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SG GREEN

SINGAPORE GREEN BUILDING COUNCIL

BUILDING SUSTAINABLE CITIES OF TOMORROW

INSIDE:

THE RETROFIT ROADMAP: FROM INCREMENTAL TO TRANSFORMATIONAL

SGBC Member Cundall unpacks the challenges and opportunities in retrofitting our existing buildings.

WHY ARE EXISTING BUILDINGS NOT BEING RETROFITTED AT THE SPEED AND SCALE NECESSARY FOR CLIMATE CHANGE MITIGATION AND ADAPTATION?

This was the question anchoring Transform, a forum co-hosted by SGBC Member Cundall and Hassell, intended to disentangle the challenges and opportunities in accelerating retrofitting efforts within the built environment.

A key feature shaping the dialogue was a pre-event survey, completed by would-be attendees (building owners, investors, and asset managers) whose responses provided a real-world snapshot of the concerns, motivations, and roadblocks facing those responsible for transforming our urban landscape. The result was an insight-rich forum, complete with debate and a collective urgency to bridge the gap between ambition and action

THE CHALLENGE: OUR TRANSITION IS SLOW AND COMPLEX

The discussion opened with reflections on the shifting nature of the built environment, particularly in the post-pandemic period. While workplaces and city centres have for the most part stabilised, expectations for buildings have evolved – and for good reason. Tenants, employees, and investors demand **higher sustainability standards, better amenities, and greater resilience to climate risks.** Yet, the retrofitting response – specifically the **pace of transformation** – is handicapped by several challenges:

- **Disruption to Tenants** – Many landlords hesitate to undertake building upgrades due to concerns over tenant displacement and temporary revenue loss.
- **Regulatory Complexity** – The forum underscored that governments are introducing policies to drive energy efficiency, such as Singapore's MEI (Minimum Energy Improvement) Regime, requiring audits and improvements for underperforming buildings. Compliance, however, is not always easy to navigate, especially when regulations are ever-changing and expensive.
- **Financial Constraints** – While retrofits evidently yield long-term cost and carbon savings, the upfront capital expenditure can serve as a significant deterrent to asset owners. Investors with short-term horizons, such as certain REITs, hesitate to invest in retrofits that temporarily (though often significantly) reduce rental income and occupancy rates.
- **Market Expectations and Asset Valuation** – The real estate market often defines 'premium' buildings based on factors such as ceiling height, floorplate layout, and architectural specifications. Older buildings, even after upgrades, struggle to compete with new developments that set higher benchmarks. This is where building owners and policymakers must begin redefining value - a high-performing, sustainable building should not need to meet traditional 'Grade A' specifications to be recognised as a quality asset.
- **Lack of Scalable Financial Models** – Traditional funding mechanisms don't always support retrofitting at scale. Green bonds and sustainability-linked loans exist but are underutilised in the retrofit space.
- **Lack of Technical and Building-Specific Knowledge** – Attendees also recognised that retrofitting responses must be unique to the building, requiring a deep understanding of architectural, structural, and engineering constraints (and opportunities). Many asset owners lack the technical expertise to make informed decisions on the most effective interventions for their buildings.

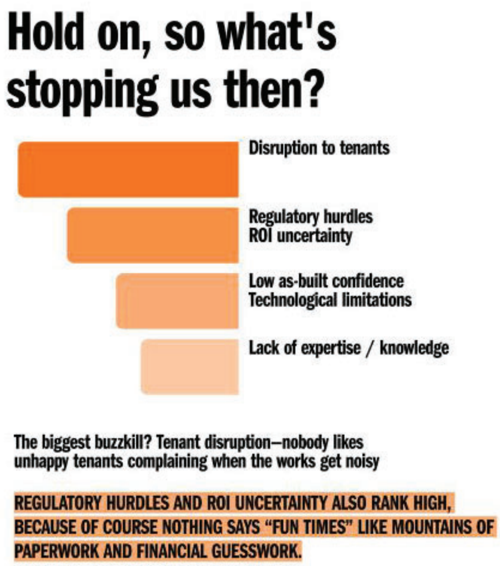


Image credit: Hassell

The GFA Conflict – Increased Gross Floor Area (GFA) incentives can inadvertently disincentivise retrofits and instead encourage demolition and new construction. For instance, older buildings may have design constraints or structural limitations that make integrating additional GFA challenging. Retrofitting such buildings to meet new GFA allowances can be technically complex and costly, leading developers to opt for demolition and new construction as a more feasible and straightforward alternative.

THE CASE FOR RETROFITTING: WHAT ARE THE CONSEQUENCES OF INACTION?

Notwithstanding these barriers, the forum emphasised that not retrofitting is a far greater risk - financially, environmentally, and competitively. It further highlighted why retrofitting (and doing it early) should be a priority:

- **Energy and Cost Efficiency** – Retrofitting early can significantly reduce energy intensity, emissions intensity, and future costs. The discussion referenced data showing that even moderate upgrades – implemented strategically throughout the life of a building - can yield substantial reductions in emissions and operating costs.
- **Policy Shifts from Incentives to Penalties** – Regulatory frameworks are evolving from rewarding sustainability to penalising underperformance. In Singapore, buildings that fail to meet energy efficiency requirements face valuation discounts and increased compliance costs. As one participant noted: "A rising tide lifts all boats."
- **The Carbon Trajectory of Demolition vs. Retrofitting** – Demolishing and rebuilding generates substantial carbon emissions. Retaining existing structures and upgrading their performance is, in most cases, the less carbon-intensive pathway.
- **Market Competitiveness and the Tenant Paradox** – Although the survey results spotlighted tenant disruption as the greatest retrofitting obstacle, tenants are simultaneously one of the greatest drivers for building retrofit and transformation. Corporate occupiers and investors are increasingly prioritising ESG-aligned properties, clearly signalling that sustainable, energy-efficient buildings are a market expectation rather than just a differentiator.

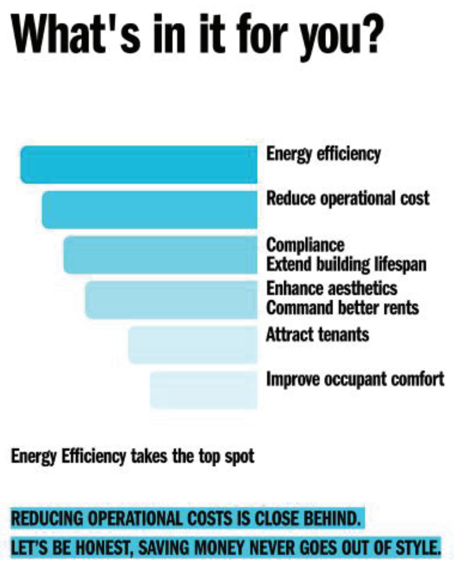


Image credit: Hassell

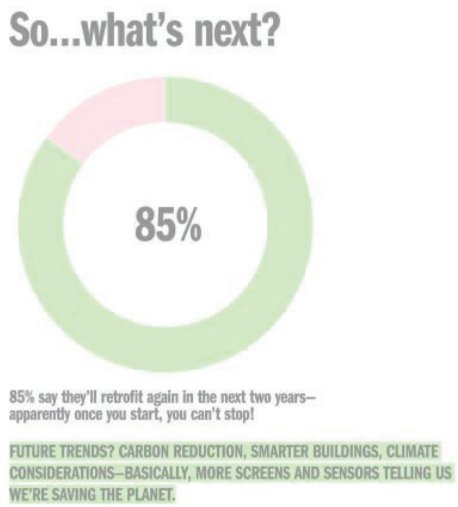
But little of this is new information. Owners have been aware of these challenges, incentives, and penalties for some time now. More importantly, they have always known of the existence of solutions. So, what explains the sluggish transformation? The forum distilled some critical factors – an incomplete understanding of how to align the right retrofit solutions with a building's specific needs and a limited awareness of funding requirements and available alternative funding mechanisms. With this, the dialogue reinforced that building transformation cannot and does not need to happen overnight.

A ROADMAP FOR TRANSITION

A salient takeaway from the discussion was that retrofits do not have to be an "all or nothing" process. The perception that retrofitting requires deep, large-scale modifications often results in delays or inaction. There is a spectrum of interventions that can be deployed based on budget, urgency, and asset type. Cundall and Hassell proposed a gradient of transformation, ranging from light-touch interventions to deep repositioning projects. An incremental and iterative approach lowers the barrier to entry and is based on trigger points unique to the building. Regardless, getting started is the wisest strategy.

FINANCING THE TRANSITION

The forum also underscored that financial barriers, while significant, are not insurmountable. Financial instruments such as sustainability-linked loans and green bonds are increasingly available to support building upgrades. However, the challenge lies in increasing their adoption within the retrofit space. Tailored financing mechanisms that reflect the unique challenges and payback periods of retrofitting projects is a capital-unlocking strategy that can be co-developed by owners and financiers. Governments and regulatory bodies can also play a crucial role in incentivising green finance adoption for retrofits, beyond new developments.



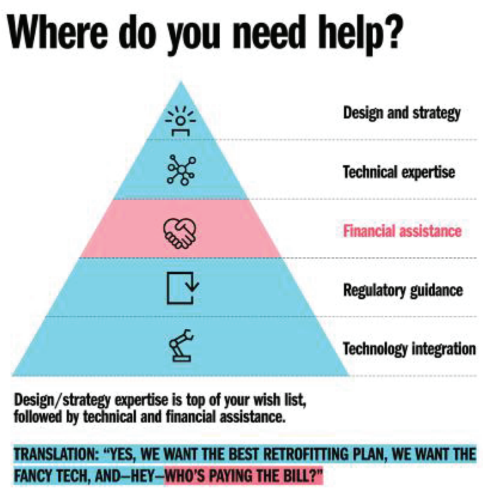


Image credit: Hassell

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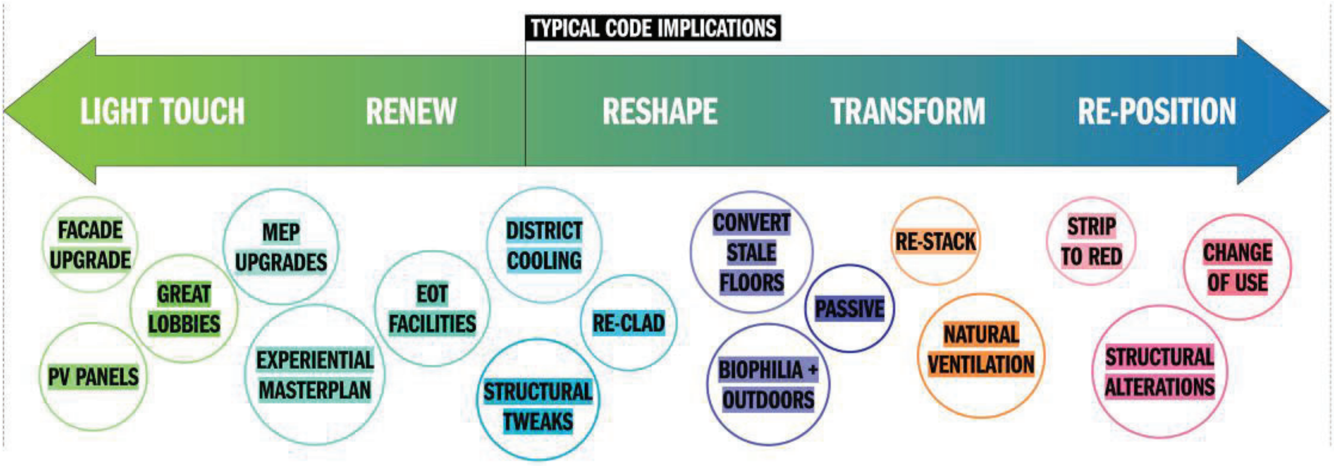

Image credit: Hassell

SHIFTING THE MINDSET AND THE ACTION

The forum ended with a call to rethink what makes a building 'Grade A.' Traditionally, premium office spaces were defined by height, views, and specifications. The future of real estate, however, will be shaped by sustainability, flexibility, and tenant experience. Phased and stepwise retrofits offer a path to modernising buildings in ways that balance financial, environmental, and social value. To accelerate retrofitting at scale, a fundamental shift in approach is required:

- **From Cost to Value** – Retrofitting should be framed as an investment in long-term asset performance, rather than a short-term financial burden.
- **From New to Renewed** – The most sustainable building is the one that already exists. Instead of demolishing and rebuilding, owners should reimagine existing assets.

- **From Isolated to Integrated** – Engineering, architecture, finance, and policy must collaborate and harmonise to develop scalable, building-specific retrofit solutions.
- **From Sprint to Marathon** – Retrofitting does not require an immediate, large-scale overhaul. Instead, asset owners should pursue phased interventions, ensuring continuous progress toward net-zero targets.

Transform was not merely a call to action—it was a blueprint for scalable transformation. The barriers to retrofitting are well understood, and the solutions are available. The challenge now lies in swiftly and adaptively harmonising financial, regulatory, and technical efforts so that they are responsive to each building's unique context, achieving asset-relevant and high-impact transitions.

As one participant put it:

"If we do not start today, we cannot transform tomorrow."

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