards a more strategic view of how Scotland's transition to net zero can serve as a catalyst for regenerated places and thriving local communities, by realising the vast co-benefits that place-based delivery mechanisms can unlock.

- **Recommendation:**
Introduce a strategic coordination role within Scottish Government to (i) communicate a national strategy on heat networks and place-based decarbonisation delivery, (ii) clarify the mandate and role of local authorities in delivery, and (iii) act as a forum for bringing all parties together to develop a pipeline of projects that can attract the level of private investment required.

The Heat Network Support Unit plays a valuable role but could be reimagined to deliver a more strategic vision and coordination of heat networks as part of a Scotland-wide place-based regeneration strategy. This would unlock the potential of the LHEES scheme by linking up and prioritising local authority-identified actions based on the specific needs of an area and could identify opportunities to aggregate delivery programmes in order to attract long-term institutional financing that would otherwise remain unavailable to individual projects.

- **Recommendation:**
Identify and support a small number of projects that will act as proofs-of-concept of the business case and investment readiness of these projects and commit to cross-body public sector support of these initial projects.

Much work has already been done to develop workable models and business cases for place-based delivery, with the Scottish National Investment Bank leading engagement across the sector on how create aggregated, investment-ready programmes. What's missing is a clear mandate from, and commitment by government to support local areas in taking forward the first such programmes. Additional financial support and a commitment to use public sector assets as a lever for delivery would help prove the investment case for subsequent programmes to be taken forward across Scotland, driving significant pace and scale in built environment decarbonisation.



ENABLING FACTORS

In addition to the points above, there remain a range of enabling factors that, unaligned, will slow the pace of decarbonisation of commercial buildings. While there is a vast amount of work underway to tackle these issues, the UKGBC network emphasises the following changes as vital to enabling the net zero transition:

Financing, and an aligned tax system:

■ Recommendation:

Implement the actions identified by the Green Heat Finance Taskforce in developing and rolling out innovative financing solutions that address each segment of the built environment. For commercial buildings, this should consider the differing needs of large asset holders and SMEs, and mesh with parallel efforts to leverage commercial assets as anchor loads for heat network development.

■ Recommendation:

Implement a system of rates relief to remove the current disincentive to retrofit due to an immediate valuation uplift, and to account for a gap in rental income during retrofit implementation. The ongoing review of non-domestic rating by the NDR Consultative sub-group of the New Deal for Business should consider how to incentivise decarbonisation for asset owners. As part of this review, examine how Tax Increment Financing schemes (TIF) for non-domestic buildings could incentivise capital investment.

■ Recommendation:

Explore how to further incentivise early action on commercial retrofit through reform of the Land and Building Transfer Tax (LBTT). UKGBC has proposed tax reforms for the domestic sector to stimulate improvements to the fabric performance of homes. This incentive could also work for commercial buildings by providing a cost neutral adjustment to LBTT relative to any increase in energy performance of a building, providing a proportionate financial incentive to improve energy efficiency in a limited time window following a purchase, while also acting as a long-term driver of demand.

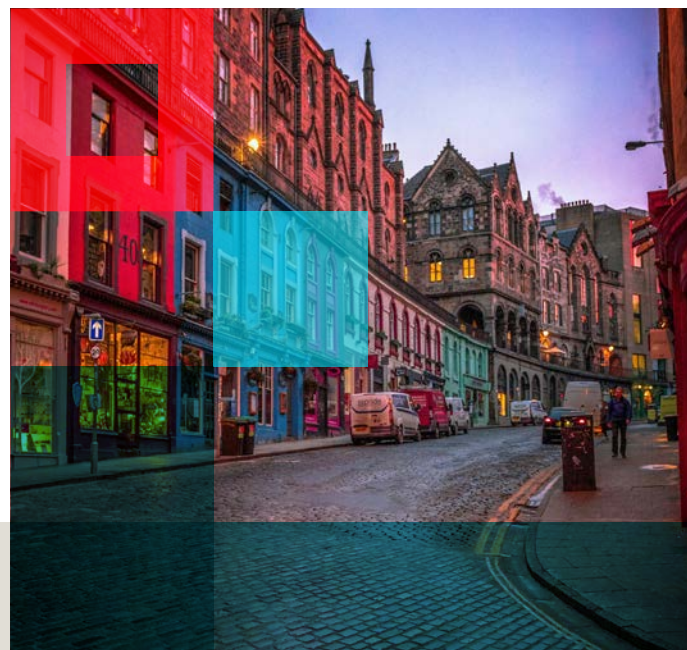
The landlord-tenant relationship:

■ Recommendation:

Encourage, and subsequently mandate, green leases for commercial buildings, incentivising energy efficiency improvements and data sharing between asset owners and users. Much work has already been carried out on this topic by the Better Buildings Partnership which shows how green lease clauses can be a key driver in stimulating demand for energy efficiency improvements while sharing responsibility and benefits between the owner and user of an asset. As a first step, the Scottish Government should mandate that all public sector commercial leases include green lease clauses.

■ Recommendation:

Mandate data sharing and disclosure for energy consumption data between owners and occupiers of all large commercial buildings (with the Décret Tertiaire in France providing an example of how this can work in practice).



THE ROLE OF INDUSTRY

Decarbonising Scotland's commercial buildings provides significant opportunities for industry stakeholders to move ahead of current requirement, capitalising on growing demand for green buildings, accelerating skills and supply chain improvements, and showing the way for others in taking no-regrets steps to future proof their built assets even while questions remain. The move towards net zero comes alongside parallel changes in demand and usage of commercial assets following the COVID19 pandemic, and amidst a shift in public expectations around sustainability.

UKGBC's own recent report on Retrofitting Office Buildings highlights that investors, building owners, and occupiers are all subject to growing scrutiny regarding their environmental, social and governance (ESG) commitments and are increasingly pursuing a 'retrofit first' strategy for their built assets. Similarly, recent increases in energy prices have raised awareness of future risks and shifted priorities towards greater energy efficiency, meaning that the progressive end of the market is pointing the way forwards, and can lead by example.

All asset owners and investors should be establishing the pathway to net zero for their own portfolios, and taking no-regrets steps to ensure that they are prepared for future market demand and policy requirements. Building owners and landlords must formulate and commence portfolio-wide plans to transition away from fossil fuel heating. Commercial asset owners must ensure energy monitoring and management processes are in place across their entire portfolio, and landlords should commit to sharing energy data regularly and transparently with all tenants, and collaborate with tenants to minimise operational energy, with requirements clearly set out within green leases.

Even in the absence of minimum energy efficiency standards for commercial buildings, owners and occupiers should be taking steps to ensure their buildings' management is optimised to reduce energy use, with each stakeholder taking ownership of the elements of energy usage they are responsible for and have control over. UKGBC's own research has found that optimisation measures alone can achieve EUI savings of 26% and includes the most cost-effective measures with the lowest relative embodied carbon impact. This work can be landlord or tenant led, but success depends on effective collaboration between all stakeholders, leveraging the skills of facilities managers to ensure all parties understand how building performance responds to interventions.

Beyond optimisation, the particular retrofit interventions carried out on a commercial asset depend primarily on the timings of trigger points, such as the opportunities that lease cycles present to enable light or deep retrofits to be carried out, and opportunities in maintenance and refurbishment cycles – especially when building components are nearing their end of life – that mean upgrades have marginal cost and marginal whole life carbon impact. This necessitates a long-term strategic approach to retrofit, that encourages and prioritises action now, while planning for the future.

CONCLUSION AND CALLS TO ACTION

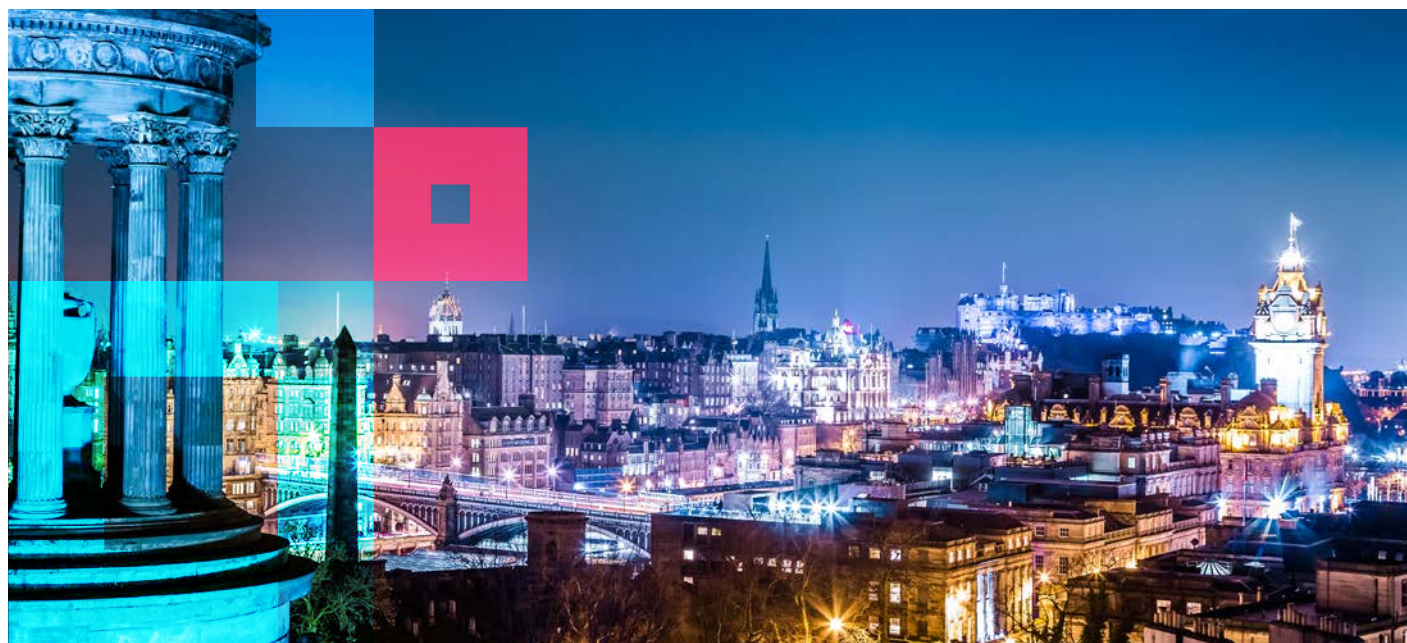
UKGBC's members have shown readiness and ambition to tackle the challenges of the transition to net zero, but to effectively meet this shared ambition, the entire industry needs strong governmental leadership to make the exceptional normal. We call on the Scottish Government to take these actions to clarify the pathway to net zero for commercial buildings:

- Set out a clear and stable policy pathway to net zero that takes a whole life carbon approach, setting out a timeline to 2045 so that industry can prepare plans for individual assets.
- Coordinate place-based programmes that deliver building decarbonisation and heat networks alongside wider climate resilience, biodiversity, and socio-economic benefits.
- Take strategic action on factors that currently act as barriers to progress, including finance and taxation, and the split incentives between landlords and tenants, to unlock latent demand for decarbonisation in the sector.

Correspondingly, those in industry with responsibility for commercial built assets should take steps to establish a pathway to net zero for their own assets, taking account of local area plans for heat networks, and implementing immediate changes to optimise building energy use in partnership with their end users. The pathways should identify key trigger points for implementing deeper retrofit measures, so that lease events and maintenance cycles are taken advantage of to future proof assets and move portfolios closer to their net zero goals.

Our members are committed to achieving a net zero built environment and are often frontrunners in their field, but they need a comprehensive set of policies to drive industry-wide progress, create incentives for leveraging the necessary private investment, and encourage upskilling and upscaling of action to decarbonise our buildings.

With this paper we hope to help government understand our members' concern at the gaps in the net zero pathway for Scotland's building stock and understand where the opportunities lie for the remainder of this parliamentary term and beyond. We hope it inspires enthusiasm and spurs action to realise the economic, environmental, and societal opportunities associated with success in this mission.



Publications:

- **UK Green Building Council: Net Zero Whole Life Carbon Roadmap:**
A Pathway to Net Zero for the UK Built Environment
- **UK Green Building Council: Delivering Net Zero:**
Key Considerations for Commercial Retrofit
- **The Climate Change Committee: Progress in reducing emissions in Scotland**
– 2022 Report to Parliament
- **UK Net Zero Carbon Buildings Standard: December Quarterly Update**
December 2023
- **Better Buildings Partnership: Green Lease Toolkit**
2024
- **UK Green Building Council: Building the Case for Net Zero:**
Retrofitting Office Buildings





The voice of our sustainable
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