Driving the ambition loop

A Stocktake on Market Transformation to Reach a Net-Zero Built Environment

World Business Council *for Sustainable Development*

Contents

"To me, the breadth and ambitiousness of the MTAA is what makes the difference... we're all doing good work in silos – the MTAA casts that all together."

Anil Sawhney, Head of Sustainability, RICS

"Galvanizing the industry to take action on things they care about right now, while holding the red thread for feeding those into the larger and longer-term transformational goals – that's what the MTAA is about."

Kate Wolfenden (Partner, 103 Ventures)

Foreword

"The COP30 Presidency has signaled this moment as a turning point – one that must focus international efforts on implementing the outcomes of the Global Stocktake: tripling renewable energy capacity, doubling energy efficiency improvements, and transitioning away from fossil fuels.

The buildings sector has a critical role to play in delivering these commitments. The establishment of the Intergovernmental Council for Buildings and Climate reflects the growing willingness of national governments to work together to strengthen action in this sector.

As ministers to the Council prepare to meet at COP 30, this timely report sends a clear signal of industry confidence. By spotlighting how industry leaders are addressing some of the most critical barriers to market transformation, it shows that change is not only possible – but that where policy and industry leadership reinforce one another in 'ambition loops', transformation can scale rapidly.

The exploration of alignment with the Buildings Breakthrough provides a platform for enhanced cooperation – a foundation to identify priority areas for alignment, where industry leadership can most effectively support and accelerate national ambition.

Yet, the Global Status Report for Buildings and Construction reminds us that the sector is not on track to achieve net-zero by 2050. Market transformation will require coordinated action across the entire value chain. This report contributes to that effort – not by prescribing solutions, but by spotlighting where industry leadership is already unlocking change."

Gulnara Roll, Head of Cities Unit,
United Nations Environment Programme

"The Market Transformation Action Agenda represents a co-created, shared roadmap for how we can decarbonize the built environment through deep collaboration of actors along the entire value chain. It is underpinned by a systems-intervention approach, which identifies specific action points that have the potential to shift the entire system toward net-zero.

This progress report attests to the power of collaboration in tackling these critical interventions. It maps and signposts key initiatives that are delivering the transformation, and it highlights gaps as well as strategic opportunities for increasing our joint efforts toward the goal of halving the emissions from the built environment by 2030. Most importantly, the report underlines that the business case for action to decarbonize buildings is clear, and it can be universally supported by ambitious and performance-based regulation to accelerate the change."

Roland Hunziker, Director, Built Environment, WBCSD

"As governments prepare for COP30, this report offers them confidence to act – confidence drawn from the many examples of industry stepping up to tackle critical barriers to market transformation. In a sector as fragmented as ours, individual action can only go so far; real transformation demands radical collaboration.

For us at Arup, the Market Transformation Action Agenda provides a platform for this collaboration – a place we can contribute our expertise alongside others, and together, drive meaningful change in our markets – shaping a better world for everyone, everywhere."

Will Wild, Associate, Arup

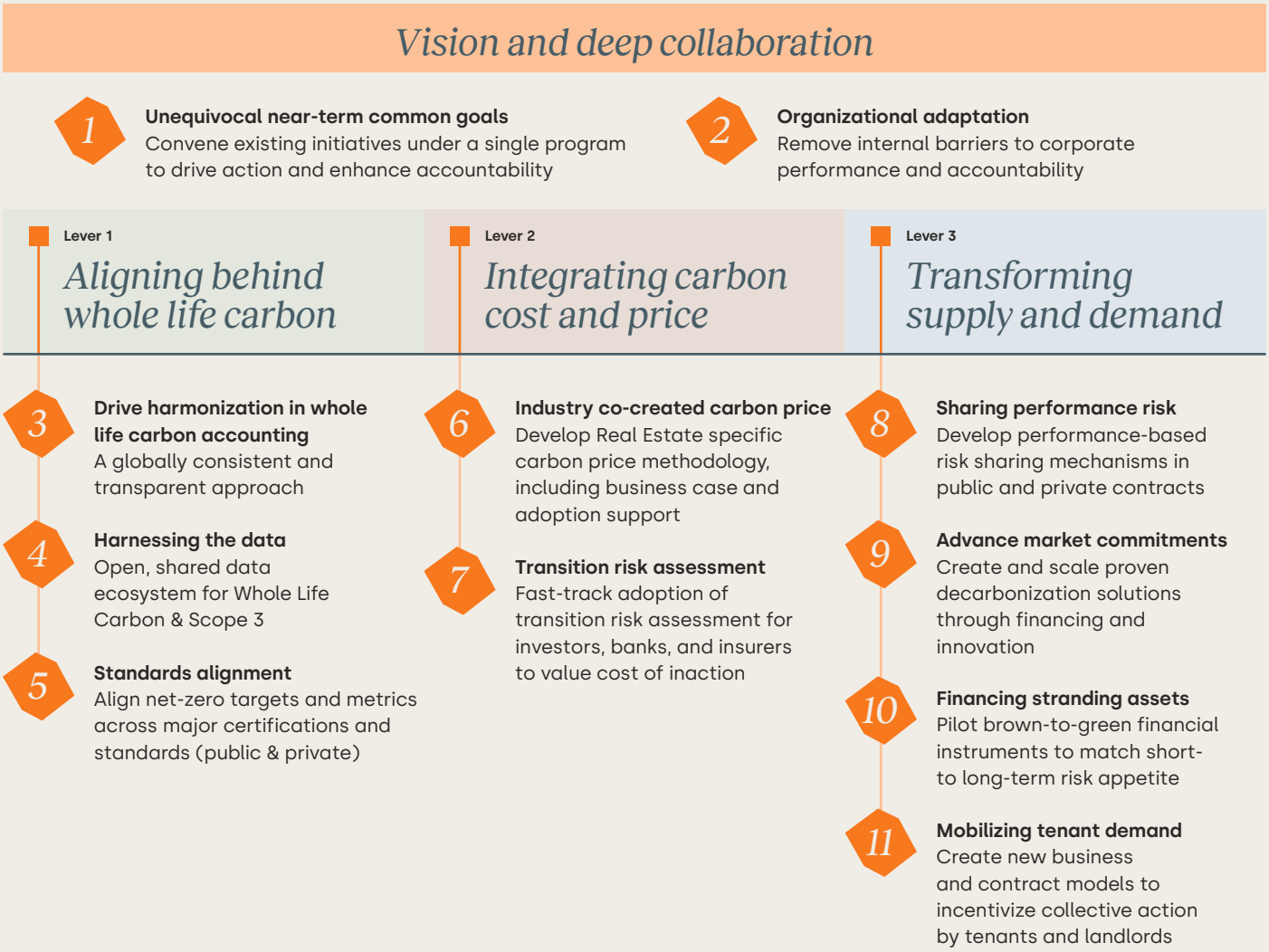
Executive summary

As policymakers prepare to meet at COP30, this report spotlights the industry leaders tackling the most critical barriers to market transformation in the built environment. Their actions show that the transition is not only possible, but scalable - with emerging policy shifts accelerating further industry leadership.

The Market Transformation Action Agenda (MTAA) is a collaborative platform that amplifies, connects, and coordinates industry leaders tackling the most critical barriers to decarbonizing the built environment. Structured around three levers – (1) Aligning behind whole life carbon; (2) Integrating carbon cost and price; and (3) Transforming supply and demand – the MTAA fosters coordinated action across 11 targeted interventions focused on transforming formal construction markets.

Eighteen months after the MTAA's launch at the Buildings and Climate Global Forum (Paris, 2024), this report takes stock of emerging activity across the agenda and explores its alignment with parallel intergovernmental platforms. Through this process, it distils recommendations to guide the agenda, ensuring it has the right foundations to deliver as a global platform for connecting, coordinating, and amplifying industry leadership.

Figure 1: Market Transformation Action Agenda framework of three levers and 11 intervention points (Further details of each intervention point are available via the WBCSD website and under each section)



Executive summary

The Role of the MTAA
Decarbonizing the built environment accelerates when market leadership and policy action reinforce each other. Visible industry leadership provides policymakers with the confidence that the market is eager and capable to act, signaling both appetite and capacity for change. In turn, clear policy signals and regulatory shifts create the enabling environment that de-risks private investment and raises the bar for ambition – providing a platform for even stronger industry leadership. This dynamic, known as the 'ambition loop', offers a powerful lens for understanding how industry leadership and policy action can compliment and reinforce one another to drive market transformation (see Figure 2).

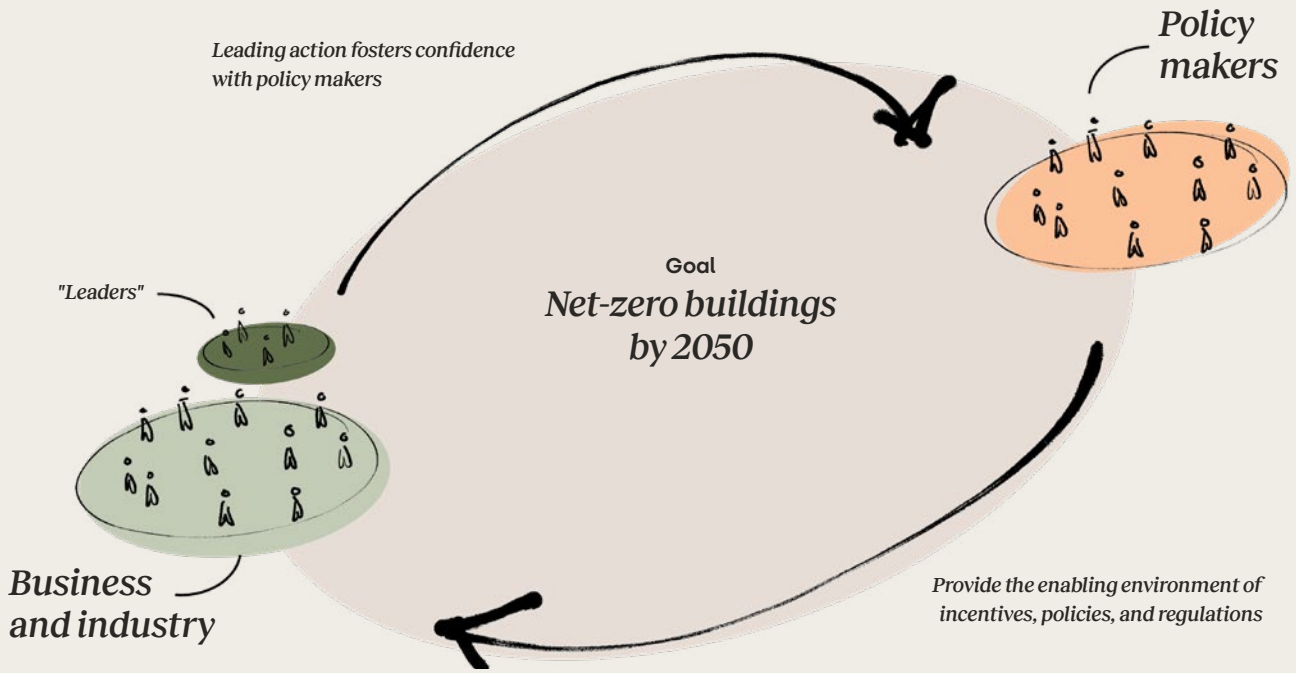
Seen through the lens of the ambition loop, the MTAA is not just a collection of initiatives, but a platform for surfacing and amplifying industry leadership. By bringing visibility to real-world progress, the MTAA ensures that evidence of market readiness and innovation is seen and understood by policymakers. In doing so, it helps inform and inspire policy action, strengthening the feedback cycle that accelerates transformation.

What this report offers
For industry actors, the report brings visibility to where coordinated efforts are addressing key barriers to the net-zero transition. It demonstrates where corporate action is inspiring further leadership and provides the confidence to support local, national, and global policy shifts.

For policymakers, it offers a structured view of progress across the MTAA's levers, providing an evidence base to support ambitious regulatory development and highlighting areas where industry momentum is enabling policy acceleration.

The COP30 moment
As the COP30 Presidency looks to catalyze a shift toward real-world implementation, this report shows how industry leadership – strengthened by emerging policy – unlocks scalable solutions. By spotlighting where alignment is forming and where collaboration can accelerate impact, it invites all stakeholders to build on today's momentum and shape a built environment ready for a net-zero future.

Figure 2: The Ambition Loop



Executive summary

A stocktake on progress
Section 1 presents the stocktake of leadership activity emerging under each of the MTAA's three levers. This stocktake is not exhaustive. Instead, it offers a snapshot of progress, drawing from a series of stakeholder interviews, an online peer review, and consultations held during London Climate Action Week.

While the sector is not yet on track to achieve net-zero by 2050, the stocktake reveals that progress is being made on the interventions, though activity is uneven, advancing faster on some than others, and concentrated largely in developed markets.

An appraisal of each intervention is provided in the body of the report.

Lever 1

Align behind whole-life carbon

Shows the emergence of standardized methodologies – such as China's GB/T51366-2019 Standard and the emerging ASHRAE/ICC Standard 240P in the U.S. – paving the way for local and national WLC policies. While this marks clear progress, differing national approaches inevitably bring fragmentation which complicates comparability. Regional harmonization is beginning to take shape, while new global platforms offer the opportunity to expand efforts. In developed markets, data access has been a foundation for national databases and benchmarking efforts – further bolstered by recent policy shifts. As datasets emerge, international interoperability remains a challenge. In contrast, developing countries face critical data gaps, highlighting the need for regionally relevant datasets and capacity-building.

Lever 2

Integrate carbon cost and price

Shows early evidence that leading real estate organizations are applying internal carbon pricing and assessing transition risks to inform investment decisions. Initial steps are also being taken to develop guidance and frameworks that support wider industry adoption. At the policy level, carbon pricing is increasingly being externalized through the expansion of Emissions Trading Schemes. While most schemes typically target heavy industry (including the manufacture of construction materials), some policies are expanding to address buildings emissions directly.

Lever 3

Transform supply and demand

Shows advancing activity yet remains fragmented. Procurement policies and corporate commitments are strengthening demand signals – underpinned by standard definitions and classifications. Meanwhile, green-leasing approaches and tenant campaigns are beginning to link building decisions more closely to corporate climate targets. Sustainable finance taxonomies are directing capital toward efficient buildings, with efforts emerging to support cross-border interoperability.

Executive summary

Alignment with the Buildings Breakthrough
The Buildings Breakthrough (BBT), launched at COP28 saw 29 countries align to "make near-zero emissions and resilient buildings the new normal by 2030". The initiative operates in parallel with the MTAA, fostering cooperation between governments around five Priority Actions.

Section 2 presents a comparative analysis of MTAA and BBT. In doing so, it spotlights opportunities to further strengthen public-private collaboration at the international level – from aligning definitions and WLC frameworks, to mobilizing demand, and building the capacity and skills to deliver.

The future of the MTAA
As the MTAA progresses, taking stock of progress is an opportunity to amplify activity, identify gaps, and reflect on focus – therefore, it is recommended that progress should be monitored on a regular two-year basis.

To ensure the MTAA remains responsive to evolving industry needs, the levers and interventions will need to be reviewed periodically to ensure that they continue to represent the global priorities for built-environment decarbonization. It is recommended that a review of this nature should be undertaken in 2026, ahead of the next Buildings and Climate Global Forum, anticipated in 2027.

The development of the agenda should be undertaken by, and in consultation with, a broad coalition of industry bodies working alongside WBCSD. In particular, the opportunity should be taken to expand the reach and representation in developing countries.

Accelerating market transformation
To guide the future development of the MTAA, this report identifies key time-bound recommendations as set out in Figure 3 below. In addition, the stocktake raised the following technical gaps the MTAA should seek to address: data access, taxonomy alignment, affordable finance, and industry skills and capacity building needs.

Figure 3: Time-bound recommendations for the future development of the MTAA

Within 6 months

- Improve visibility of MTAA stocktake activity by hosting an online catalog to enhance transparency.
- Strengthen industry awareness through a concise corporate orientation pack and voluntary alignment markers for supportive initiatives.
- Update the MTAA website with clearer entry points, signposted materials, and visible workplans to guide stakeholder engagement.

Within 12 months

- Broaden geographic representation with an emerging market engagement plan.
- Prioritize delivery on key interventions, especially Intervention 9 (advancing market commitments), informed by targeted consultation.
- Deepen tactical collaboration with BBT to build on areas of alignment, avoid duplication, and support member countries with tools and data.

Within 2 years (by next stocktake)

- Establish a progress-monitoring framework using qualitative and quantitative tools to track momentum and identify gaps.

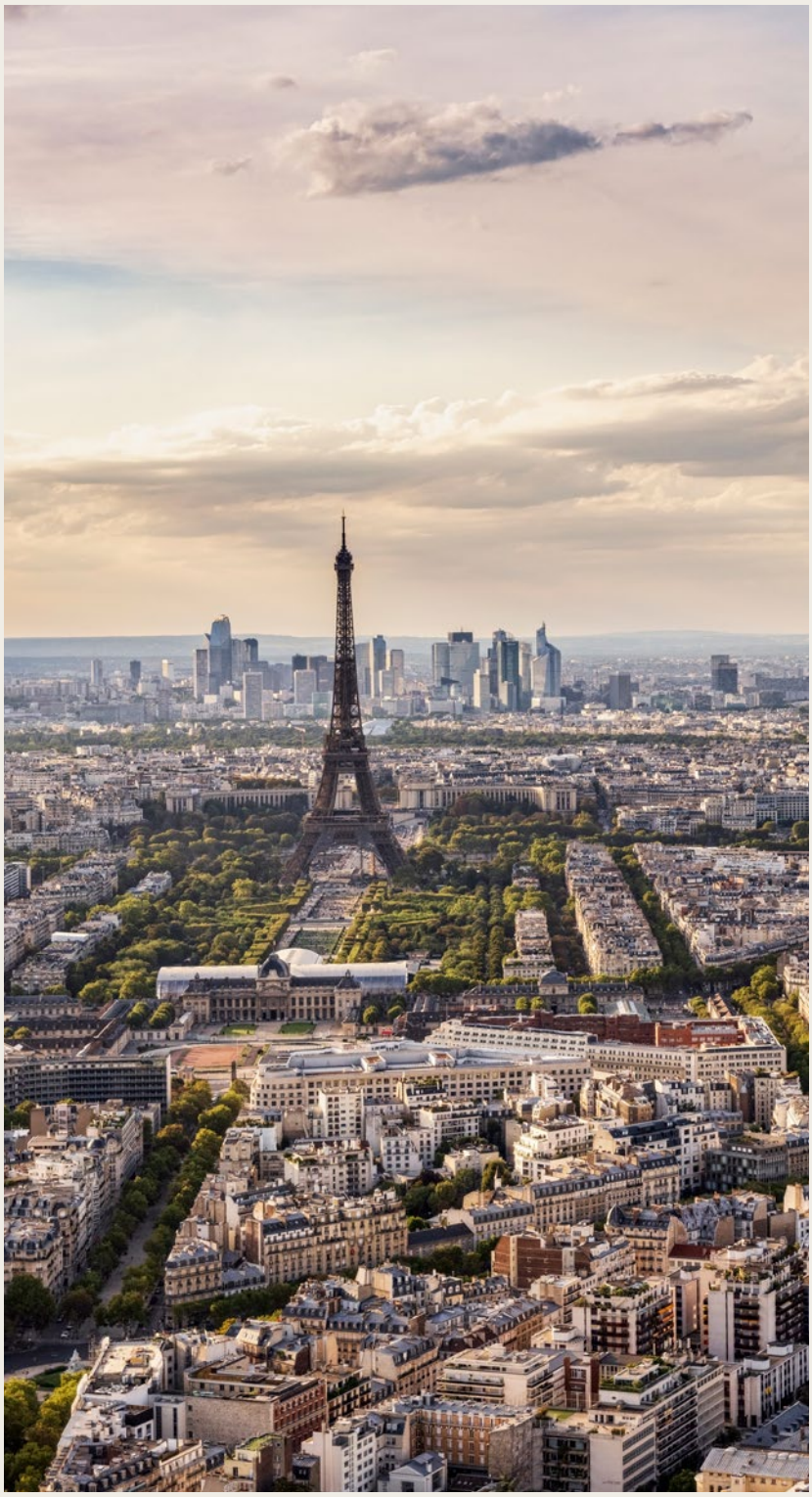
Introduction

Oriented toward the goal of halving emissions from the built environment by 2030 and achieving net-zero by 2050, the Market Transformation Action Agenda (MTAA) brings together built-environment stakeholders from all throughout the value chain to tackle some of the sector's most critical barriers to net-zero transition.

The MTAA amplifies the visibility of international leadership activities, fostering coordination and alignment on key intervention points to accelerate transformation across regions. The agenda is structured around three levers and eleven intervention points (Figure 1). The details of each intervention point are available via the **WBCSD website**. The framework has been shaped through value chain consultation on key barriers faced. While global in scope, the MTAA's levers and interventions primarily address transformation barriers in formal construction markets – projects delivered through regulated channels that adhere to building codes and standards.

The MTAA fosters a feedback loop within business and industry by surfacing shared barriers and amplifying emerging solutions. This dynamic strengthens confidence, coordination, and ambition among market actors, reinforcing the broader ambition loop between industry and policymakers explored overleaf.

This report takes stock of the progress emerging under the MTAA's three levers (Section 1), explores its alignment with parallel international efforts (Section 2), and distills recommendations to guide its continued development (Section 3). In doing so, it seeks to ensure the agenda fulfills its potential as a catalyst for industry leadership and a platform that accelerates global built-environment decarbonization.



Accelerating international political momentum
International political momentum on decarbonizing buildings is accelerating. In recent years, the 'built environment' was on the official COP Presidency agenda at COP26 and COP28. This elevation saw 29 countries support the launch of the Buildings Breakthrough initiative in 2023. In 2024, over 60 countries backed a new ministerial declaration (Declaration de Chaillot) at the first Buildings and Climate Global Forum in Paris. This declaration established a new Intergovernmental Council for Buildings and Climate, which now guides 48 countries. This evolving international architecture is enabling faster national implementation as countries prepare their updated climate plans ahead of COP30.

While the MTAA and the Buildings Breakthrough engage different primary audiences – business and industry on the one hand, national governments on the other – there are clear areas of overlap. In Section 2, this report begins to uncover those points of alignment, with the aim of fostering stronger collaboration and accelerating collective action.

Driving the ambition loop
Our built environment does not emerge from a single decision or actor. Instead, it is shaped by a web of relationships – policymakers, investors, designers, suppliers, tenants, and many others – each influencing and being influenced by the others in a complex, evolving system. Within this complexity, certain reinforcing patterns can accelerate progress. The 'ambition loop', illustrated in Figure 4, represents one of the most powerful reinforcing patterns.

The ambition loop refers to a reinforcing feedback cycle between industry and policymakers:

- → **Visible industry leadership** provides tangible evidence that new approaches are possible, profitable, and scalable. This gives policymakers the confidence that the market can respond to higher standards and more ambitious regulation.
- → **Policy signals and shifts** include incentives, regulations, and public procurement to create the enabling environment that de-risks private investment and levels the playing field, with engaging the broader market to scale up solutions that would otherwise remain niche.

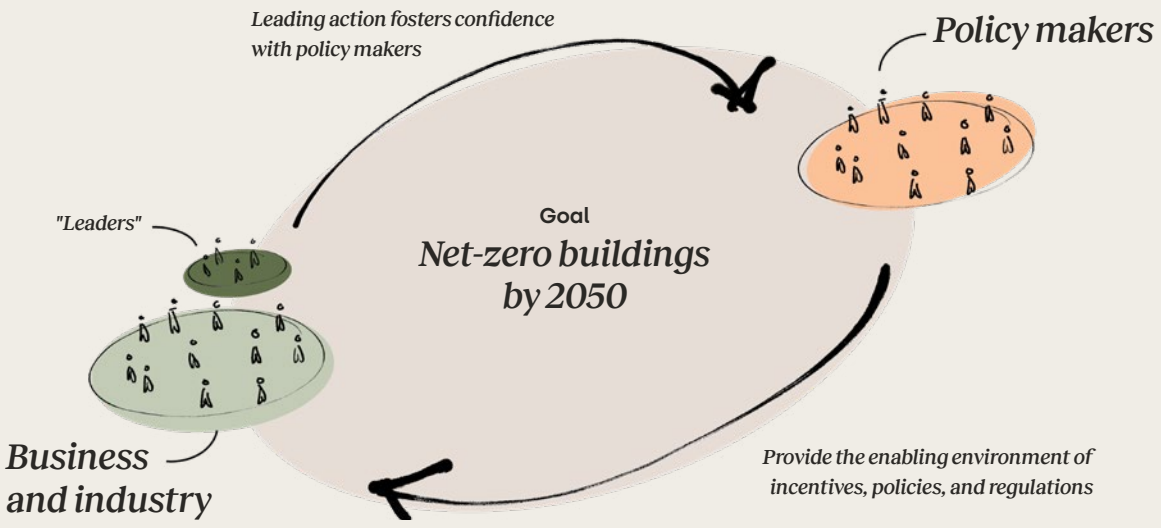
As each side moves, the other is emboldened; action on one side reinforces further action on the other.

While buildings are shaped across multiple scales – from global supply chains to local planning policies – these reinforcing ambition loops between industry and policy are most visible and actionable at national and local levels, where regulation and policy most directly influence outcomes.

The ambition loop offers a lens to help the reader see how individual acts of leadership contribute to wider systemic change. Section 2 expands on this, exploring how global platforms – such as the MTAA and Buildings Breakthrough – act as complementary forces, working together to strengthen global ambition and accelerate action.

Where do we see this in practice?
The stocktake highlights that ambition loops are strongest where early policy signals exist and business leadership is visible – with momentum most pronounced today in developed markets. COP30 offers a timely inflection point to turn emerging ambition loops into coordinated action at scale.

Figure 4: The Ambition Loop



A stocktake *on progress*

01.

01. A stocktake on progress
Stocktake overview

The stocktake, presented herein, has been undertaken to provide greater transparency into the activity underway across the three levers of the MTAA, namely interventions 3 to 11 (Figure 1). Its primary purpose is to elevate and amplify the breadth of work already in motion, bringing it to the attention of a wider audience. In doing so, it aims to foster further collaboration and alignment around these intervention points.

The stocktake is not intended to be exhaustive, nor does it attempt to capture the full spectrum of initiatives. Rather, it offers a snapshot of progress, drawing principally from stakeholder interviews, a peer-review process, and a workshop held during London Climate Action Week. As a result of these sources, the examples and initiatives are more concentrated in Europe and North America. The importance of expanding the global reach is acknowledged and informs the recommendations in Section 3, which specifically encourage stronger engagement in developing countries.

Overall, the stocktake shows emerging progress across the MTAA's levers, though activity is uneven, advancing faster on some interventions than others. Encouragingly, in several areas, "ambition loops" are beginning to emerge – predominantly in developed countries – where early industry action has enabled local and national policy shifts. Moreover, these policy shifts are providing the enabling conditions that give industry leaders the confidence to raise ambition, invest in solutions, and tackle critical barriers – underscoring the pivotal role of policymakers in accelerating transformation.

While progress is encouraging, it must be considered in the wider context that the pace of decarbonization remains far behind what is needed for a 1.5°C pathway, as highlighted in the 2025 Global Status Report for Buildings and Construction. Furthermore, while several initiatives align with MTAA interventions, few explicitly reference the framework. Enhancing industry awareness of the MTAA would underscore its strategic role in corporate decarbonization, and clarify how these actions support broader policy objectives.

Lever 1 (Align behind whole life carbon)
Overall, adoption of whole life carbon accounting continues to develop rapidly in leading economies and for major projects.

3 On Intervention 3: Harmonization of whole life carbon accounting, methodologies for WLC assessment continue to emerge at national and sub-national levels. While this marks progress, differing national approaches inevitably bring fragmentation, with regional harmonization efforts like the Nordic Sustainable Construction platform and North America's ECHO project seeking to respond. These methodologies are laying the groundwork for accelerated uptake and enabling policy shifts – with city-level policy often paving the way for national regulation as seen in Denmark, the Netherlands, and France. However, progress is concentrated in developed countries and on major developments, where foundational data is available and policy shifts reinforce adoption. At the global level, new intergovernmental platforms offer foundations for broader convergence around WLC.

4 Intervention 4: Harnessing the data is advancing fastest in developed markets, where underlying data access enables benchmarking initiatives and the emergence of national databases, such as J-CAT and INIES, further reinforced by policy shifts and BIM integration that drive greater data accessibility. Cross-border interoperability remains a challenge, although leading corporates are starting to implement common approaches across international portfolios. Uptake remains a challenge in developing countries, underscoring the need to nurture regionally relevant incentives and affordable tools as a foundation for improving local data and capacity-building in those markets.

5 On Intervention 5: Aligning standards, voluntary building certifications are expanding globally. This year, Kenya has certified over 1 million sqm EDGE-certified. A recent report has shown there exists an opportunity to further align such certification with 1.5°C pathways – and some standard providers are taking steps to address this. At the investment level, initiatives such as ARESI in Europe, the Asia-Pacific 'Unlocking Capital' report, and the global Multi-Jurisdiction Common Ground Taxonomy (M-CGT) are driving consistency across sustainable finance frameworks, supporting transparency and cross-border capital flows.

01. A stocktake on progress
Stocktake overview

Lever 2 (integrate carbon cost and price)

6 On Intervention 6: Internal carbon pricing, adoption remains limited, but new guidance from UKGBC and ULI is supporting uptake – and leading firms are applying shadow prices or internal carbon taxes.

National emissions trading schemes are externalizing carbon costs for businesses – with further schemes being piloted in Vietnam, Mexico, and Turkey. Such schemes typically focus on heavy industry sectors, but expansions are underway to target direct buildings' emissions.

7 On Intervention 7: Transition risk assessments, transition risk is beginning to inform real estate investment decisions, particularly in Europe, where 93% of survey respondents confirmed this. Tools such as CRREM and ULI's Preserve tool are helping catalyze adoption. Efforts are needed to explore how these tools can support adoption in other geographies.

Globally, efforts are supported by disclosure standards (TCFD, IFRS) that are helping to bring greater transparency and consistency to corporate risk.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Lever 3 (transform supply and demand)

8 Activity on Intervention 8: Sharing performance risk remains limited, with only a few initiatives providing contract wording for green leasing and climate clauses. Alignment of underpinning standards (Intervention 5) is a key enabler for action. Recognizing operational performance risk depends on measuring in-use building performance, for which uptake is still nascent and largely confined to developed countries.

Policy intervention setting minimum green provisions within leases has the potential to act as a tipping point in terms of operational performance, but this will require further market take-up to provide a sufficient evidence base.

9 Intervention 9: Advance market commitments is advancing low-carbon procurement. Aggregation campaigns like WorldGBC Net-zero Carbon Buildings Commitment, First Movers Coalition, ConcreteZero, and SteelZero amplify demand signals. Public procurement momentum grows via Buy Clean policies, particularly in the U.S. The availability of universal classification schemes is enabling targeted demand signals.

10 On Intervention 10: Financing stranded assets, the adoption of CRREM has moved the understanding of stranded assets forward significantly. However, the business case for financing stranded assets remains very sensitive to local conditions. As a result, action is strongest where enabling policies exist. National sustainable finance taxonomies are directing capital toward real estate; however, misaligned definitions hinder cross-border investment. Access to affordable finance remains a key barrier in developing countries, and more should be done to ensure the MTAA reflects this priority.

11 Intervention 11: Mobilizing tenant demand shows corporate leadership is raising demand for low-carbon buildings, with the emergence of 'green premiums' and 'brown discounts' as markets respond to the value and risks of spaces. Policies like the UAE's Climate Change Law are normalizing corporate emissions disclosure, bringing further awareness of emissions from the spaces a company occupies.

The following section builds on this overview, examining each intervention in detail and spotlighting examples of progress as well as gaps. Case studies are included to illustrate how these dynamics are playing out in practice.

01. A stocktake on progress
Stocktake overview

Reading the heat maps

The stocktake, presented overleaf, takes each intervention in turn, presenting a visual "heat map" designed to illustrate the breadth and nature of activity underway. Each heat map – see example in Figure 5 – is designed to be illustrative rather than prescriptive, providing a high-level view of where and how activity is emerging across the system.

Y-axis: Geographical scale

This axis captures the primary operating scale of each initiative, ranging from local (e.g., at the city or state level), through national and regional (e.g., continental), to global.

X-axis: Contribution classification

Initiatives are categorized according to the mode through which they contribute to the intervention. These categories are:

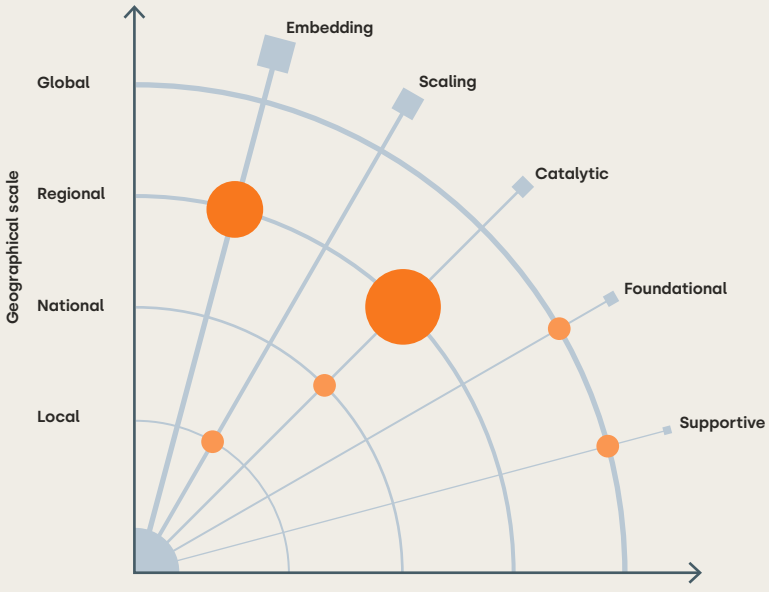
- Supportive: Initiatives that enable progress indirectly, such as through convening stakeholders, conducting research, or offering technical assistance.
- Foundational: Activities that lay essential groundwork – for example, developing tools, standards, pilots, or knowledge bases.
- Catalytic: Efforts that spark early momentum, such as first-mover projects, advocacy campaigns, or demonstrations.
- Scaling: Mechanisms that enable broader adoption, including platforms, policy changes, or scalable models.
- Embedding: Initiatives that integrate the intervention into mainstream practice, industry norms, or regulatory frameworks.

Data points: Circle size

Each circle on the chart represents a cluster of initiatives. The size of the circle is a relative indicator of how many initiatives are operating in that space.

These heat maps are complemented by short descriptive summaries and selected spotlight examples of initiatives (shown in orange on the heat map), offering both breadth and depth across each intervention point. For those seeking further detail, Annex 1 provides a full record of the dataset developed through this process.

Figure 5: Example heat map



Subnational and national methodologies for whole life carbon assessment are emerging, often aligned to the life-cycle framework in EN 15978 (Modules A-D) – though adapted to local practices. Such methodologies include China's GB/T51366-2019 Standard, Canada's National Guidelines, the RICS Guide in the UK, and upcoming ASHRAE/ICC Standard 240P. While this reflects progress, it also introduces inevitable fragmentation, with differing national practices complicating comparability. Regional harmonization efforts are responding, such as the ECHO project in North America and the Nordic Sustainable Construction platform. Furthermore, emerging efforts by RICS and others are looking to nurture wider global alignment. The IEA's EBC Annex 72, completed in 2023, offers a foundational cross-country comparison and practical recommendations that can guide convergence.

These methodologies are enabling policy shifts. City-level policies – such as those in Toronto and London – are emerging as early drivers, paving the way for national regulation, as already seen in Denmark, the Netherlands, Sweden, and France. Regionally, Europe's Energy Performance of Buildings Directive is preparing a Union-wide framework for calculating and reporting buildings' life-cycle emissions, due by year end, ahead of mandatory disclosure requirements from 2028.

Progress to date is concentrated in developed countries, where datasets (particularly EPDs) are increasingly available and growing. In contrast, the absence of such foundational data hampers the ability of developing countries to advance (see Intervention 4).

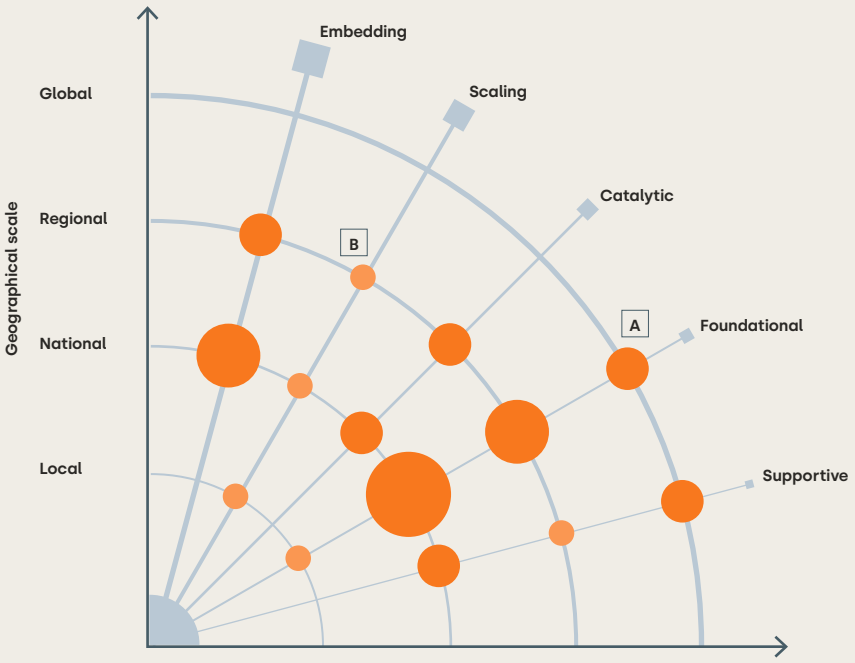
At a global level, intergovernmental cooperation is helping build alignment among countries. Platforms such as the Buildings Breakthrough, the Déclaration de Chaillot, and the Intergovernmental Council on Buildings and Climate are laying the groundwork for international harmonization. Such efforts aim to foster cross-border comparability and knowledge sharing, while maintaining flexibility to reflect national capabilities and practices.

Spotlight

A. Buildings Breakthrough Priority Action B1: WorldGBC is leading an international working group to develop qualitative definitions and principles for near-zero emissions and resilient buildings, aiming for national government endorsement. This workstream will progress toward identifying metrics and indicators to support these definitions, helping lay the groundwork for harmonizing WLC methodologies.

B. ECHO Project: A North American industry coalition focused on harmonizing WLC reporting. Since 2023, it has released the Minimum Project Embodied Carbon Reporting Framework and a standardized data schema to unify definitions, scopes, and terminology, enabling consistent LCA data capture.

Figure 6: Intervention 3: Drive harmonization in whole life carbon accounting
A globally consistent and transparent approach



01. A stocktake on progress
Lever 1, Intervention 4: Harnessing the data

Intervention 4 is among the most active areas identified in the stocktake. In developed countries, where underlying data exist, foundational benchmarking efforts – such as CO_2MPARE, CLF's Benchmark Report, and the iNDICATE project – are helping provide regional insights. National databases are emerging, including J-CAT in Japan and INIES in France. Efforts are reinforced by policy shifts which scale data availability; this includes the EU's Construction Products Regulation.

However, as datasets proliferate, interoperability between underlying data formats remains a challenge; GBDI's Open Building Data Format (openBDF) offers a data structure to address this. Meanwhile, BIM integration efforts are emerging, with a new partnership of industry corporates and Nordic BIM4LCA working to embed carbon analysis into design modeling practices, in turn helping scale data availability.

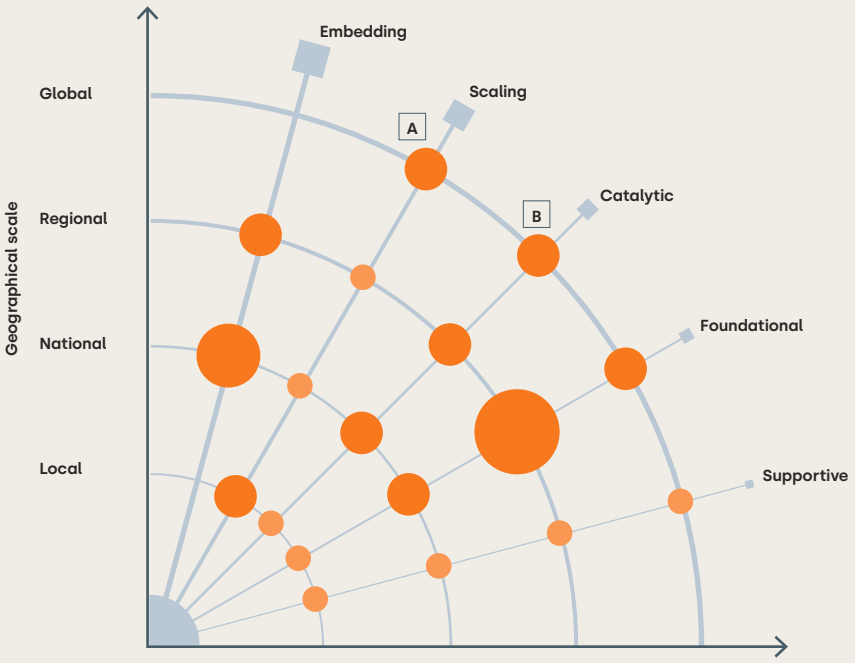
By contrast, in developing countries, the lack of clear incentives continues to constrain progress. To address this, efforts should focus on nurturing regionally relevant tools with low barriers to entry, which will support development of more localized datasets and benchmarks that reflect local material flows and construction practices.

Spotlight

A. Open Building Data Platform:
Launched in 2025 by GBDI, this platform provides an open, scalable system for whole-life-cycle (WLC) building data. It uses the open BDF format for global data sharing, enables benchmarking, prospective LCA analysis, custom analytics, and API integrations.

B. Arup-Autodesk Partnership:
Announced in 2025, this collaboration between Arup and Autodesk is developing BIM-integrated tools for whole life carbon assessment, supported by industry-standard guidelines co-authored with WBCSD.

Figure 7: Intervention 4: Harnessing the data
An open, shared data ecosystem for whole life carbon and Scope 3



01. A stocktake on progress
Lever 1, Intervention 5: Standards alignment

Voluntary building certifications are growing in developing countries. In Africa, Kenya surpassed one million sqm of EDGE-certified floor area in 2025, Nigeria has adapted DGNB with LCA integration, and Green Star Africa continues to see uptake in South Africa.

In developed markets, the 2024 Seeing is Believing report provides a snapshot of the current landscape of net-zero alignment across such certifications – underscoring the current lack of 1.5°C alignment amongst major international certifications, and the importance of achieving enhanced transparency in in-use energy performance. Voluntary certifications are responding – for example, LEED V5, released in 2025, now directs around half of its scoring to reducing operational and embodied carbon. The UK's Net-zero Carbon Building Standard, piloting in 2025, is an example of 1.5°C alignment carbon limits, and the growing adoption of NABERS demonstrates certifying actual in-use energy performance.

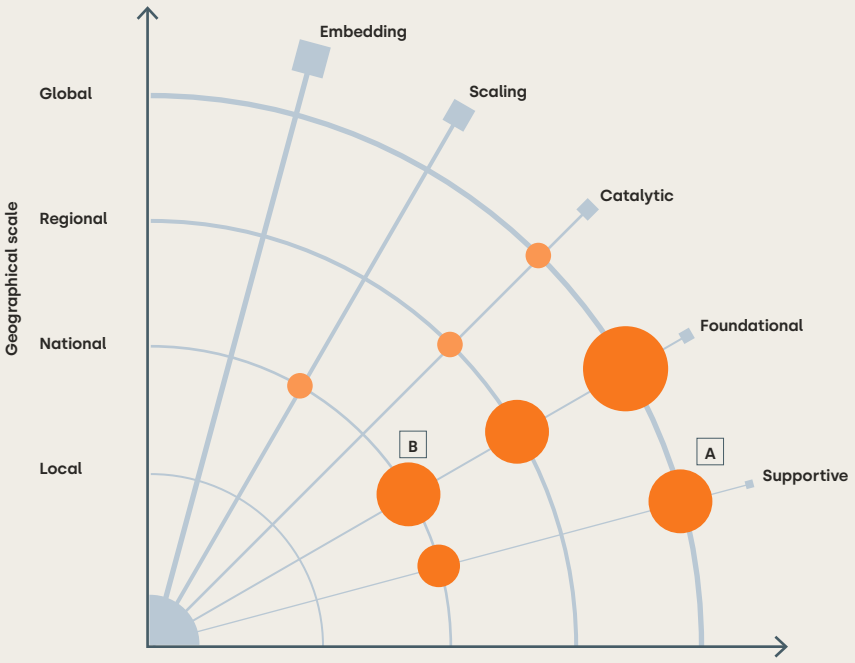
Efforts are underway to align real estate investment indicators, with progress including the recent Unlocking Capital report in the Asia-Pacific, ARESI in Europe (see case study), and the Multi-Jurisdiction Common Ground Taxonomy (M-CGT) globally. The latter is a broader initiative aligning regional sustainable finance taxonomies. Though only partly covering real estate and construction, its global scope is critical for transparency, consistency, and enabling cross-border investment.

Spotlight

A. 'Seeing is Believing' Report (LOTUF): Examines barriers to a low-carbon real estate market, including fragmented standards and limited data. It maps leading certification schemes against net-zero definitions, providing a baseline overview of current alignment and areas requiring greater consistency.

B. UK Net-zero Carbon Building Standard: A national framework that provides a comprehensive definition of net-zero carbon buildings in the UK, addressing both upfront embodied carbon and operational energy. Aligned with the 1.5°C climate target, it sets performance benchmarks using a dual approach: aligning top-down from national carbon budgets and bottom-up from real-world building data.

Figure 8: Intervention 5: Standards alignment
Align net-zero targets and metrics across major certifications and standards (public & private)



An initiative that aims to harmonize embodied carbon assessments at the design stage, by providing BIM-based technical guidance that complements existing standards and addresses inconsistencies identified in a 2024 Proof of Concept.

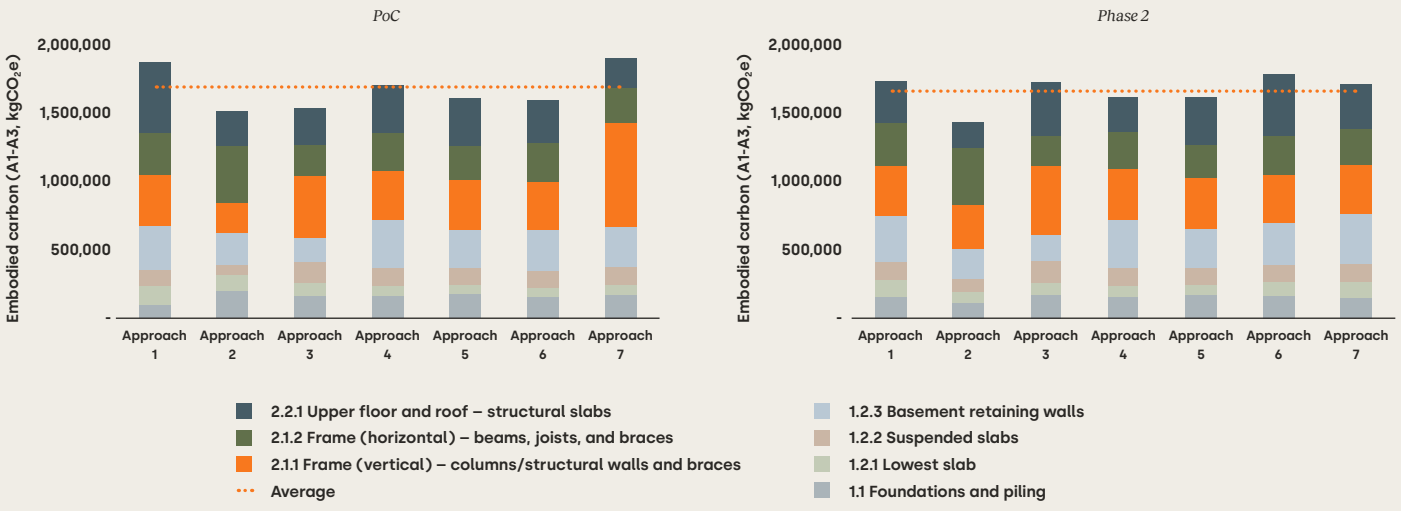
Lever 1 – Intervention 4: Harnessing the data
This initiative, hosted by the World Business Council for Sustainable Development (WBCSD) and co-led by Autodesk with a cohort of global design firms, aims to harmonize embodied carbon assessments at the design stage by providing BIM-based technical guidance that complements existing standards and addresses inconsistencies identified in a 2024 Proof of Concept. In the initial phase, participating firms assessed the same BIM model and found a 34% variation in results – despite using aligned assumptions – highlighting the lack of industry-wide consistency in carbon methodologies.

Phase 2 advances this work by offering technical guidance to improve alignment in carbon assessments during the design stage, specifically focusing on cradle-to-gate life-cycle stages (A1-A3). The report provides practical recommendations for leveraging BIM to streamline material quantity extraction, reduce ambiguity, and enhance transparency. Rather than introducing new standards, the initiative complements existing frameworks such as RICS WLC assessment, EN 15978, and ISO 14044, aiming to harmonize practices across disciplines and geographies.

Applying the Phase 2 guidelines, the cohort demonstrated a reduction in variation from 34% to 19.6% – a 43% improvement – while also revealing that technical guidance alone is insufficient. The report emphasizes the importance of transparency and collaboration across all architecture, engineering, construction, and operations stakeholders to scale decarbonization efforts effectively. It offers a flexible, practitioner-oriented framework that supports designers, owners, and regulators in making informed decisions. By aligning BIM processes with carbon reporting requirements from the outset, the report lays a foundation for more accurate, efficient, and trustworthy assessments, driving progress toward a net-zero built environment.

Co-leads: Autodesk, WBCSD
Working Group: AECOM, Arcadis, Arup, Foster + Partners, Ramboll, SOM

Figure 9: Results from the PoC and Phase 2. With the updated guidelines, the cohort was able to demonstrate a variance of 19.6%, compared to the PoC's 34%. This represents a 43% reduction in variation.



01. A stocktake on progress

Deep dive: GREEN × LOTUF investor leadership for systemic market transformation

A global investor-led platform combining structured shareholder engagement and systemic collaboration to harmonize climate-risk metrics, drive transparency, and accelerate market transformation toward near-zero-emission buildings by 2030.

Lever 1 – Intervention 5: Aligning standards
The Global Real Estate Engagement Network (GREEN) began in 2021 as an asset-owner-led platform to improve climate-risk management at listed and non-listed real estate companies through structured, shareholder engagements. Its 30 members, representing over **€4 trillion AuM**, have aligned on common asks to managers and use a 50-indicator dashboard to benchmark progress on governance, targets, implementation, and disclosure. Together, they have engaged the global top 50 listed real estate companies and around 25 major non-listed funds on climate risk performance and transition planning.

Leaders of the Urban Future (LOTUF) developed the **North Star Principles** in 2024, placing carbon and energy performance transparency at the center of market transformation to enable comparability, valuation, and policy alignment. In September 2024, GREEN and LOTUF merged, creating a global platform that combines investor engagement with systemic collaboration to cut through today's "ESG data spaghetti."

Achievements and milestones to date:

- → Engaged companies demonstrate higher rates of implementation and physical-risk disclosure than peers (more info).
- → Senior backing from investors managing over €4trillion AuM (more info) has reinforced alignment on transparency and harmonization of financially material climate-risk metrics.

Next steps:

- → Through industry consultation in 2025/2026, publish a concise set of climate-risk management metrics used in financial decision-making as a step toward more harmonization in data disclosure.

MTAA alignment:

- → This work directly advances the Market Transformation Action Agenda by harmonizing performance metrics, aligning investor demand signals, and accelerating the Buildings Breakthrough ambition of near-zero emissions and resilient buildings by 2030.

Vincent van Bijleveld, Managing Director, GREEN

01. A stocktake on progress
Deep dive: Aligning Real Estate Sustainability Indicators (ARESI)

The ARESI initiative, led by IIGCC and partners, aims to harmonize real estate sustainability indicators across key European frameworks to reduce reporting burdens, unlock private capital, and accelerate sector-wide decarbonization.

Lever 1 – Intervention 5: Aligning standards
The ARESI initiative, outlined in the white paper published by IIGCC and its partners, aims to clarify and harmonize real estate sustainability indicators across key European frameworks – in the first instance focusing on the EU taxonomy, EU SFDR, and the Energy Performance of Buildings Directive.

Its overarching goal is to unlock private capital, bridging the finance gap of $6trillion needed by 2030 against $1trillion available, and accelerate decarbonization of the real estate sector by reducing ambiguity and easing reporting burdens.

ARESI is structured as an industry-led working group, drawing on expertise from a range of industry associations, financial institutions, consultants, and others in the real estate industry. It does not introduce new standards; instead, it provides a neutral forum to align definitions, methodologies, and assumptions – ensuring consistency in calculation and disclosure. The initial white paper outlines ten key regulated climate transition KPIs in Europe, defining how to calculate and prioritize data in a harmonized hierarchy.

Achievements and milestones to date:
- → Publication of the phase 1 white paper in March 2025, with comprehensive definitions for critical climate transition KPIs.
- → Industry engagement with disclosure frameworks (GRESB, INREV SDDS, etc.) and financial institutions on adoption of methodology.

Next steps:
- → Continue gathering industry feedback, refining definitions, and encouraging adoption to further reduce reporting burden and support decarbonization.
- → Phase 2 – Address ambiguity and issues of interoperability between product labeling regimes (SFDR in Europe and SDR in the UK).
- → Phase 3 – Consider ambiguity and inconsistencies in KPIs in other areas, e.g., physical risk, nature and biodiversity, and social factors.

Hugh Garnett, Senior Specialist Real Assets, Institutional Investors Group on Climate Change (IIGCC)

IIGCC

01. A stocktake on progress
Lever 2, Intervention 6: Industry co-created carbon price

Carbon pricing can be adopted internally at a business level as a means of embedding considerations of carbon impact into corporate decision-making. While emerging activity under Intervention 6 remains relatively limited, it reflects early signs of a shift toward a more risk-based approach to decarbonization.

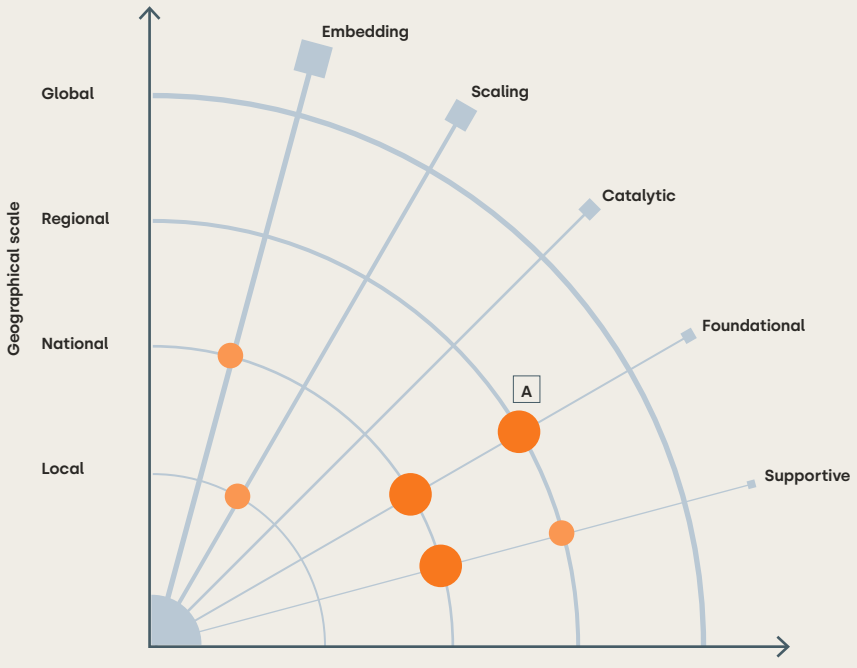
A survey from ULI reports that between 2023 and 2024, the number of European organizations reporting voluntary internal carbon pricing rose by 21%, with most applying a shadow price – highlighting that adoption in the region is growing but remains at an early stage. Real estate examples include Great Portland Estates (GPE) in the UK, which raised its internal carbon price from £95 to £150/tCO_2 in 2024, and Urban Partners, which has introduced an internal carbon tax of €90/tCO_2 across new projects. In India, Brookfield India REIT is piloting an internal pricing study for its assets. However, weak policy support in many developing countries limits broader uptake. Foundational guidance is emerging to help businesses set internal carbon prices. This includes UKGBC's 2024 update to its Carbon Pricing Guidance and ULI's Universal Principles for Carbon Pricing in the Real Estate Sector.

In parallel, policy measures are externalizing costs. China's national Emissions Trading Scheme (ETS) expanded in 2025 to include cement, steel, and aluminum, meanwhile Vietnam, Mexico, and Turkey pilot ETS covering steel and cement. While such schemes more directly impact heavy industry, some policies are expanding to cover direct building emissions. New York City's Local Law 97 applies emissions caps, with penalties of USD 268/tCO_2 and the forthcoming EU ETS2 will extend coverage to heating fuels from 2027.

Spotlight

A. Universal Principles for Carbon Pricing in the Real Estate Sector:
Drawing on industry practitioners already implementing carbon prices, this 2024 report provides practical frameworks and seven principles to support practitioners in implementing carbon pricing.

Figure 10: Intervention 6: Industry co-created carbon price
Develop real estate specific carbon price methodology, including business case and adoption support



01. A stocktake on progress
Lever 2, Intervention 7: Transition risk assessment

Transition risk refers to potential financial or operational impacts from shifts toward a low-carbon economy, including regulation, technology, and market changes. Assessments of such risks are beginning to inform real estate investment decisions, particularly in Europe. A 2024 survey by ULI of European firms reported that 93% of firms now factor such risks into decision-making. New tools are helping remove barriers and bring consistency to analysis. CRREM's integration into GRESB enables asset-level benchmarking against science-based pathways, while ULI's Preserve tool embeds transition factors into discounted cash flow models (see case study). Efforts are needed to explore how these tools can support adoption in other geographies.

Normalizing climate risk disclosure remains essential. The Task Force on Climate-related Financial Disclosures and 2023 IFRS Standards are helping standardize corporate disclosure, supporting investors in assessing risks and aligning with net-zero goals. Property valuation standards are evolving to embed environmental criteria into asset pricing, with the 2025 IVS introducing additional ESG guidance and the RICS Global Red Book mandating implementation of ESG principles. Aligning asset- and corporate-level disclosures will further strengthen this link, directing investment toward ambitious companies and improving corporate decision-making on the net-zero alignment of their assets.

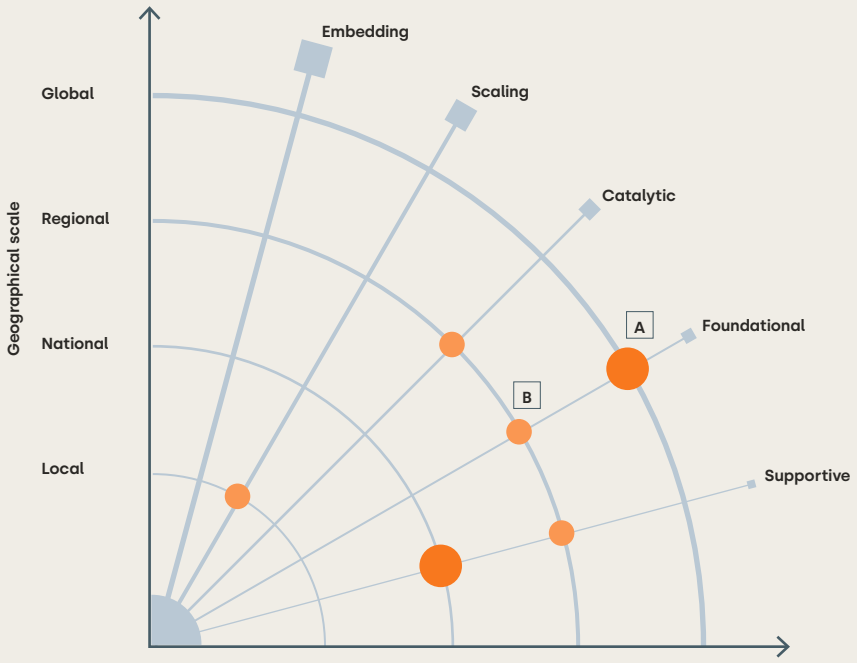
Interviewees emphasized the close link between transition and physical climate risks. While this intervention focuses on transition risk, it mirrors progress in physical risk assessment and complements it, enabling a more holistic approach. Efforts on piloting assessments and aligning methodologies are critical for both. As the initiative matures, it should explore integrating both dimensions to ensure comprehensive climate risk evaluation.

Spotlight

A. IFRS S1 and IFRS S2 Sustainability Disclosure Standards by ISSB:
Helps investors understand a company's climate-related and sustainability-related risks and opportunities. While they do not directly finance transitions, the standards support transparency and enable the identification of stranded asset risks.

B. GREEN Dashboard: Translates investor climate expectations into 50 measurable indicators across governance, implementation, disclosure, and certification. It enables milestone-based assessments of listed and non-listed real estate companies, helping investors prepare for engagements, monitor climate risk performance, and benchmark progress across portfolios.

Figure 11: Intervention 7: Transition risk assessment
Fast-track the adoption of transition risk assessment for investors, banks, and insurers to value cost of inaction



01. A stocktake on progress
Deep dive: The Preserve tool

A new tool that helps real estate investment professionals quantify the financial impacts of the net-zero transition, reframing decarbonization from a cost to a long-term value-preserving opportunity.

Lever 2 – Intervention 7: Transition risk assessment
Preserve, developed as a part of ULI Europe's C Change program, is a new tool for assessing the financial impacts of the net-zero transition on real estate investment models. It aims to shift the industry's mindset from seeing decarbonization as an upfront cost to framing net-zero efforts as a commercial opportunity to preserve asset value in the long term.

Preserve is an open-source, Excel-based tool which is compatible with existing discounted cashflow models, and is primarily designed for investment and asset managers. The tool will:

- → Enable property investment professionals to easily understand what the net-zero transition means for their investment models.
- → Provide a consistent, transparent, and standardized methodology for quantifying risks and opportunities associated with decarbonization, including quantifying the cost of inaction.
- → Enhance the comparability of asset-level exposure to transition risk across the industry, making the evaluation of investment opportunities easier.
- → Undertake scenario and sensitivity analysis across different decarbonization strategies to assess and manage "value at risk" over time.
- → Build on existing, widely-adopted decarbonization pathways, as Preserve is interoperable with the CRREM tool.

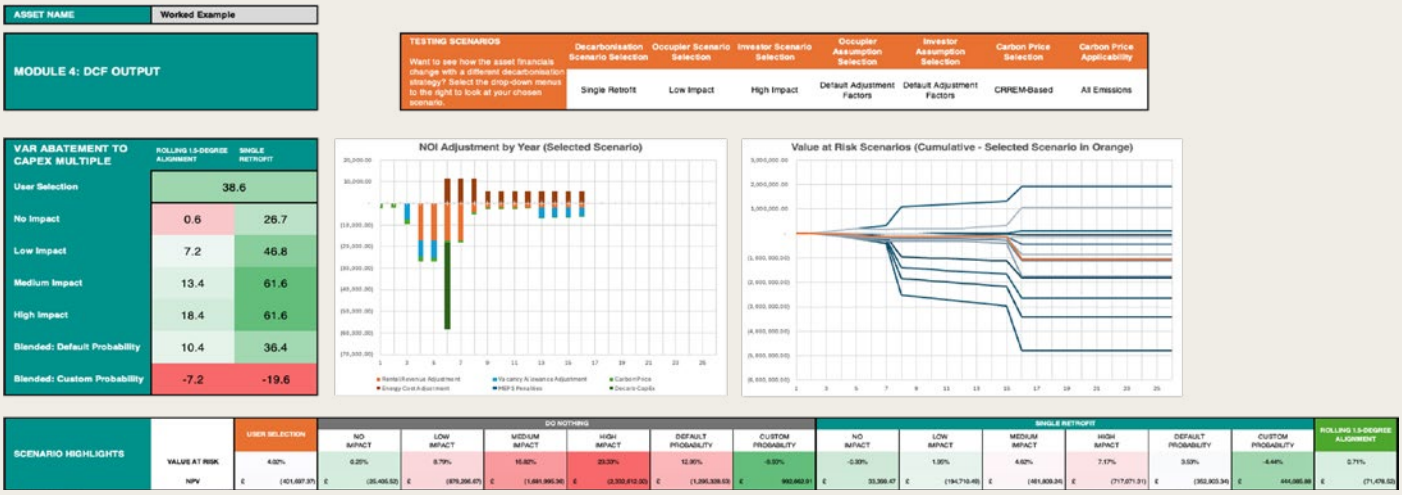
The Preserve tool seeks to apply ULI's Transition Risk Assessment Guidelines in practice and at scale, working in close collaboration with the industry. Following extensive evidence gathering and development, testing of the prototype tool began in June 2025 with six pioneering asset managers. A wider pilot program will see Preserve's assumptions, function, and interface fine-tuned to ensure it is useful, practical and addresses the industry's needs.

The anticipated public launch date for the tool is spring 2026. Preserve's open-access nature, its simplicity, as well as its transparent, standardized methodology aims to encourage a widespread take-up of the tool across the real estate sector, strengthening the business case for decarbonizing assets, considerably scaling up and accelerating the built environment's net-zero efforts.

Read more about Preserve.

Aleksandra Smith-Kozlowska, Director, Research, ULI Europe

Figure 12: Snapshot of the Preserve Tool, courtesy of ULI



Sharing carbon performance risk varies depending on context. In embodied carbon scenarios, it centers on the relationship between developers and their construction supply chains. In operational carbon contexts, the focus shifts to landlords and tenants within commercial buildings.

Intervention 8 has seen relatively limited activity. For performance risk to be recognized, markets must first measure in-use building performance – yet uptake of such certifications remains nascent and largely confined to developed countries, with NABERS a leading example. This makes Intervention 5 a precursor to wider progress here.

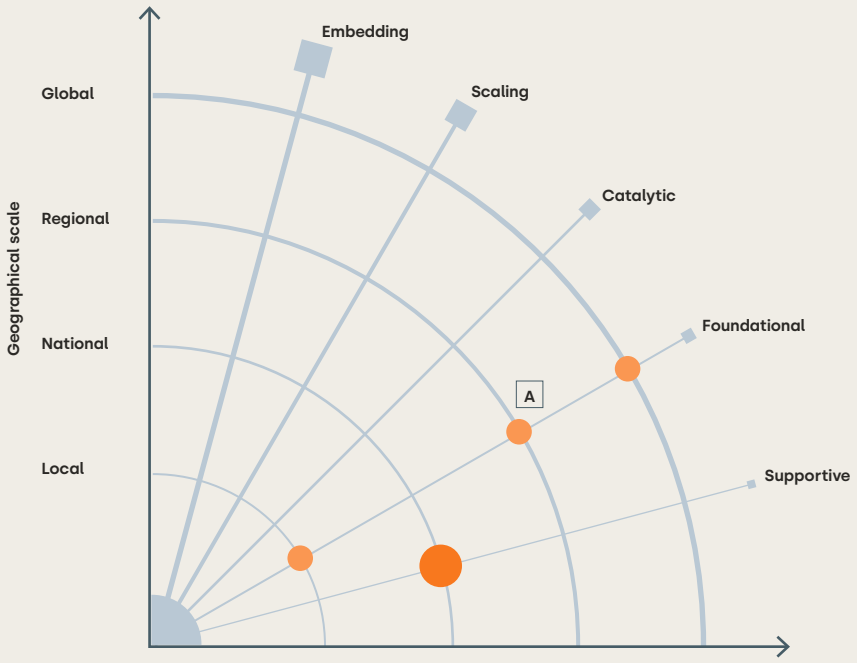
Nonetheless, some progress is evident. The Green Lease Toolkit was relaunched in January 2024, and is seeing growing uptake – Grosvenor, for example, has over 260 occupiers on green leases. In December 2024, The Chancery Lane Project, with UK law firm TLT, upgraded its Built Environment Climate Contracts Tool to help drafters integrate climate clauses. It also continued direct support for ambitious organizations embedding such clauses, including Buro Happold, Field Energy, and HM Government's Cabinet Office.

Policy interventions setting minimum green provisions within leases have the potential to act as a tipping point in terms of operational performance, but this will require further market uptake in order to provide a sufficient evidence base.

Spotlight

A. **The Green Lease Toolkit:** Provides commercial property owners with standard environmental clauses and a template MoU to support collaboration with occupiers on improving building performance through data sharing and sustainability commitments.

Figure 13: Intervention 8: Sharing performance risk
Develop performance-based risk sharing mechanisms in public and private contracts



01. A stocktake on progress
Lever 3, Intervention 9: Advance market commitments

Advance market commitments aim to stimulate supply-side investment and innovation by providing confidence in future demand, for both net-zero aligned buildings and the materials and technologies required to deliver them. Intervention 9 is seeing foundational and catalytic efforts that are shaping procurement norms for low carbon materials globally and regionally.

Corporate aggregation campaigns have been central to nurturing early demand. WorldGBC's Net-zero Carbon Buildings Commitment has seen 127 businesses commit to reduce the emissions of their assets, and similarly WRI's Indian Business Charter sees 20 businesses commit to develop 25% of their new buildings as net-zero buildings by 2030. The First Movers Coalition has aggregated an estimated $16 billion in annual corporate demand across seven hard-to-abate sectors. Similarly, ConcreteZero and SteelZero have mobilized major buyers and are supported by classification schemes, including Singapore's first market benchmark for embodied carbon of concrete which is under way in 2025.

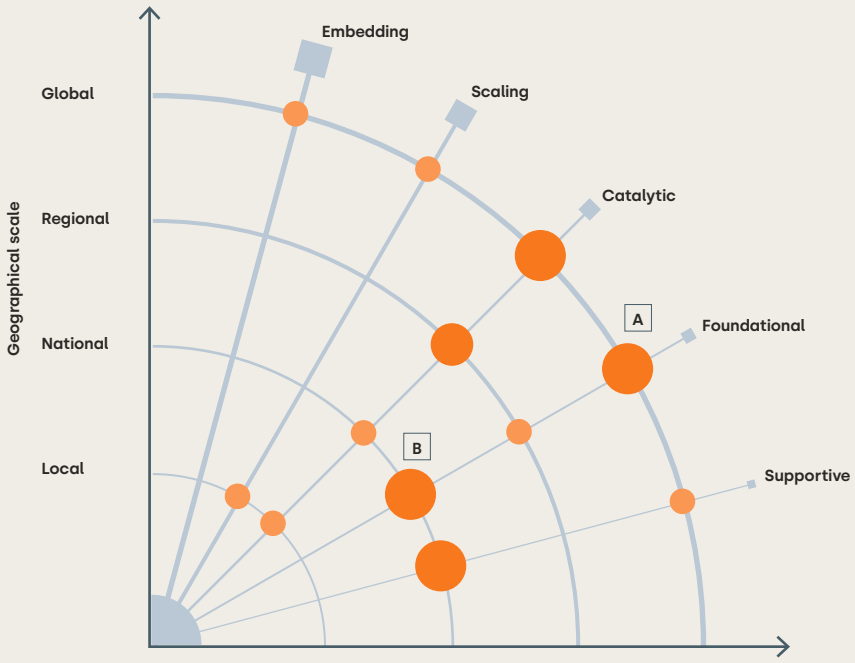
Momentum is also building in public procurement. The emergence of Buy Clean policies in multiple U.S. states is driving demand for materials with lower embodied carbon, verified through Environmental Product Declarations (EPDs).

Spotlight

A. **Universal Low-Carbon Concrete Rating Schemes:** Two schemes now support demand signaling and lower adoption barriers in new regions – GCCA's Global 'Low Carbon Rating for Cement and Concrete' and Innovate UK's 'Embodied Carbon Classification Scheme for Concrete'.

B. **Book & Claim Systems for Cement & Concrete:** Explored by RMI and Microsoft, this approach allows environmental attributes to be sold separately from the physical product. It enables buyers to support cleaner production even when direct sourcing is not feasible, unlocking capital flows and supporting scalable procurement models. In September, a new buyers club was launched to raised demand via such systems.

Figure 14: Intervention 9: Advance market commitments
Create and scale proven decarbonization solutions through financing and innovation



01. A stocktake on progress
Lever 3, Intervention 10: Financing stranding assets

Financing stranded assets remains highly dependent on local conditions – policy, energy pricing, and market demand. As a result, action is strongest where enabling environments exist. In New York City, Local Law 97's emissions penalties create a financial case for upgrades. Alternatively, France's White Certificate Scheme rewards energy savings with tradable certificates.

Globally, sustainable finance taxonomies are directing capital toward efficient buildings. A 2024 report recognized 14 taxonomies, which include real estate activities. However, inconsistent definitions hinder cross-border investment. Efforts to address this include Asia-Pacific alignment work, and the work of the Common Ground Taxonomy group (also explored in Intervention 5).

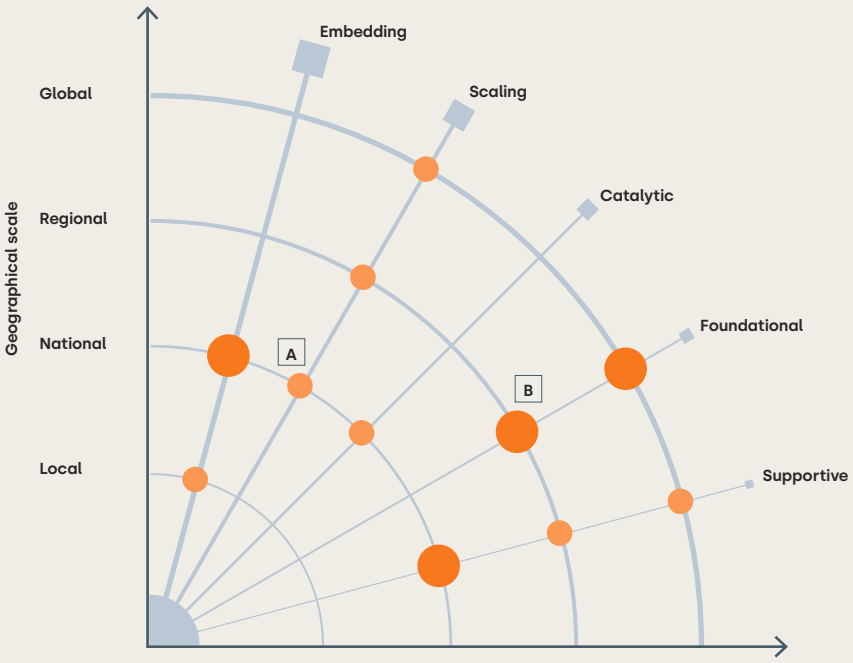
In developing countries, where affordable finance is a barrier, InfraCredit Nigeria, is linking EDGE certification to guarantee facilities to unlock investment in green buildings. In the EU, policy progress is reinforced by tools like the Carbon Risk Real Estate Monitor (CRREM), now integrated into GRESB, helping investors assess transition risks and prioritize asset upgrades (see Intervention 7).

Spotlight

A. **Property Linked Finance Models:** Innovative mechanisms like PACE use property tax assessments to fund building upgrades. A new Global Property Linked Finance Initiative, launched in September, aims to support global replication of such models.

B. **GREEN×LOTUF Workstream (2025):** A collaboration to align ESG standards with investor definitions, improve access to key climate metrics, and identify the indicators that matter most. It aims to drive adoption and ensure benchmarks and standards reflect investor priorities.

Figure 15: Intervention 10: Financing stranded assets
Pilot brown-to-green financial instruments to match short-to-long term risk appetite



01. A stocktake on progress
Lever 3, Intervention 11: Mobilizing tenant demand

Corporate leadership is accelerating demand for low-carbon buildings, with global campaigns like the Net-zero Carbon Buildings Commitment, Race to Zero, and EP100 amplifying action across tenants and owners. The emergence of "green premiums" and "brown discounts" in some markets reflects how tenants perceive the value and risks of their spaces. The Green Lease Toolkit (see Intervention 8) supports this shift by providing contract structures that align tenant-owner interests. Public authorities are also stepping up, with C40's Net-zero Carbon Buildings Accelerator mobilizing 29 cities to act on municipal buildings. Collaborative spaces such as ULI's C Change Owner-Occupier Alignment bring together landlords, tenants, and property managers to identify shared challenges and create solutions.

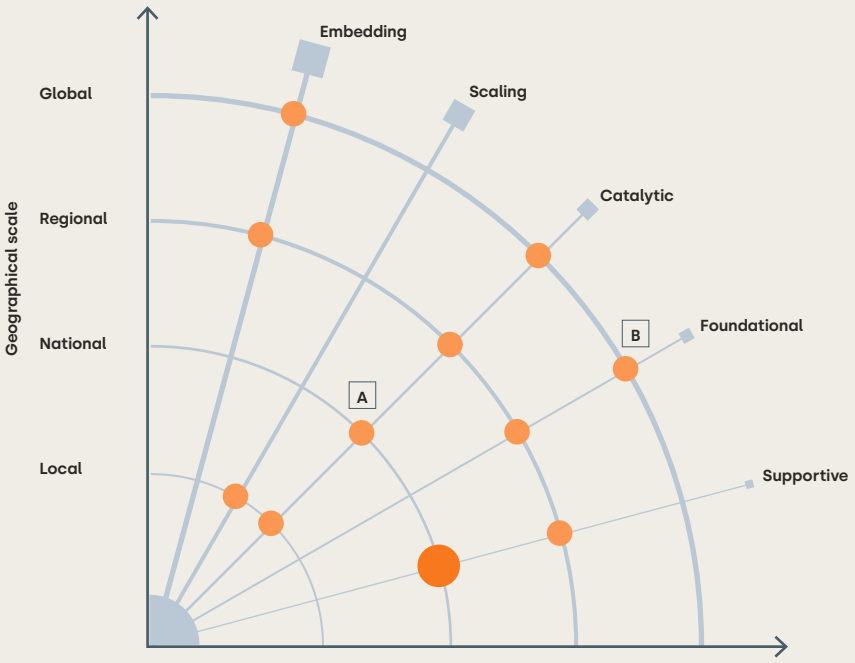
Policies normalizing corporate emissions disclosure – like the UAE's Climate Change Law, which came into effect in 2025 – will see companies take account for the spaces they occupy, prompting action. Voluntary building standards and certifications, while varied, are increasingly addressing whole-life carbon (see Intervention 5). As they evolve to support asset-level emissions reporting, they offer a valuable tool for aligning corporate climate targets with building procurement and ownership decisions.

Spotlight

A. The Tenant Power Initiative by Octopus Energy: Helps renters access 100% renewable electricity, fair pricing, and green technologies. It also provides tools to engage landlords on energy upgrades, helping overcome common barriers and mobilizing tenant demand for affordable, sustainable energy in rented homes.

B. The ULI C Change Owner-Occupier Alignment: This workstream has developed a best practice guide to help property managers and owners set up sustainability committees in multi-tenant buildings. These forums support collaboration and joint action on energy and carbon reduction. The guide will be published Autumn 2025.

Figure 16: Intervention 11: Mobilizing tenant demand
Create new business and contract models to incentivize collective action by tenants and landlord



01. A stocktake on progress

Deep dive: WBCSD's Transforming Supply and Demand for Net-Zero Assets Initiative

An initiative that aims to accelerate deep retrofits and portfolio-wide decarbonization by bridging the growing gap between sustainable real estate demand and supply through scalable business models, despite persistent market and policy barriers.

WBCSD's Transforming Supply and Demand for Net-zero Assets Initiative addresses two core interventions of the Market Transformation Action Agenda: advanced market commitments and mobilizing tenant demand.

Today, demand from corporate occupiers for sustainable real estate is rapidly outpacing supply across asset classes, creating a significant market gap. Retrofitting efforts lag due to high upfront capital requirements, limited transparency on green premiums and brown discounts, misaligned incentives between tenants and landlords, challenges in electrification, and policy and certification frameworks that have yet to match industry ambition. Short asset-holding periods further discourage long-term decarbonization investment.

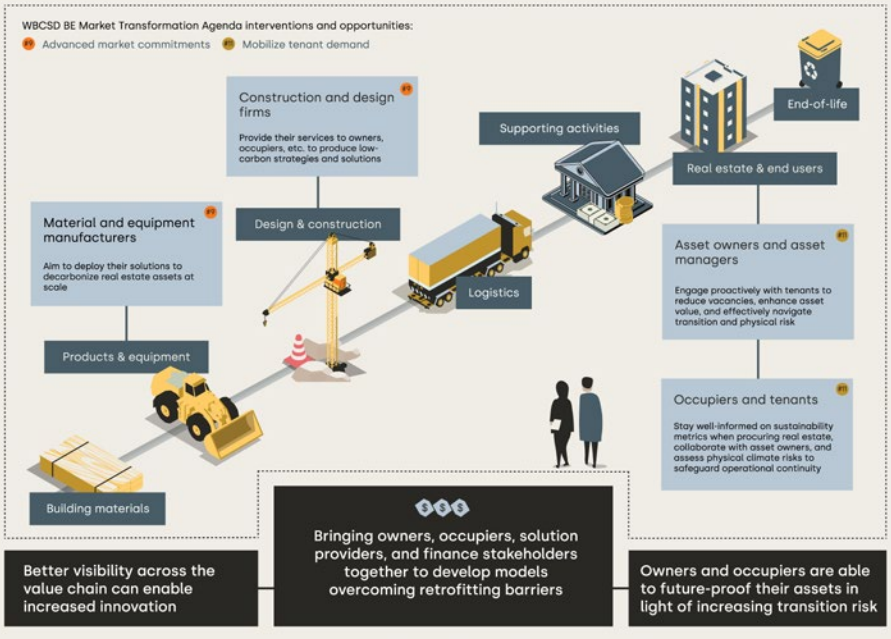
Despite these barriers, the business case for retrofitting remains strong.

Energy-efficient upgrades can significantly reduce operational costs, enable premium rents in select markets, mitigate stranded asset risks, and lower vacancy rates. In addition, on-site renewable energy generation and EV charging infrastructure can unlock new revenue streams, while enhancing asset resilience and appeal.

WBCSD is uniquely positioned to catalyze system-wide change. With a network of over 250 leading corporations – spanning multiple asset classes as both major occupiers and providers of proven decarbonization technologies and services – WBCSD aims to develop scalable, replicable business models that accelerate portfolio-wide decarbonization. By tackling the most persistent barriers to deep retrofits, this initiative will help unlock the full potential of a low-carbon built environment.

Mert Ogut, Manager, Built Environment, WBCSD

Figure 17: Interventions and opportunities



Investment in landscape initiatives from all players could enable cost competitive retrofitting options for the entire value chain.

Exploring alignment *with the Buildings Breakthrough*

02.

02. Exploring alignment with the Buildings Breakthrough
Unpacking synergies

This section explores how the Market Transformation Action Agenda aligns with the Buildings Breakthrough. By mapping areas of synergy between MTAA activity and the Breakthrough's five Priority Actions, it gives rise to opportunities for stronger collaboration between industry and government in accelerating transformation across the built environment.

The Buildings Breakthrough (BBT) was launched at COP28 as a flagship intergovernmental initiative facilitated by the Global Alliance for Buildings and Construction (GlobalABC). The initiative sees 29 countries align behind the shared goal to "make near-zero-emission and resilient buildings the new normal by 2030". Co-led by France and Morocco, the BBT provides a platform for governments to collaborate on accelerating building decarbonization and climate resilience.

To orient their collaboration, the BBT is structured around five Priority Actions:

- → **B1 Standards and Certification** – Developing shared definitions and principles for near-zero and resilient buildings.
- → **B2 Demand Creation** – Mobilizing procurement and policy commitments for low-carbon and resilient buildings as well as alignment of policies for clean heating and efficient cooling technologies.
- → **B3 Finance and Investment** – Support countries, particularly Emerging Markets and Developing Economies (EMDEs), to expand international financial and technical assistance programs.
- → **B4 Research and Deployment** – Identify international research priorities and scaling replicable solutions.
- → **B5 Capacity and Skills** – Identify personnel and institutional capacity building needs and improve access to available resources.

With their different audiences – business and industry for the MTAA, and national governments for the BBT – complete alignment between the two agendas is neither expected nor necessary. However, there exists strong alignment between their goals.

Figure 18: Buildings Breakthrough Commitment, COP28

02. Exploring alignment with the Buildings Breakthrough
Unpacking synergies

The MTAA is oriented around the goal of halving emissions in the built environment by 2030 and achieving net-zero by 2050. The BBT complements this with its emphasis on making near-zero and resilient buildings the norm by 2030. While both platforms are strategically aligned in their ambition to decarbonize buildings, the MTAA does not address resilience – a notable difference between the two.

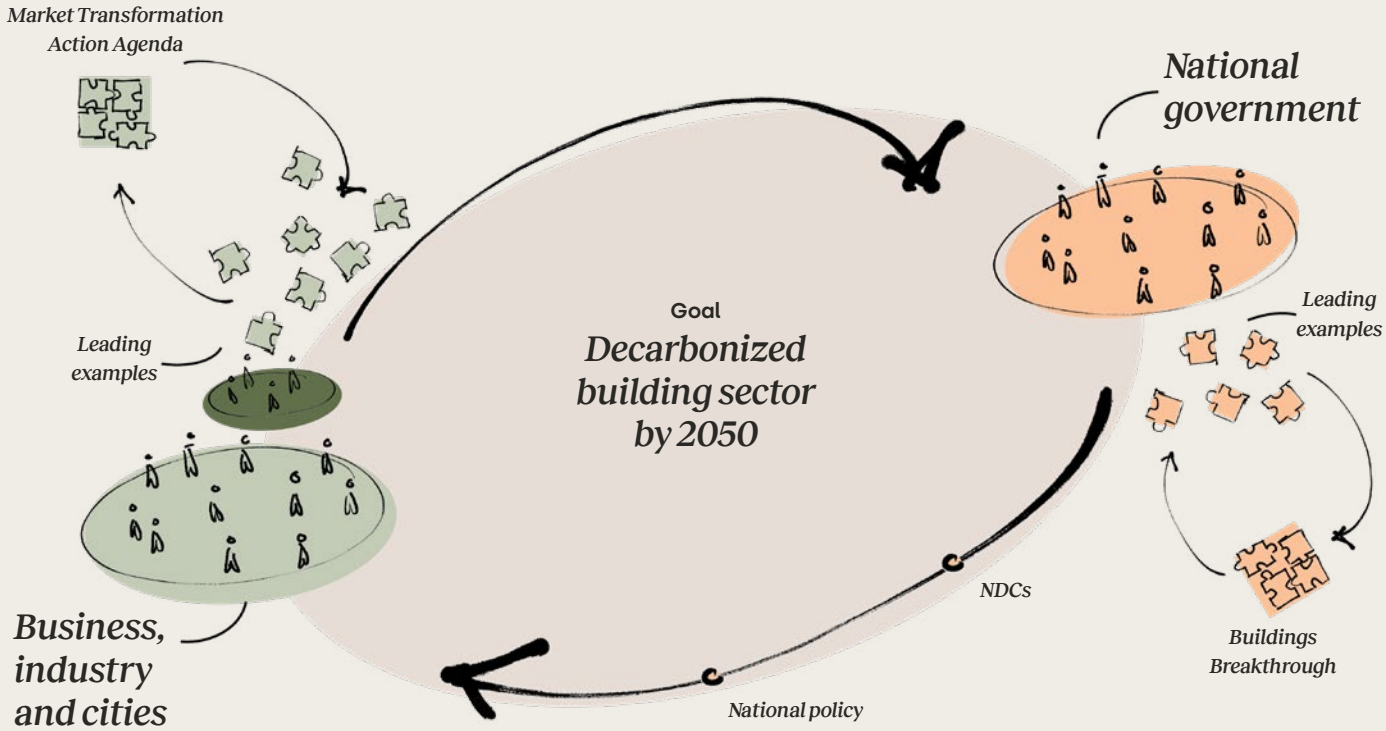
Seen through the lens of the ambition loop, the MTAA and BBT offer complementary platforms that help accelerate progress within respective audiences:

- → The MTAA fosters a feedback loop within business and industry by considering shared barriers, amplifying emerging solutions, and providing visibility to leadership efforts. In doing so, it strengthens confidence, coordination, and ambition among market actors.
- → The BBT plays a parallel role for governments. By identifying and addressing systemic barriers to governmental action, it enables national authorities to move faster and more cohesively toward near-zero and resilient buildings.

While distinct in their audiences, both platforms reinforce the ambition loop (depicted in Figure 4). Viewed together, they help foster mutual reinforcement – accelerating transformation across the built environment.

The following section explores where these platforms intersect, and where greater alignment could unlock activity and strengthen action on both sides.

Figure 19: Expanded ambition loop illustration showing the reinforcing role the MTAA and BBT play within their respective audiences



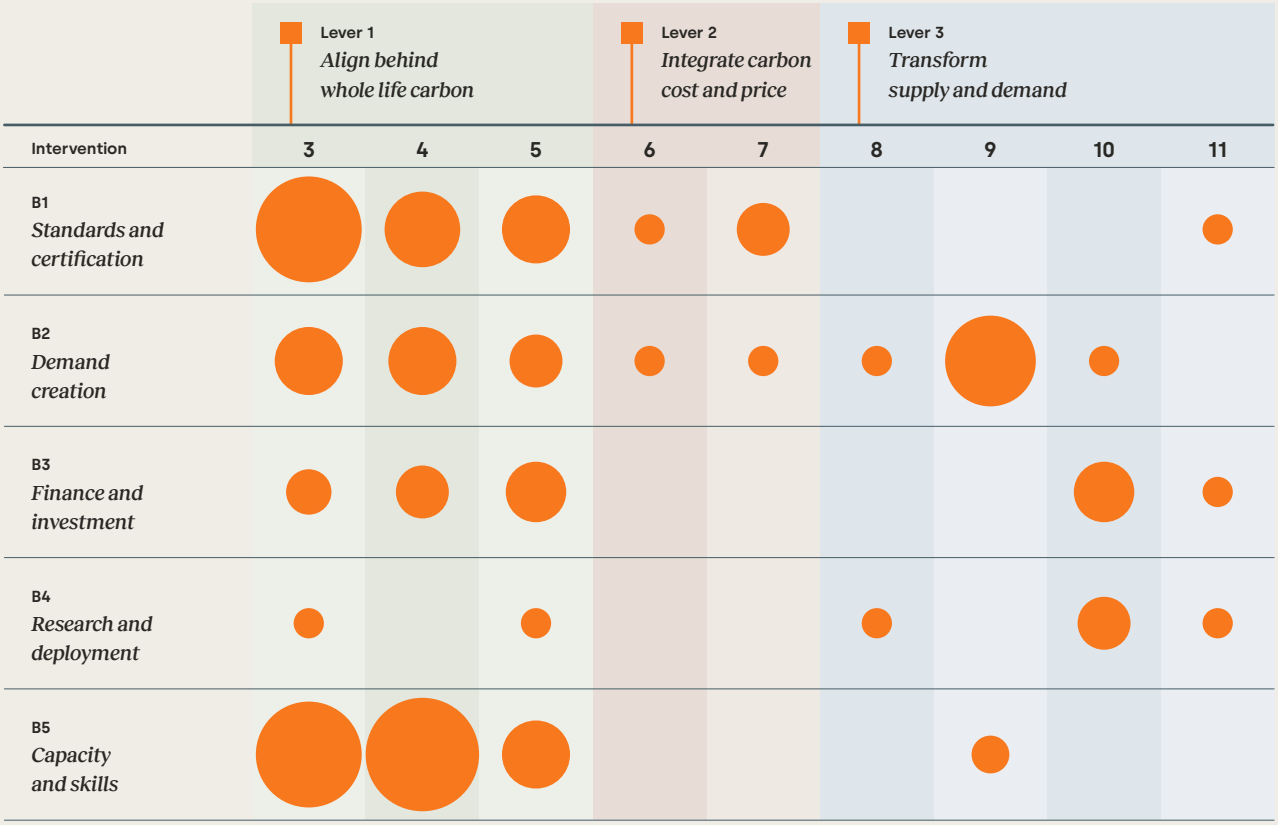
02. Exploring alignment with the Buildings Breakthrough
Mapping alignment

The visual comparison analysis (presented in Figure 20) provides a representation of where the activities in the stocktake align with both the MTAA Interventions and BBT Priority Actions, with the size of the circles representing the relative number of activities identified at this intersection. The visual reveals where these two frameworks already converge, and where deeper integration could yield greater impact.

The most significant areas of alignment are concentrated around MTAA Lever 1 (Interventions 3, 4, and 5), followed by Lever 3 (Interventions 9-11). In contrast, there is relatively limited alignment with interventions under Lever 2, which may reflect broader trends in the data – namely, that more activity was captured in the snapshot under Levers 1 and 3.

Further analysis of the alignment with each Priority Action is presented overleaf.

Figure 20: A comparison analysis of activities aligned with the MTAA Interventions (horizonal axis) and BBT Priority Actions (vertical axis).



Priority Action B1: Standards and Certification
The strongest alignment is observed between Priority Action B1, which focuses on developing shared definitions and principles, and MTAA Lever 1, particularly Intervention 3. This alignment is driven by the emergence and embedding of national methodologies for assessing whole life carbon. These standards are increasingly supported by policy and are helping to harmonize reporting practices across regions. As the BBT moves beyond definitions toward metrics and indicators, this growing body of guidance offers a robust foundation to inform further development.

Further alignment under Priority Action B1 is seen with Intervention 4, which focuses on harnessing data. Here, the emphasis is again on whole life carbon, with emerging data protocols – such as those from Standards Australia and the Global Buildings Data Initiative – playing a key role in enabling benchmarking and informing decision-making. These benchmarking efforts should be elevated to governments to inform regional policy development.

Priority Action 2: Demand Creation
Priority Action B2 focuses on governments setting procurement commitments for near-zero and resilient buildings, and aligning policies on clean heating and efficient cooling technologies. This action is fundamentally about demand creation, helping to de-risk investment on the supply side. The heat map (Figure 20) shows strong alignment with MTAA Interventions 3, 4, and 9.

Intervention 3 captures emerging subnational and national regulations around whole life carbon. These regulations drive demand for whole life carbon assessments and, where complemented by limits, low-carbon materials and technologies. This presents a clear opportunity for the BBT to showcase lessons learned from policy implementation and to support knowledge-sharing around effective demand-raising mechanisms.

Intervention 9, which focuses on advanced market commitments, has a natural alignment with this Priority Action. The stocktake highlights a growing body of activity among businesses and industries making early commitments. These initiatives offer replicable models for governments to consider in their procurement strategies and publicly owned buildings.

Priority Action 3: Finance and Investment
While the heat map shows limited alignment between Priority Action B3 and the MTAA Interventions, this may reflect a structural gap within the MTAA itself. Much of the finance-related activity under Lever 2 centers on transitional risk assessment and internal carbon pricing. These interventions reflect barriers more commonly faced in developed markets. There is a clear opportunity to expand the scope of interventions within Lever 2 to identify and respond to the needs of emerging markets – particularly innovative instruments for making affordable finance accessible. Doing so, would not only strengthen the MTAA's relevance in such regions, but also enhance its alignment with the Priority Action B3.

Where the stocktake has given rise to efforts to align sustainable finance taxonomies (see Intervention 5), these should be brought to governments via the BBT to aid implementation of such alignment.

Priority Action B4: Research and Deployment
This Priority Action calls for countries to coordinate R&D efforts, identify shared challenges, and promote replicable solutions. It shows the least alignment on the heat map, but several initiatives under Lever 3 offer useful contributions: the scalable business models work led by JLL and WBCSD, and the Buildings Breakthrough Solutions Catalogue, which could be strengthened by drawing on some of MTAA activities this stocktake has given rise to, such as Energiesprong's approach to net-zero building retrofits. More tactically, the two platforms could run public-private collaborative R&D workshops to strengthen knowledge-sharing on priority topics and support transfer to new regions.

Priority Action B5: Capacity and Skills
Priority Action B5 aims to identify the training needs and resources required by national and sub-national authorities, as well as project-level staff, to build capacity for effectively implementing and managing policies. The comparison shows stronger alignment under Lever 1, particularly Interventions 3 and 4, which reflects the upskilling activities across industry with numerous tools and guidance developed for non-state actors, especially around whole life carbon. These resources help build confidence in the supply-side's ability to meet policy demands and support informed decision-making. Stronger engagement, particularly in emerging markets, would not only help surface critical capacity and skills gaps within industry, but also support more targeted and effective alignment with Priority Action B5 to identify institutional and workforce needs.

02. Exploring alignment with the Buildings Breakthrough
Mapping alignment

Amplifying impact through collaboration
The stocktake reveals that much of the momentum behind MTAA initiatives is currently concentrated within specific countries or regions. This localization of activity, a sign of strong national leadership, also presents a strategic opportunity. The BBT, with its global policy reach, can serve as a platform to surface and amplify these pockets of excellence, enabling cross-border knowledge exchange and replication. By curating and showcasing regional exemplars, the initiative can help bridge geographic silos and foster a more global transformation pathway.

This analysis identifies key alignment points through which the MTAA and BBT platforms can more effectively leverage one another. These points serve to reinforce each platform's delivery to its respective audiences. Rather than functioning in isolation, the MTAA and BBT operate as interlocking mechanisms. The analysis has identified where these mechanisms are already interacting, and where additional momentum could unlock transformative progress.

Key messages from the Business Breakthrough Barometer 2025 - the annual pulse-check from business on the pace of the net-zero transition

Amid geopolitical turbulence, businesses are maintaining transition investments, focusing on markets and solutions that support long-term competitiveness. In the face of rising uncertainty, businesses are not stepping back from climate action – they are targeting action where the conditions are right, with 9 out of 10 business leaders surveyed maintaining or increasing their transition-related investments and emissions targets over the past year.

Competitiveness – not compliance – is driving action. More than half (56%) of surveyed business leaders say the primary motivation for investment in the transition is to secure long-term industrial competitiveness, not just as a response to regulatory obligations or to meet reporting requirements. In harder-to-abate sectors such as steel and cement, businesses are taking a more targeted approach – investing where they see clear demand signals and the potential for supportive policy. But across all sectors, the direction of travel is clear: businesses increasingly see a focus on decarbonization as a strategic necessity to stay ahead in evolving markets.

Almost all business leaders surveyed (92%) believe that achieving a net-zero economy – one that delivers a stable climate – will result in lower burdens on their organization than the costs of transitioning. At the same time, 61% predict that increased costs from climate-related disruptions will already impact their businesses in the year ahead, including through extreme weather and supply chain volatility.

The message is clear. Delayed action will have a negative impact on long-term competitiveness.

In the buildings sector, business leaders perceive a slightly increased pace of transition, reflected in greater confidence that the buildings sector will reach its 2030 Breakthrough Agenda goal. Leading businesses have grown their transition-oriented investments over the last year, citing improved customer demand certainty, growing investor pressure and better access to clean energy as key drivers. However, investments in lower-emissions and resilient buildings are primarily in the commercial segment in mature markets.

Top 3 reasons for increasing investment (as stated by business leaders)

→ Increased demand certainty, mainly from cities with green public procurement mandates or from commercial tenants of buildings.

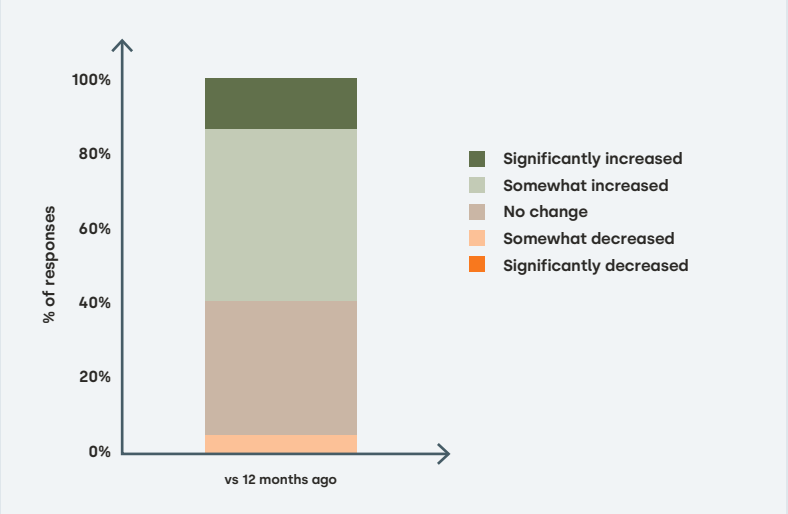
→ Increased pressure from investors as the risk of stranded "brown" assets drives appetite for buildings with stronger environmental performance, accelerating retrofit and redevelopment investment.

→ Increased access to clean energy for power supplies in buildings, lowering long-term operating costs and green certification.

Business leaders highlight three key policy priorities that require urgent progress from policymakers over the next 1-3 years: Demand Creation, Finance and Investment, and Standards and Certification. Key policy priorities align globally but with regional nuances: developed countries seek incentives for upgrading existing buildings to improve sustainability and resilience, while developing regions (e.g., Africa, Asia, and South America) focus on support for new, green construction.

Excerpts from Business Breakthrough Barometer 2025: Developed by WBCSD in partnership with the Breakthrough Agenda, the Climate High-Level Champions and Marrakech Partnership Industry Group, and supported by Bain & Company, it is based on insights from more than 300 business leaders in over 50 countries.

Figure 21: **Change in level of surveyed business leaders investments in the net-zero transition in the buildings sector over the past 12 months**
Source: BA Barometer Survey '25 N = 304; Buildings sector respondents N = 45



Recommendations

03.

03. Recommendations
Key actions to strengthen and enhance the MTAA

Through workshops, interviews, and peer review, this report has eoncouraged activities and insights. In doing so, it identifies technical gaps and strategic recommendations, which are consolidated in this section to guide the continued development of the MTAA.

The future of the MTAA

As the MTAA progresses, taking stock of progress is an opportunity to amplify activity, identify gaps, and reflect on focus – therefore, progress should be monitored on a regular basis. This stocktake has been undertaken 18 months after the launch of the MTAA and it is **recommended that stocktakes continue to be undertaken every two years hereafter**.

To ensure the MTAA remains responsive to evolving industry needs, the levers and interventions will need to be reviewed periodically to ensure that they continue to represent the global priorities for built environment decarbonization. **It is recommended that a review of this nature should be undertaken in 2026**, ahead of the next Buildings and Climate Global Forum, anticipated in 2027. The development of the agenda should be undertaken by, and developed in consultation with, a broad coalition of industry bodies working alongside WBCSD. In particular, the opportunity should be taken to expand the reach and representation in developing economies.

The recommendations that follow ensure that the MTAA remains responsive, strategically aligned, and equipped with the right foundations to accelerate global market transformation.

Multiple stakeholders highlighted that the current MTAA does not directly address the resilience of buildings – a critical and distinct issue. While decarbonization benefits from a clear, quantifiable metric (CO_2e), resilience is inherently more complex, lacking a single indicator and requiring different approaches. Therefore, if a holistic expansion of the agenda to accommodate resilience is considered, it should be carefully scoped. For example, Intervention 8 currently centers on transitional risk assessment – it could be valuable to explore broadening the scope to integrate considerations of climate risk/physical risk, since both aspects need to be fully understood, managed and reflected in valuation approaches.

Within 6 months:

- **Improving visibility and accessibility** of the activity surfaced through the MTAA stocktake was highlighted as a key opportunity. The stocktake provides a platform to bring transparency to this activity, amplify it, and in doing so, foster collaboration across aligned initiatives. This would allow for further leveraging of the more mature programs, extracting key lessons and adapting to new local contexts. The MTAA should explore hosting an online catalog to make activity and progress more readily accessible.
- **Industry awareness of the MTAA remains limited among corporates**. While several initiatives demonstrate alignment with MTAA Interventions, few explicitly reference the framework. Strengthening industry understanding of the MTAA would reinforce the strategic importance of corporate decarbonization efforts, and clarify how these actions contribute to broader policy progress. To support this, the MTAA could develop a concise orientation pack for corporates and explore offering a light-touch acknowledgement – such as a voluntary reference or alignment marker – for initiatives that demonstrably support MTAA interventions.
- Several interviewees expressed a desire for greater clarity in how the MTAA is communicated, including calls for more detailed workplans where appropriate under each intervention. To support this, it is **recommended that the MTAA website be updated to offer a clearer entry point for engagement, with supporting materials well signposted**. Sharing known activities and making workplans visible would help stakeholders better understand how to engage with the agenda, and align their efforts.

03. Recommendations
Key actions to strengthen and enhance the MTAA

Within 12 months:

- **Broaden geographic representation and actively manage regional balance**. Given Europe's comparatively mature policy and market cooperation, a greater share of early regional exemplars has emerged from Europe – and to a lesser extent North America. As the MTAA evolves, **it should develop and implement an emerging market engagement plan** to ensure interventions reflect the barriers faced in these markets. Multiple reviewers have noted that affordable financing models and skills and capacity gaps are key areas that fall outside the scope of the current framework.
- **Actively nurturing delivery on a few priority interventions** was cited by interviewees as a means to accelerate progress and build confidence in the wider agenda. In particular, interviewees highlighted Intervention 9 (advancing market commitments) as a critical area for focus. Efforts to advance this intervention should be carefully scoped to avoid duplication with existing campaigns and initiatives. Instead, delivery should be informed by targeted consultation – especially with heavy industry suppliers – to ensure that actions are complementary and grounded in sector-specific realities.
- **The MTAA should engage more tactically with the BBT** to ensure the two platforms complement one another. The areas of alignment, identified in Section 3, provide a foundation from which to build that collaboration, offering practical entry points for joint action and support to member countries with relevant data, tools, and leadership examples. Closer engagement also enables monitoring and management of the risk of duplicative efforts.

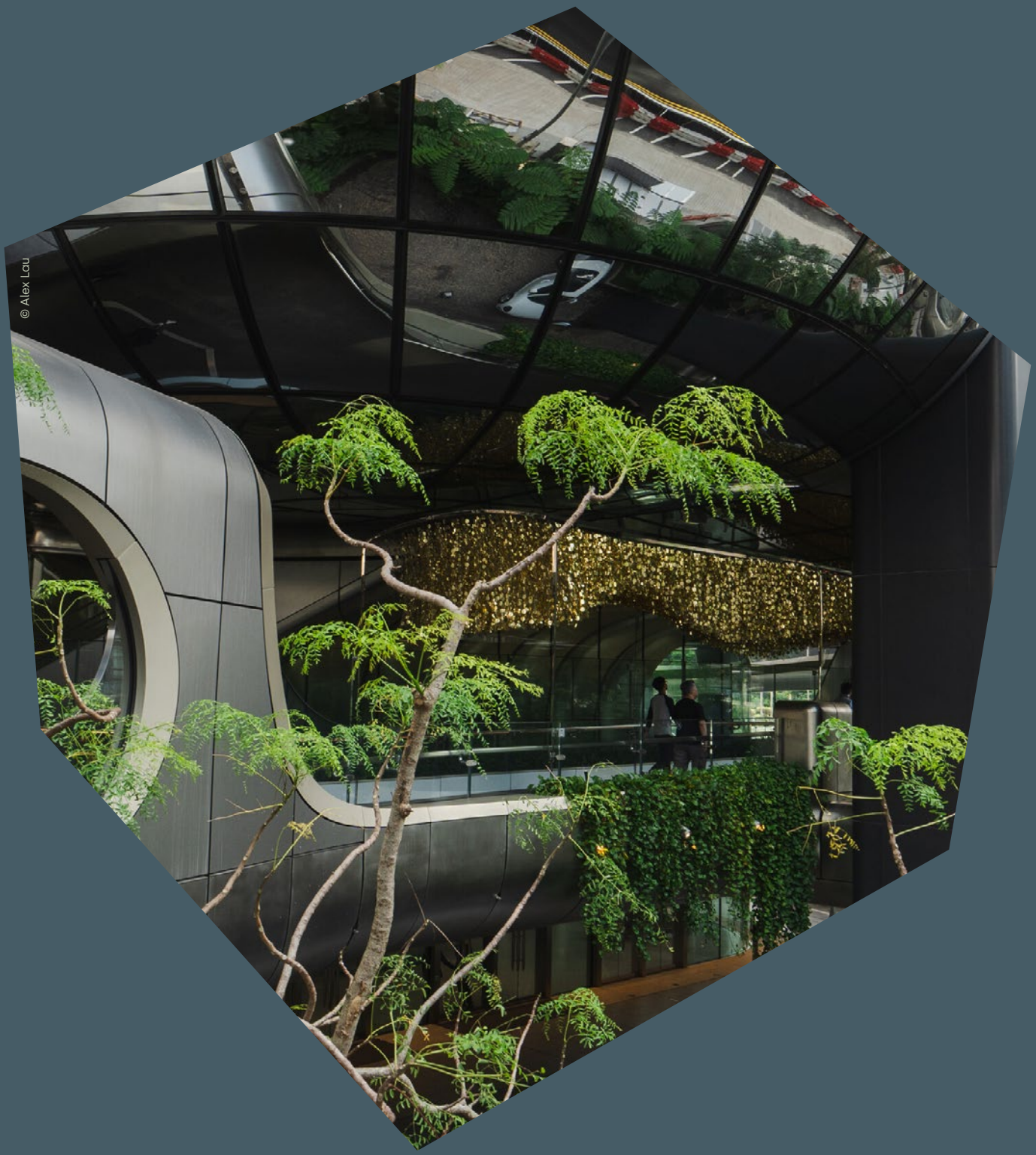
Within 2 years (by next stocktake):

- **Establish a framework to monitor progress across interventions**. This framework could include a mix of qualitative and quantitative tools – such as a traffic light assessment or tailored KPIs per intervention – based on what is most appropriate. Tracking progress in this way can help clarify where momentum is building and where further attention is needed, and may also support comparisons across different geographies where relevant.

As the MTAA develops, it should seek to sharpen and address the following technical gaps in its framework.

- **Enabling data access in developing countries (Lever 1)**: While data access is recognized as a critical barrier to Intervention 4, given its significance, the MTAA should explore if it warrants becoming a stand-alone intervention.
- **Aligned taxonomies and affordable finance (Levers 2 and 3)**: Inconsistent sustainable-finance taxonomies hinder capital flows. Meanwhile, access to affordable finance, critical for developing economies, is currently overlooked.
- **Capacity and skills (cross-cutting)**: Institutional and workforce capability gaps – particularly in EMDEs – slow policy and market readiness and need to be addressed systemically at a national and regional level. The MTAA should seek to identify key capacity and skills gaps, and adopt a new intervention to spotlight efforts that are seeking to address them.
- **Residential properties (cross-cutting)**: Current MTAA Interventions are disproportionately focused on major developments, with limited attention to smaller-scale or residential properties. To support a broader transition – from grid-interactive technologies to mass retrofit – it is important that barriers specific to residential contexts are identified and addressed. These should be explored as part of the consultations recommended above.

Annex 1
Record of stocktake activities



Annex 1
Record of stocktake activities

This annex provides the full record dataset that underpins the stocktake of activities aligned with the MTAA levers. By making this information accessible, it offers stakeholders greater transparency and visibility into the initiatives behind each intervention, enabling them to explore, understand, and engage with the breadth of efforts contributing to market transformation.

Lever 1

Initiative	*Description*	*MTAA Intervention(s)*
ARESI (Aligning Real Estate Sustainability Indicators) project	The ARESI (Aligning Real Estate Sustainability Indicators) project aims to harmonize key sustainability KPIs across EU frameworks such as SFDR, EPBD, and the EU Taxonomy to unlock institutional capital for the decarbonization of real estate. Developed with input from over 30 stakeholders, ARESI provides clear, consistent definitions, methodologies, and data hierarchies to reduce reporting burdens and improve comparability. Beyond technical alignment, it seeks regulatory reform to remove barriers to investment – particularly in brown-to-green transition strategies – by improving fund labelling and certification clarity. Prioritizing systemic change over asset-level fixes, ARESI targets large-scale impact across developed markets like the UK and EU.	*4, 5*
Arup/Autodesk partnership on WLC data in BIM	Arup and Autodesk have partnered to accelerate decarbonization in the built environment by embedding whole-life carbon analysis into digital design workflows. The collaboration focuses on improving data interoperability, developing shared BIM guidelines, and automating carbon assessments across project lifecycles. It supports open standards, integrates tools across disciplines, and targets asset owners and investors as key decision-makers. Through joint whitepapers, platform integration, and RD&D, the initiative aims to enable consistent, scalable carbon-informed decision-making across planning, design, construction, and operation – advancing systemic change and supporting net-zero targets for the AECO industry.	*4*
Arup/WBCSD Net-Zero publication series	The Arup and WBCSD Net-Zero Buildings publication series captures and communicates the technical foundations needed to deliver net-zero buildings at scale. Through in-depth reports and case studies, it addresses critical issues including operational energy use, embodied carbon in construction, market transformation levers, and pathways to halve emissions today. By combining technical insight with practical examples, the series informs policymakers, investors, and practitioners on the opportunities and barriers to achieving net-zero buildings. It provides a shared evidence base to guide systemic change across the built environment and accelerate progress toward global climate targets.	*3, 5*
Building Passport Alignment Project	The Building Passport Alignment Project, led by a team from the Bartlett School of Sustainable Construction at University College London seeks to standardize and align the industry approach to building passports. Building passports are digital repositories of key building information, including materials, carbon, energy use, and renovation history, and seek to enable and enhance future re-use of materials by making information on their key properties and use available. The project identifies common data needs, assesses existing passport tools, and proposes a harmonized framework to improve usability, interoperability, and investor confidence. By fostering alignment, the initiative aims to reduce reporting burdens, enhance data quality, and accelerate the uptake of circular and low-carbon practices across the building lifecycle.	*4*
Building Transparency – Tally & EC3 Tool	Building Transparency is a nonprofit organization focused on reducing embodied carbon in the built environment. It provides open-access tools and data infrastructure to enable emissions transparency in material procurement and building design. Its flagship platform, EC3 (Embodied Carbon in Construction Calculator), allows benchmarking of construction materials based on third-party verified EPDs. Building Transparency also supports tools like Tally Climate Action Tool and is developing policy and education resources to promote carbon awareness and reduction across the construction ecosystem. Its mission is to empower designers, contractors, policymakers, and suppliers to act on embodied carbon using consistent, verified data.	*3, 4*
Canadian National Guidelines for Whole Building LCAs	A set of best practices developed to guide consistent whole life carbon assessments in Canada, aligning with ISO 14040/44 and EN 15978 while supporting policy development.	*3*
Chinese National Standard Carbon Emission Calculation Standard GB/T51366	In China, the National Standard for Building Carbon Emission Calculation was issued by the Ministry of Housing and Urban-Rural Development in 2019. The Standard provides calculation methods and factor values of carbon emissions for each phase of a building's lifecycle, laying the basis for emission calculation. The standard, which entered into force in December 2019, is applicable to the calculation of carbon emissions during the production and transportation of materials, construction and demolition, and operation phases of new, expanded, and renovated civil buildings.	*3*

Annex 1
Record of stocktake activities

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
CLF Embodied Carbon Benchmark Report	The Carbon Leadership Forum "Embodied Carbon Benchmark Report" (2025) synthesizes whole-building LCA data from 292 verified projects across North America to establish realistic embodied carbon benchmarks. It covers life-cycle stages A1-C4 and focuses on material systems including structure, enclosure, MEP, and interiors. The report defines high, medium, and low carbon intensity bands, enabling practitioners to compare their projects against peer performance. By revealing limits of current practice and opportunities for improvement, it informs policy makers, design teams, and investors about practical carbon budgets aligned with deep decarbonization goals.	*4*
Climate Bonds Building Criteria	The Climate Bonds Buildings Criteria provide a rigorous certification framework to ensure that finance directed toward buildings is aligned with 1.5°C pathways. It certifies green bonds, loans, and sustainability-linked instruments based on strict emissions intensity thresholds or proxies tied to best-in-class buildings by location and type. New buildings must be fully electric and report whole life carbon (WLC) using EN 15978 or equivalent, with future Scope 3 and WLCA requirements phasing in from 2026. Certification supports both individual buildings and portfolios, offering clear climate integrity signals to investors and promoting deep retrofits, electrification, and reduced embodied carbon across the sector.	*3*
CO_2MPARE (New Zealand)	CO_2MPARE provides summary carbon footprint and other data and information about reference residential and office buildings that BRANZ has evaluated. This includes the mean and low/high range of embodied and operational carbon footprint on a "per square meter per year" and "per occupant per year" basis (residential only). These can be useful for understanding the magnitude and ranges of carbon footprints of New Zealand buildings.	*4*
Concrete Sustainability Council (CSC) global certification scheme for responsibly sourced ready-mixed and precast concrete	CSC certification is a holistic, material stewardship standard for concrete and its supply chain, addressing governance, environmental and social aspects. It supports whole life carbon accounting and alignment with net-zero targets and, with this, is an initiative that also promotes decarbonization. Via its supply chain requirements, CSC-certification contributes to transforming supply and demand. Key contributions to market transformation include: 1) Promotes decarbonization: CSC requires GHG reduction targets for cement and concrete plants; high-level targets must be validated by SBTi. 2) Transparency: Promotes EPDs aligned with ISO 21930, EN 15804, and ISO 14025/14040. 3) Standards Integration: Recognized by leading voluntary systems such as DGNB, BREEAM, LEED, ENVISION and complements tools like the GCCA Low-Carbon Concrete Rating. 4) Market Signals: Increasingly used in procurement, strengthening demand for sustainable concrete. For example, private developers are embedding CSC requirements into tendering processes. With supplementary evidence, such as a Life Cycle Assessment (LCA), CSC-certified products can help qualify for MIA/Vamil tax benefits in The Netherlands. Financial institutions are also requiring verifiable supply chain data to fully assess transition risk, such as Rabobank Impact Loan in The Netherlands with an interest discount for sustainable companies that can demonstrate they have CSC certified concrete. Levers: Harmonization of whole life carbon accounting, Standards alignment and Mobilizing market demand.	*3, 5*
CRREM (Carbon Risk Real Estate Monitor)	CRREM (Carbon Risk Real Estate Monitor) is a global initiative founded under Horizon 2020 and now supported by major investors, GRESB, and academic institutions. It provides national science-based decarbonization trajectories for all major global economies, and for all main asset types. Trajectories are aligned with 1.5 °C scenarios. Users can benchmark current and projected energy and GHG intensity (kg $CO_2e/m^2/yr$) against these trajectories across portfolios. CRREM highlights stranding risk and informs retrofit prioritization. While primarily focused on operating emissions, it increasingly connects with whole life carbon frameworks via platforms like Madaster. It helps investors translate regulatory and market climate risks into strategic action. It is also integrated within the Science Based Targets Institute (SBTi) buildings methodology.	*4*
Decarbonization and Climate Resilience of the Building and Construction Sector in Latin America	The Zero Carbon and Climate Resilience Readiness Framework (ZCCRRF) is a regional initiative by the World Green Building Council to support the decarbonization and climate resilience of the built environment in Latin America. Led by national Green Building Councils and involving key stakeholders across the construction value chain, the project aims to identify early opportunities, gaps, and enabling actions aligned with global climate goals. It began with a survey capturing insights from public, private, financial, data, and societal sectors to guide sustainable transformation in the region's building practices.	*3, 4*
Declaration de Chaillot (2024)	This ministerial declaration was backed by over 60 countries at its launch in 2024. The declaration establishes a degree of political alignment between the member countries and includes shared principles and commitments toward near-zero and resilient buildings. These principles acknowledge the need to plan and design buildings through a whole-lifecycle approach.	*3*

Annex 1
Record of stocktake activities

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Denmark's Whole Life Carbon Regulation	Denmark introduced mandatory whole life carbon (WLC) limits for new buildings in 2023 – a regulatory first globally. All new buildings over 1,000 m² must now calculate and report their life-cycle GHG emissions using a nationally defined methodology. Moreover, these buildings must meet a maximum GWP threshold of 12 $kgCO_2e/m^2$/year, covering full life cycle stages (A1-C4). From 2025, this threshold will apply to all buildings over 50 m². This step cements carbon performance – not just energy – as a core building requirement, paving the way for tightening thresholds and long-term carbon caps in national planning.	*3, 4*
Dutch Buildings Regulation, MPG (MilieuPrestatie Gebouwen) – Environmental Building Performance	Environmental Building Performance is a mandatory requirement for every environmental permit application, assessing the environmental impact of the materials used in a building. This applies to all new residential units and office buildings larger than 100 m². A lower MPG score (Environmental Performance of Buildings indicator) reflects the use of more sustainable materials. The MPG also promotes circular construction practices.	*3, 4*
ECHO Project	The ECHO Project is a North American industry coalition – convened by groups including Architecture 2030, Carbon Leadership Forum, ILFI, Building Transparency, and USGBC – focused on aligning whole-building embodied carbon (LCA) reporting across the built environment. In September 2023, it released its North American Minimum Project Embodied Carbon Reporting Framework V1.0, and in 2024 published ECHO Schema V1.0, a standardized data reporting schema. These tools aim to harmonize definitions, scopes, and terminology, enabling consistent LCA data capture across buildings, infrastructure, and landscapes. Its goal is to accelerate embodied carbon reduction, enable benchmarking, and streamline policy and certification efforts.	*3, 4*
Embodied Carbon Classification Scheme for Concrete (Innovate UK/Arup)	Arup's Embodied Carbon Classification Scheme for Concrete provides a transparent, standardized method for assessing and benchmarking the embodied carbon content of concrete mixes. The scheme defines carbon performance classes based on kilograms of CO_2 per cubic meter, enabling designers, clients, and contractors to compare and specify lower-carbon options. By supporting clearer communication and more ambitious carbon reduction targets across the supply chain, this tool helps accelerate the uptake of low-carbon concrete solutions and drives industry progress toward net-zero construction.	*5*
Enhancing the use of Low Carbon Concrete in Latin America	Concrete is a very popular construction material in Latin America, and although roadmaps exist for its decarbonization, demand for low-carbon concrete is very low in the region. The Ibero-American Federation of Ready-Mixed Concrete (FIHP) has implemented a work plan with concrete producers throughout the region to promote the use of low-carbon concrete, relying on both the GCCA guidelines and the Concrete Sustainability Council's (CSC) responsible concrete sourcing certification and its CO_2 certification module. FIHP and the companies are currently working on baselines and adapting local protocols with the goal of having robust information within 18 months.	*3, 4, 5*
EN 15978	EN 15978-1 is a European standard providing a consistent method to assess the environmental performance of buildings over their full life cycle. It sets out how to define system boundaries, select environmental indicators (like carbon footprint, resource use, waste), and calculate impacts from materials, construction, operation, maintenance, and end-of-life stages. The standard uses a modular structure (A-D) to ensure transparency and comparability, supporting design decisions, sustainability claims, and regulatory compliance. By following EN 15978-1, building professionals can make informed choices to reduce environmental impact, encouraging both whole-life thinking and the adoption of circular economy principles. Various national revisions of the EN standard exist including BS EN 15978, DIN EN 15978. The European standard offers a framework to support harmonization in the region.	*3, 4, 5*
Environmental Performance of Buildings Directive (EPBD) EU Directive	The recast EPBD (Directive EU 2024/1275), adopted in 2024, sets a new framework to decarbonize Europe's building stock by 2050. It mandates minimum energy performance standards (MEPS), strengthens Energy Performance Certificates (EPCs), and introduces mandatory whole life carbon (WLC) reporting for new buildings from 2028 (over 1000m²) and all new buildings from 2030 (Article 7(2), (5)). The Directive also promotes zero-emission buildings (ZEBs), national renovation plans, digital building logbooks, and improved data access. It is the most comprehensive EU-wide policy aligning operational and embodied carbon measures in the building sector to meet climate neutrality targets.	*3, 4*
EPBD Policy Annex on disclosure of life-cycle Global Warming Potential	This policy annex sets out the methodology, scope, and reporting format for the mandatory disclosure of life-cycle Global Warming Potential (GWP) for new buildings under the revised EPBD. Applicable from 2028 for buildings over 1000 m² (and all buildings by 2030), it specifies alignment with EN 15978 and requires reporting cradle-to-grave emissions (A1-C4) per m² over 50 years. It includes guidance on reporting format, data quality, life cycle stages, and key assumptions. The annex represents a foundational technical framework that will underpin harmonized carbon disclosure across the EU and support the future introduction of carbon performance thresholds.	*3*

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
EU Construction Products Regulation (CPR, revised 2024/3110)	The revised CPR mandates that all CE-marked construction products disclose environmental performance data, beginning with Global Warming Potential (GWP) – starting around 2026. Over time – by 2030 and 2032 – additional lifecycle impacts per EN 15804 become required, leading to full Environmental Product Declarations (EPDs). Data must be validated by Notified Bodies per the AVCP system. CPR also introduces mechanisms for Digital Product Passports (DPPs), embedding that verified LCA and GWP data. These requirements represent a substantial shift toward standardized, transparent lifecycle reporting in the EU construction market.	*3, 4*
EU Directive: Ecodesign for Sustainable Products Regulation (ESPR)	The Ecodesign for Sustainable Products Regulation (ESPR) is a new EU law that sets mandatory requirements for almost all products placed on the EU market – including construction materials. Its scope covers sustainability, energy and resource efficiency, durability, recyclability, and transparency through digital product passports. ESPR complements and strengthens existing construction product rules by adding requirements on circularity, carbon footprint, and green public procurement. For construction materials, this means stricter design and information standards, driving innovation, higher recycled content, easier reuse, and lower emissions. ESPR aims to make sustainable, circular products the default across Europe's construction sector. This policy change offers an opportunity to support consistent accessible data ecosystem in the EU.	*4*
EU Level(s) Framework – Indicator 1.2	Level(s) is the EU's common framework for assessing building sustainability, designed to harmonize reporting and performance across Europe. It covers key aspects like resource use, health, climate resilience, and crucially, whole life carbon. Level(s) requires assessment and reporting of greenhouse gas emissions across a building's entire life cycle, directly aligning with EN 15978's modular approach (covering both embodied and operational carbon). This Level(s) guidance document provides detailed methodology for Indicator 1.2, which focuses on calculating the life cycle Global Warming Potential (GWP) of buildings. It aligns with EN 15978 and standardizes calculation across cradle-to-grave life cycle stages (A1-C4) over a 50-year reference period. The guidance supports both design-stage projections and post-construction verification, using declared unit metrics ($kgCO_2e/m^2$/year). It also details quality assurance, data sources, and consistency checks to improve comparability across assets and countries. This Indicator is instrumental for the EU's broader goals to mainstream WLC assessment into regulatory and financial frameworks, including the EPBD and taxonomy.	*3, 5*
France's Whole Life Carbon Regulation (RE2020)	France's RE2020 regulation, implemented from 2022, is the first national policy to require progressively tightening carbon performance limits across the full life cycle of new buildings. It applies to all new residential buildings and will expand to offices and schools. RE2020 uses life-cycle assessment (LCA) aligned with EN 15978, covering modules A1-C4 over a 50-year reference period. It sets binding limits on both operational energy (in kWh/m^2) and embodied carbon (in $kgCO_2e/m^2$), with decreasing thresholds planned through 2031.	*3, 4*
GCCA Global Low Carbon Ratings for Cement and Concrete	The Global Cement and Concrete Association (GCCA) has developed a standardized low carbon rating system for cement and concrete to support reporting, procurement and comparison of products. This system ensures transparency in low-carbon procurement and supports global efforts toward net-zero emissions by 2050. Universal standards of this nature support advance market commitments.	*5*
Global Harmonization of Whole Life Carbon Assessments (WLCA) Guide (RICS)	The RICS Global Harmonization of whole life carbon assessments (WLCA) Guide (2024) provides a framework for consistent measurement of greenhouse gas emissions across the built environment. The guide emphasizes harmonization across seven dimensions – including information modules, timing, assessment periods, spacial boundaries, asset elements, data and uncertainty and reporting.	*3*
Global Real Estate Sustainability Benchmark (GRESB)	GRESB is a globally recognized ESG benchmark and assessment platform for real assets – including real estate funds, developers, and listed property companies. It comprises three components – Performance, Development, and Management – and collects data on energy, GHG emissions, water, waste, embodied carbon, and building certifications. From 2023, GRESB introduced indicators to measure embodied carbon (A1-A5) in new construction and major renovations, with notable growth in participant reporting (26% in new developments, up from 20%).	*4*
Greater London Authority's 2021 London Plan	The Greater London Authority's 2021 London Plan requires all referable developments (above 30m or 150 residential units) to submit both a whole life carbon assessment and an operational energy assessment in compliance with CIBSE's TM54 guidance. Assessments are required at planning stage, and to be updated at completion of construction. In addition, the "Be Seen" policy requires asset owners to monitor and report actual operational energy for at least five years post-occupancy so providing an evidence base as to the "performance gap" between design predictions and real-world energy use.	*4*

Annex 1
Record of stocktake activities

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
GREEN×LOTUF Workstream	In 2025, GREEN – a network of institutional investors in real estate – partnered with LOTUF to launch a new workstream to streamline ESG data practices, improve access to reliable energy and carbon performance metrics, and address systemic barriers preventing the real estate sector from accurately pricing climate risk and accelerating decarbonization.	*3, 4*
Helsinki Whole Life Carbon Policy	Helsinki's climate action plan integrates whole life-cycle carbon (WLC) considerations into zoning, permitting, and public procurement. The city is committed to achieving carbon neutrality by 2035, with buildings as a central focus. New developments must complete life cycle carbon footprint calculations, which are considered during planning approvals. The city also pilots carbon limit values in land use competitions and aims to develop a standardized WLC assessment method compatible with national tools.	*3*
IEA Technology Collaboration Platform EBC Annex 72 – Assessing Life Cycle Related Environmental Impacts Caused by Buildings	IEA EBC Annex 72 ("Assessing Life Cycle Related Environmental Impacts Caused by Buildings") is a research project focused on improving decision-making for buildings considering their long lifetimes and environmental impacts. It builds on earlier Annexes 56 and 57 by expanding scope to include not just primary energy and greenhouse gas emissions, but broader environmental impacts during operation, construction, and end of life, for new and retrofitted residential, office, school, hospital, and other public buildings. Objectives include creating a common methodology guideline; developing environmental benchmarks; producing regionally differentiated tools and databases; and using case studies to derive empirical benchmarks. The project ran from 2016 to 2023.	*3, 4*
INDICATE project	The INDICATE project is a European initiative designed to accelerate the decarbonization of buildings by generating high-quality, building-level whole life carbon (WLC) data. Piloted in Spain, Ireland, and the Czech Republic (2022-2024), it brought together national consortia – government, academia, industry, and NGOs – to produce at least 50 LCA (life cycle assessment) case studies per country. The project established national data infrastructures, benchmarks, and open-access tools, addressing the critical lack of reliable WLC data needed for policy and industry action. Key outcomes include the creation of over 150 building LCAs, new national benchmarks, and robust methodologies for integrating WLC into regulations. Findings highlight that 80% of embodied carbon comes from the production phase, guiding targeted policy. INDICATE laid the groundwork for scaling up through the upcoming INDICATE LIFE phase, aiming to expand to more countries, harmonize methodologies, and further embed WLC in European policy frameworks.	*4*
International definitions and principles for near-zero and resilient building	Under the Buildings Breakthrough, WorldGBC are leading an international consortium in the development of qualitative definitions and principles of near-zero and resilient buildings, with a view of securing endorsement by national governments. This workstream will look to progress to identify metric and indicators for such definitions which may support the harmonization of WLC.	*3*
ISO 22057 (BIM & EPD Integration)	ISO 22057:2022 – Sustainability in buildings and civil engineering works: Data templates for the use of Environmental Product Declarations (EPDs) in BIM – defines a standardized data template for embedding environmental and technical information from construction products into Building Information Modelling (BIM) systems. This enables machine-readable, structured access to lifecycle data – such as Global Warming Potential (GWP) and other environmental indicators – from EPDs. It does not itself govern LCA calculations or overall building-level assessment but ensures that reliable product-level data can feed into building lifecycle evaluations.	*4*
ISSB/IFRS Corporate Disclosure Standards	The International Sustainability Standards Board (ISSB) issued its first global baseline sustainability disclosure standards in June 2023: IFRS S1 (General Requirements) and IFRS S2 (Climate-related Disclosures). IFRS S2 includes industry-specific guidance for real estate (Volume B36) that aligns closely with the GRESB Real Estate Assessment – requiring climate-related risks, Scope 1, 2, and 3 emissions (including financed and embodied carbon), scenario analysis, and energy consumption reporting by asset type and portfolio. These standards are intended to be adopted by jurisdictions globally and support investor decision-making through comparability and assurance.	*5*
ITA Standards Map	The ITA Standards Map by the Mission Possible Partnership (2024) provides the most comprehensive global landscape analysis of low-emissions product standards across high-impact sectors: steel, cement/concrete, aluminum, chemicals, and SAF (sustainable aviation fuel). It evaluates over 70 initiatives, classifying them by scope, maturity, level of ambition, and coverage of emissions scopes (1-3). The report identifies leading standards (e.g. Responsible Steel, CSC, GCCA Roadmap, ASI, IEA Annex 82), gaps in traceability and comparability, and opportunities for harmonization. The aim is to guide governments, buyers, financiers, and producers toward credible, scalable, and interoperable standards that can unlock demand and investment for low-carbon materials.	*5*

Annex 1
Record of stocktake activities

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Japan Carbon Assessment Tool (J-CAT)	J-CAT is a national whole life carbon (WLC) assessment tool developed in Japan by the Zero Carbon Buildings Promotion Council. Released in October 2024, it enables standardized life cycle carbon assessment for buildings, aligned with international norms (e.g. ISO 21930) and the AIJ-LCA guidelines. J-CAT provides three levels of assessment based on input complexity and purpose, and includes default CO_2 intensity values for building materials. It supports WLC assessments across stages A-D and aims to build consensus and technical capacity for future regulation. Its development is embedded in a strong public-private-academic framework, supporting Japan's 2050 carbon neutrality goals in the built environment. The tool is to support the development of local databases.	*3, 4*
LOTUF Seeing is Believing Report	This report explores how to unlock investment and demand for low-carbon buildings by focusing on mechanisms that align tenant demand, building certifications, valuation practices, and policy signals. It highlights that current green premiums are not widespread or consistent enough to justify broad private investment, and that voluntary certifications (e.g. EDGE, LEED, UK NZC Standard) could play a key role in mobilizing early demand. The report identifies practical levers – such as data transparency, insurance risk modeling, and institutional procurement alignment – and calls for an ecosystem approach to mainstream low-carbon performance in real estate. It includes case studies from Australia, France, the UK, and Germany.	*5*
Minoro.org	Minoro.org is an open-access platform launched in July 2024 through a collaboration led by Grimshaw, the World Business Council for Sustainable Development (WBCSD), and supported by Green Building Councils globally. Curating over 1,000 policies, standards, methodologies, and case studies, Minoro provides a stepwise carbon management toolkit tailored to various stakeholders (owners, investors, architects, contractors) and project stages. It includes visual dashboards, a downloadable Excel-based "Carbon Opportunities Register," responsibility matrices, and guidance tailored by region and project phase. With over 5,600 users across 89 countries, Minoro is designed as a global one-stop resource for guidance and actionable carbon-reduction planning.	*4*
Multi-Jurisdiction Common Ground Taxonomy	The Common Ground Taxonomy (CGT), developed by the International Platform on Sustainable Finance, maps and compares sustainable finance taxonomies to improve global interoperability. Initially launched in 2021 by the EU and China for climate change mitigation, it identifies aligned activities and highlights differences using a structured classification. Expanded in 2024 to include Singapore as the Multi-Jurisdiction CGT, it now covers 110 activities across eight sectors – including construction and real estate – supporting transparency, cross-border investment, and harmonization in sustainable finance frameworks.	*5*
National & Sub-National Sectoral Roadmaps	National and sub-national sectoral roadmaps, like those prepared by GlobalABC, WRI, C40 and WorldGBC, help structure and orientate the direction of action of many stakeholders in the region. To this end, they offer an enabler for many of the interventions in the MTAA. Where roadmaps include credible quantitative targets they more directly support the harmonization of data and WLC accounting.	*3, 4, 5*
National Whole Life Carbon Roadmaps	The WorldGBC BuildingLife Roadmaps are national action plans developed by World Green Building Council and its partners to drive the decarbonization of Europe's built environment across the entire life cycle of buildings. These roadmaps set out clear pathways, policies, and targets for reducing both embodied and operational carbon, bringing together government, industry, and civil society. They identify regulatory reforms, financing mechanisms, and stakeholder actions needed to achieve net-zero by 2050, supporting policy alignment and market transformation for sustainable construction across Europe. In doing so, they offer a foundation from which to support harmonization of WLC.	*3*
Net-zero Carbon Buildings Commitment	Launched in 2018 and strengthened in 2021, the WorldGBC Net-zero Carbon Buildings Commitment is a voluntary pledge taken by companies, governments, and organizations to decarbonize their building portfolios. Signatories commit to reducing Scope 1 & 2 operational emissions and embodied carbon for new developments and major renovations by 2030, with compensation for residual emissions. The framework requires: annual disclosure, a bespoke decarbonization roadmap, third-party verification, and advocacy for wider transformation. It now mandates reporting of whole life carbon (WLC) in line with EN 15978, positioning signatory action as a catalyst for sector-wide change.	*3*
Nordic Harmonization of Life Cycle Assessment	The Nordic Harmonization of Life Cycle Assessment (2021-2024) was a work package within the Nordic Sustainable Construction program, aimed at standardizing building life cycle assessment (LCA) methodologies across the Nordic region. It completed robust analysis of existing Nordic LCA practices and produced a harmonization roadmap. The project established a shared data approach through collaboration across the region and developed the BIM4LCA digital tools and learning materials – including guidelines, two BIM model examples, and educational videos – to support BIM-based LCAs. The initiative has now concluded, leaving a foundation for consistent LCA practices across Nordic countries.	*3, 4*

Annex 1
Record of stocktake activities

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Open Building Data Platform (GBDI)	The Open Building Data Platform empowers stakeholders to decarbonize by providing an open, scalable system for whole-life-cycle (WLC) building data. It uses the open BDF format for global data sharing, enables benchmarking, prospective LCA analysis, custom analytics, and API integrations – supporting actionable insights, policy development, and performance-driven building design.	*4*
Partnership for Carbon Transparency (PACT)	The Partnership for Carbon Transparency (PACT) is a global initiative coordinated by the World Business Council for Sustainable Development (WBCSD), aimed at standardizing calculation and exchange of Product Carbon Footprint (PCF) data – primarily cradle-to-gate Scope 3 emissions. The initiative has developed the Pathfinder Framework and PACT Methodology V3, along with technical specifications to enable interoperable data-sharing across supply chains. Over 2,500 companies and 150+ ecosystem partners have joined, exchanging more than 4,500 PCFs via multiple technology platforms. PACT underpins global efforts to improve carbon transparency and drive supplier-led decarbonization.	*4, 5*
PAS 2080	PAS 2080 is a globally recognized standard for managing and reducing carbon in infrastructure, with a particular focus on whole-life greenhouse gas emissions across the value chain. Originally developed in the UK by the British Standards Institution (BSI) and now in its 2023 second edition, PAS 2080 provides a framework for asset owners, designers, constructors, and suppliers to systematically measure, manage, and reduce both embodied and operational carbon. Its adoption is a potential enabler for advance market commitments.	*3*
PCAF Global GHG Accounting & Reporting Standard for the Financial Industry	Developed by the Partnership for Carbon Accounting Financials (PCAF) in collaboration with financial institutions worldwide, this standard provides a rigorous framework for measuring and reporting financed emissions (Scope 3, Category 15) associated with loans and investments, including commercial real estate and mortgages. It builds on the GHG Protocol Scope 3 Standard and offers asset-class specific guidance for attributing carbon emissions based on proportional financing share. Since its first publication in 2020, the standard has been adopted by over 600 financial institutions globally.	*5*
Real Estate Environmental Benchmark (REEB) Database	The Real Estate Environmental Benchmark (REEB), led by the Better Buildings Partnership (BBP), is a publicly available dataset of operational energy performance metrics for commercial real estate in the UK. It provides a trusted industry benchmark by aggregating anonymized data from major property owners, covering energy, water, and waste. REEB supports more accurate performance tracking, facilitates target-setting, and encourages continual improvement. It also enables comparisons across asset types and portfolios, supporting transparency and accountability in environmental performance. BBP updates the REEB database annually and promotes its integration into investment and asset management decisions.	*4*
Regional Sustainable Finance Taxonomies	Regional sustainable finance taxonomies provide guidance to investors on whether an economic activity is environmentally sustainable, and often include provisions for investment in construction activities. As of February 2024, 47 sustainable finance taxonomies had been issued globally, of which at least 14 recognize real estate activities. These finance taxonomies offer a means to direct finance toward sustainable construction; to this end it can support efforts to align standards. The technical screening criteria of the taxonomies varies. Examples include: EU Taxonomy, Singapore Asia Taxonomy, and Columbia Green Taxonomy.	*4, 5*
RICS guidance ESG Valuation indicators	The RICS report "ESG and Valuation: The Data Landscape 2024" provides a comprehensive overview of the rapidly evolving data sources, frameworks, and metrics shaping how environmental, social, and governance (ESG) factors are integrated into property valuation. It maps key ESG data providers and highlights emerging trends in regulatory disclosure, certification schemes, and investor requirements. The report aims to guide valuers, investors, and stakeholders in navigating ESG data challenges, ensuring more transparent, reliable, and future-proof valuation practices in the real estate sector. The report maps, categorizes, and analyses ESG data sources, providing guidance on accessing, interpreting, and applying data relevant to whole life carbon and Scope 3 emissions in real estate valuation.	*4*
RICS Whole life Carbon Assessments (2nd edition)	The RICS WLCA Standard (2nd Edition), effective 1 July 2024, provides a comprehensive and globally applicable methodology for assessing whole life carbon emissions of buildings and infrastructure in accordance with EN15978 and ICMS 3. It covers life-cycle modules A0-D2, including embodied, operational, and user-related emissions. Mandatory stages include early design through post-completion, with quality control via carbon data confidence scoring and contingency allowances.	*3*
SBTi Buildings Sector Guidance	The SBTi Buildings Sector Guidance provides a science-based framework for companies in the building value chain to set and validate greenhouse gas (GHG) emissions reduction targets in line with limiting global warming to 1.5°C. It covers developers, owners, operators, and occupiers of buildings, as well as construction companies. Notably it works to support alignment of the Scope 1,2 and 3 reporting in corporate emissions and targets.	*5*

Annex 1
Record of stocktake activities

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Scope 3 Emissions Discussion Paper (Green Building Council Australia)	Green Building Council of Australia has released a discussion paper to start an important conversation about reporting and accounting for Scope 3 emissions to drive emissions reductions at scale. The discussion paper highlights the challenge of translating asset emissions into corporate accounts, calling for precise measurement to ensure that significant emissions sources in the built environment are addressed. Despite Scope 3 emissions being indirect, they significantly impact the company's value chain and decision-making. Global commitments like the Paris Agreement emphasize the importance of accurate and consistent reporting for tracking progress, meeting climate goals, assessing investment sustainability, and complying with regulations.	*4*
Standard 240P	Standard 240P, jointly developed by ASHRAE and the International Code Council (ICC), is a proposed global standard to quantify whole-life greenhouse gas (GHG) emissions of buildings and their sites. Open to public comment in early 2024 and again in mid-2025, with completion in early 2026 it defines a consistent methodology covering both embodied (A-C) and operational (B6) GHG from cradle-to-grave. The draft sets minimum documentation requirements for lifecycle emission claims, employs a default GWP-100 metric, and revises system boundary definitions to align with existing industry terminology. Aims to provide a unified platform for stakeholders – designers, regulators, investors – to measure and report building emissions reliably.	*3, 5*
Sweden's Whole Life Carbon Regulation	Since January 2022, Sweden requires all new buildings to conduct and report a climate declaration quantifying life cycle GHG emissions from modules A1-A5. The regulation does not yet set performance limits, but this is under review for 2025. The goal is to progressively expand scope (to include operational and end-of-life stages) and introduce mandatory thresholds as national data matures. This staged approach helps build a consistent national database, raise industry carbon literacy, and prepare for future WLC limits as part of Sweden's broader decarbonization roadmap.	*3, 4*
Thiruvananthapuram Action Plan for Net-zero Carbon and Resilient Buildings	In collaboration with WRI India and local experts, the Thiruvananthapuram Municipal Corporation has developed a city-specific Action Plan for Net-zero Carbon and Resilient Buildings (NZCRBs). The plan outlines 20 actions to reduce emissions across the building lifecycle, promote climate-resilient design, and integrate sustainability into urban planning. Key actions include the development of a database on carbon content of building materials, designing and implementing a green procurement policy, integration of NZCRB principles in urban planning including city master plans and building the infrastructure and capacity for better end-of life carbon management of buildings.	*3, 4*
Toronto Green Standard	The Toronto Green Standard (TGS) V4, effective from May 1 2022 for planning applications, mandates whole-building Life Cycle Assessments (LCAs) for all city-owned developments and encourages voluntary uptake in private sector projects via tiers. Tier 2 requires upfront embodied carbon limits – ≤ 350 $kgCO_2e/m^2$ (low-rise) and ≤ 250 $kgCO_2e/m^2$ (mid/high-rise) – based on CAGBC's Zero Carbon Building Standard methodology. Tier 3 requires developers to demonstrate at least 20% embodied carbon reduction across stages A1-A5 via full LCA. TGS is applied through planning approvals, with financial incentives for higher-tier compliance. It positions the City as a leader in subnational carbon regulation.	*3, 4*
Universal Data Protocol	The Universal Data Protocol (UDP) is a global initiative by Standards Australia and the International Code Council to enable trustworthy, verifiable, and interoperable data exchange across the built environment. Rather than promoting a single platform, UDP proposes a shared protocol – based on the UN Transparency Protocol (UNTP) – to connect diverse systems while preserving data ownership and investment. The initiative addresses fragmented data, siloed platforms, and evolving ESG regulations by enabling scalable, secure, and decentralized data flow across life-cycle stages. The UDP has completed an initial proof of concept and is currently in the validation stage to work with real project data.	*4*
Unlocking Capital: Aligning Asia Pacific Green Building Rating Tools to the ASEAN Taxonomy for Sustainable Finance	The report, developed by the WorldGBC Asia Pacific Regional Network (APN) in partnership with OCBC, systematically analyses 14 major green building rating tools across 11 countries. The report benchmarks these tools against the ASEAN Taxonomy's Technical Screening Criteria and Do No Significant Harm principles, demonstrating how widely used systems including Green Star, Green Mark, LEED v5, BEAM Plus, LOTUS, BERDE, IGBC, GreenSL, GBI, GreenRE, MyCREST, Greenship, GB/T and Green SL already support projects that deliver on climate mitigation, resource efficiency, and circular economy objectives.	*5*
Voluntary Building Standards & Certifications	Voluntary Building Certifications and Standards. Standards and certifications often have regional focus and relevance responding to regional market needs. They vary in their scope and stringency of whole-life carbon measures with the recent report by SystemIQ offering a good summary. Such standards and certifications offer a tool to mobilize tenant demand insofar as they command a green premium for these spaces. Examples of such certifications and standards include: UK Net-zero Carbon Building Standard, Greenstar, BREAM, DGNB, EDGE, ILFI Zero Carbon Certification, NABERS, LEED V5.	*3, 5*

Lever 1 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Whole life carbon policy coalition	The Whole Life Cycle Policy Coalition (WLCP.Co) unites leading organizations to advance the measurement and reduction of whole-life cycle emissions in the built environment – from material production to building use, end-of-life, and material recovery. The Coalition's five action areas are: developing digital infrastructure for international life cycle assessment (LCA), improving global data collection, harmonizing LCA methodologies, training policymakers new to WLC policy, and ensuring diverse perspectives – including from low- and middle-income countries – shape recommendations and standards for whole life carbon reduction.	*3, 4, 5*
WorldGBC Europe Regional Network: Policy Brief on WLC reporting & Targets	In its March 2023 policy briefing, WorldGBC called for harmonized and standardized whole life carbon (WLC) reporting on buildings. They recommended that life cycle global warming potential (GWP) reporting should align with key EN 15978 modules and use the Level(s) User Manual's building element table to define the physical scope. The briefing also advised that Member States set overall life cycle GWP targets for buildings, alongside separate operational and embodied carbon targets, informed by national grid intensity forecasts. These recommendations were developed in consultation with WorldGBC's Europe Regional Network and partners, and are explained in detail in the briefing.	*3*
Zero Carbon Building Accelerator (ZCBA)	The Zero Carbon Building Accelerator (ZCBA), led by the World Resources Institute, helps governments decarbonize the building sector through outreach, policy dialogue, roadmaps, and financing strategies. In Colombia, ZCBA co-developed a national Zero Carbon Building Roadmap and city action plans in Bogotá and Cali, aligning national and local priorities. In Turkey, it supported the country's first Building Decarbonization Roadmap, created with government, private sector, and civil society to identify sectoral priorities and accelerate transition. Operating globally across 60+ countries, ZCBA provides technical assistance, peer learning, and replicable pathways toward a zero-carbon building future.	*3, 5*

Annex 1
Record of stocktake activities

Lever 2

Initiative	*Description*	*MTAA Intervention(s)*
BPP – Acquisitions Sustainability Toolkit	The Better Buildings Partnership's comprehensive online Toolkit contains legal clauses in nearly 20 key areas, covering topics such as building management, circular economy, waste and renewable energy. Its dynamic approach offers suggested drafting variations categorized as "light", "medium" or "dark", accommodating users at various stages of their green leasing journey. Additionally, the Toolkit introduces a new Green Lease Essentials section, outlining a vision for minimum expectations on what green leases should include.	*7*
Carbon Risk Real Estate Monitor (CRREM) & Global Real Estate Sustainability Benchmark (GRESB) integration	The integration of CRREM and GRESB enables real estate investors to assess climate transition risks at the asset level. GRESB's Asset Portal automates the flow of performance data into the CRREM Tool, allowing users to benchmark assets against science-based decarbonization pathways. This supports enhanced analytics via GRESB's Transition Risk Report and helps investors evaluate stranding risks, prioritize retrofits, and align portfolios with 1.5°C targets. Stakeholders include asset managers, fund owners, and ESG analysts.	*7*
China's National Emissions Trading Scheme	China has formally expanded its national ETS beyond power to cement, steel and aluminum, with a first compliance deadline end 2025 (covering 2024 emissions). Firms in these sectors pay a carbon price on emissions.	*6*
European Union Emissions Trading System (EU ETS)	EU ETS is the the key tool for reducing greenhouse gas emissions. It operates on a "cap and trade" principle, setting a cap on emissions from certain sectors and allowing trading of emission allowances. The EU ETS currently covers power, industry, and aviation, but not buildings directly – except where very large boilers or CHP plants are installed. However, buildings are already indirectly affected: electricity prices reflect the ETS carbon cost; district heating systems often fall under the scheme; and construction materials like steel and cement are priced accordingly. From 2027, a new ETS2 will cover heating fuels, raising operational costs and driving retrofits, electrification, and low-carbon heating solutions.	*6*
GREEN Dashboard – Climate Risk Engagement and Tracking for Real Estate Investors	The GREEN Dashboard, developed in collaboration with Maastricht University, translates investor climate expectations into 50 measurable indicators across governance, implementation, disclosure, and certification. It supports collaborative engagement with listed and non-listed real estate companies, tracking progress through milestone-based assessments. The dashboard enables investors to prepare for engagements, monitor climate risk performance, and benchmark progress across portfolios. It is academically validated and used exclusively by GREEN members, who collectively manage over €3 trillion in assets.	*7*
IFRS S1 and IFRS S2 – Sustainability Disclosure Standards by ISSB	The ISSB Standards help investors understand a company's climate-related and sustainability-related risks and opportunities. They comprise: IFRS S1 – General Requirements for Sustainability-related Financial Disclosures; IFRS S2 – Climate-related Disclosures (based on the TCFD framework and aligned with the GHG Protocol). These standards help companies quantify, disclose, and manage both transition risks and physical risks. They require disclosure of Scope 1, Scope 2, and material Scope 3 GHG emissions, enhancing data consistency and comparability across companies and portfolios.The ISSB also encourages the use of climate scenario analysis (e.g., 1.5°C vs 3°C pathways) to assess portfolio exposure to climate change outcomes.	*7*
NYC Local Law 97	Local Law 97 is a landmark NYC climate law targeting buildings over 25,000 sq ft to reduce carbon emissions. It sets phased emissions caps from 2024 to 2050, aiming for a 40% reduction by 2030 and 80% by 2050. Non-compliance incurs steep fines, effectively creating a carbon price. LL97 compels real estate owners to upgrade energy systems, electrify buildings, and consider carbon trading. It directly impacts developers, landlords, tenants, and investors, reshaping NYC's real estate market toward low-carbon operations. Non-compliance fine of $268 per metric ton of CO_2e over the limit offers a benchmark carbon price for the region.	*6, 7*
Property Valuation Standards	Property Valuation Standards – like the RICS Red Book, Australia & New Zealand Valuation and Property Standards (ANZVPS), and European Valuation Standards – set out authoritative standards for property valuations within a region. They are used by valuers, investors, lenders, regulators, and real estate professionals, and their valuation informs the decision making of many stakeholders. Valuation standards like RICS Red Book and EVS are acknowledging sustainability but remain qualitative and market-driven. Carbon – especially whole life carbon – is not directly embedded. Europe is moving fastest due to regulatory pull (taxonomy, EPBD, SFDR), but practice is still catching up.	*6, 7*
TCFD – Task Force on Climate-related Financial Disclosures	TCFD provides a structured framework for disclosing climate-related financial risks and opportunities. For real estate investors, it enables integration of climate governance, scenario analysis, risk management, and metrics into investment processes. The PRI's technical guide outlines practical steps for applying TCFD across the real asset lifecycle – from acquisition to asset management – supporting regulatory alignment, investor transparency, and long-term resilience.	*7*

Lever 2 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
UKGBC: Carbon Offsetting and Pricing Guidance	This UKGBC guidance equips real estate developers and investors with a structured framework for ambitious carbon offsetting and internal carbon pricing. Updated in 2024 to reflect the latest Oxford Offsetting Principles and ICVCM Core Carbon Principles, it promotes science-based decarbonization, responsible offsetting, and transparent reporting. The guide supports the UK Net-zero Carbon Buildings Standard and encourages the use of transition funds to finance broader climate and social co-benefits, aligning built asset valuation with climate risk and sustainability imperatives.	*7*
ULI C-Change Survey Report 2024	The ULI C Change Survey Report 2024 examines how real estate investors are addressing decarbonization and transition risks, with a particular focus on the role of internal carbon pricing. Based on industry survey data, it explores how firms are integrating transition risks into investment strategies, the mechanisms being used to price carbon internally, and the barriers encountered. The report provides insights to guide industry practice, build consistency, and support accelerated adoption across the sector.	*6, 7*
ULI C Change's Preserve Tool	ULI Europe is developing Preserve, a free, interactive Excel-based tool (in collaboration with Synergetic, Mott MacDonald, and CBRE UK) to embed net-zero transition factors – such as energy costs, carbon pricing, capex and rent shifts – into real estate discounted cash flow models. It offers a standardized approach aligned with ULI C Change Transition Risk Guidelines, promoting consistent financial analysis across the sector to accelerate decarbonization.	*7*

Annex 1
Record of stocktake activities

Lever 3

Initiative	*Description*	*MTAA Intervention(s)*
Azerbaijan Built Environment Sustainability Pledge	The Azerbaijan Built Environment Sustainability Pledge, launched in July 2024 under the COP29 Presidency, brings together 11 state-owned enterprises and private businesses to advance the decarbonization and resilience of the country's building sector. Signatories have made six commitments to orientate their collaboration.	*9*
Book & Claim heavy industry market pilot study	This report, by RMI & Microsoft, investigates the potential for book-and-claim mechanisms to drive growth of near-zero product markets within the lower-carbon steel and concrete sectors. It explores the applicability of book and claim for steel and cement, the infrastructure needed to create a robust book-and-claim system, lessons learned from an initial market pilot led by Microsoft, and more.	*9*
Book & Claim Systems to Cement & Concrete	The Cement & Concrete initiative by the Center for Green Market Activation, in partnership with RMI, convenes a diverse working group to design a robust book-and-claim system, standardizing measurement methods and enabling verified attribute trading. Once finalized, it will support demand aggregation and collective procurement – mirroring successful models in aviation and trucking – to unlock capital flows and scale low-carbon cement and concrete deployment.	*9*
Build Ahead Coalition	Build Ahead is a coalition initiative convened by Xynteo to accelerate the decarbonization of India's built environment, bringing together leading businesses, policymakers, and innovators to reshape the construction sector toward net-zero by 2050. Its six workstreams focus on: setting ambitions and commitments, mobilizing finance, activating demand, developing standards and codes, accelerating innovation, and creating roadmaps for material manufacturers. In 2024, Build Ahead published a framework for green public procurement of cement and steel and partnered with GCCA India to strengthen efforts in driving low-carbon construction and scaling systemic market transformation.	*9*
Business Charter to decarbonize buildings and construction (WRI India)	The Business Charter on Buildings is a voluntary, sector-wide commitment framework launched in India to catalyze decarbonization of the building and construction value chain. It sets out priority actions and commitments for diverse stakeholders – including architects, developers, contractors, material manufacturers, property owners, and facility managers – to align their practices with India's long-term climate goals. The 20 signatories commit to "develop 25% of the new buildings as net-zero buildings by 2030."	*9*
Buy Clean Policies (California, Colorado, etc.)	Public procurement policies requiring the use of materials with disclosed and often lower embodied carbon, verified through EPDs; aims to stimulate low-carbon supply chains.	*9*
C40's Clean Construction Accelerator	Working with leading cities to implement their commitment to Clean Construction. This, in part, requires leading by example with integrating LCAs in public procurement, but also in shaping the wider market environment through planning policy.	*9*
C40's Net-zero Carbon Buildings Accelerator	Working with leading cities to implement their commitment to Net-zero Buildings. This, in part, includes "owning, occupying and developing only assets that are net-zero carbon in operation by 2030" which speaks to both Intervention 9 and 11.	*11*
Carbon Risk Real Estate Monitor (CRREM) & Global Real Estate Sustainability Benchmark (GRESB) integration	Tool helping real estate investors assess and manage transitional risks associated with climate change and carbon emissions. Its integration into GRESB (Global Real Estate Sustainability Benchmark) is strengthening the deployment among asset managers.	*10*
Circular Construction in the Circular Economy Policy Medellín Colombia	Medellín Circular Economy Policy. Circular Construction. Decreto 0015 2025DESCRIPTION: Axis 1. Construction and development of circular and low-carbon production systems. The Medellin District, through its various departments and in coordination with its decentralized entities, will establish strategies aimed at developing conditions to promote changes and adjustments in production and construction processes, current business models, and analysis of the value and supply chains of companies in the industrial, agro-industrial, energy, transportation and logistics, textile, tourism, construction, commerce, services, and sanitation service companies, as well as solid waste and secondary materials management sectors.	*8*

Annex 1
Record of stocktake activities

Lever 3 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Concrete Sustainability Council (CSC) global certification scheme for responsibly sourced ready-mixed and precast concrete	CSC certification is a holistic, material stewardship standard for concrete and its supply chain, addressing governance, environmental and social aspects. It supports whole life carbon accounting and alignment with net-zero targets and, with this, is an initiative that also promotes decarbonization. Via its supply chain requirements, CSC-certification contributes to transforming supply and demand. Key contributions to market transformation include: 1) Promotes decarbonization: CSC requires GHG reduction targets for cement and concrete plants; high-level targets must be validated by SBTi. 2) Transparency: Promotes EPDs aligned with ISO 21930, EN 15804, and ISO 14025/14040. 3) Standards Integration: Recognized by leading voluntary systems such as DGNB, BREEAM, LEED, ENVISION and complements tools like the GCCA Low-Carbon Concrete Rating. 4) Market Signals: Increasingly used in procurement, strengthening demand for sustainable concrete. For example, private developers are embedding CSC requirements into tendering processes. With supplementary evidence, such as a Life Cycle Assessment (LCA), CSC-certified products can help qualify for MIA/Vamil tax benefits in The Netherlands. Financial institutions are also requiring verifiable supply chain data to fully assess transition risk, such as Rabobank Impact Loan in The Netherlands with an interest discount for sustainable companies that can demonstrate they have CSC certified concrete. Levers: Harmonization of whole life carbon accounting, Standards alignment and Mobilizing market demand.	*9, 11*
ConcreteZero (Climate Group)	The Climate Group's ConcreteZero campaign, launched in July 2022, unites global companies and public bodies to eliminate CO_2 emissions from concrete by 2050. It advocates for purchasing zero-carbon concrete and setting ambitious carbon-performance targets. By mobilizing industry commitments, providing technical guidance, and leveraging procurement power, ConcreteZero aims to transform concrete supply chains.	*9*
Construction & infrastructure Procurement	This program leverages the power of public procurement to reshape the construction and infrastructure sector. It recognizes that with nearly half of 2050's buildings yet to be built, there is a critical opportunity to embed sustainability into every stage of development from planning and design to construction and operation.	*9*
Embodied Carbon Classification Scheme for Concrete (Innovate UK/Arup)	Arup's Embodied Carbon Classification Scheme for Concrete provides a transparent, standardized method for assessing and benchmarking the embodied carbon content of concrete mixes. The scheme defines carbon performance classes based on kilograms of CO_2 per cubic meter, enabling designers, clients, and contractors to compare and specify lower-carbon options. By supporting clearer communication and more ambitious carbon reduction targets across the supply chain, this tool helps accelerate the uptake of low-carbon concrete solutions and drives industry progress toward net-zero construction.	*9*
Energiesprong Global Alliance	Energiesprong is an international initiative that transforms existing homes and buildings to net-zero energy performance through industrialized, whole-house retrofits. The group partners with housing providers, industry, and policymakers to deliver affordable, high-quality upgrades – such as prefabricated facades, insulated rooftops, heat pumps, and solar panels – that drastically cut energy use and carbon emissions. Energiesprong's scalable model accelerates deep retrofit markets in Europe and beyond, making net-zero renovations faster, more reliable, and accessible for large-scale decarbonization of the built environment.	*10*
EP100 (Climate Group)	The Climate Group's EP100 campaign brings together global businesses committed to doubling their energy productivity – i.e., boosting economic output per unit of energy – by 2030. Participants commit to implement energy-efficiency measures, set measurable improvement targets, report progress transparently, and share best practices. Since launch, EP100 companies have saved over US $1.2 billion and cut emissions equal to those of Denmark, Italy, and Portugal combined, demonstrating that smarter energy use is both profitable and an effective means to deliver decarbonization.	*11*
EU Directive: Corporate sustainability due diligence	Under Directive (EU) 2024/1760, companies must integrate risk-based due diligence into their policies and operations, identifying, preventing, mitigating, and accounting for environmental and human rights impacts across their entire value chains. They are required to adopt a 1.5°C-aligned climate transition plan, including time-bound Scope 1, 2, and 3 greenhouse gas reduction targets and decarbonization strategies. Companies must report annually on due diligence and transition progress, subject to monitoring, enforcement, and significant penalties. This will indirectly mobilize demand for the buildings relevant companies tenant. These standards can raise demand for low-carbon materials in so far as they incentivize low-carbon construction.	*11*
Finance & stranded assets: Missing link between finance and supply chain data quality	Financial institutions require consistent, verifiable supply chain data to fully assess transition risk. (e.g. Rabobank in The Netherlands links discount on interest rate loans to the use of CSC certified concrete). Supply chain certification offers financiers and asset managers a trusted assurance mechanism, ensuring that concrete supply chains meet recognized ESG and carbon transparency criteria, thereby lowering investment risk.	*10*

Annex 1
Record of stocktake activities

Lever 3 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
First Movers Coalition	The First Movers Coalition, launched at COP26 by the World Economic Forum and US climate envoy John Kerry, convenes global companies pledging to purchase low-emission materials and services in heavy-industry sectors – steel, cement, concrete, aluminum, shipping, trucking, aviation, and carbon removal – by 2030. With over 100 members and $16 billion in planned procurement, it aims to create market demand for breakthrough clean-technology adoption ("near-zero") and accelerate large-scale decarbonization in hard-to-abate industries.	*9*
GCCA Global Low Carbon Ratings for Cement and Concrete	The Global Cement and Concrete Association (GCCA) has developed a standardized low carbon rating system for cement and concrete to support reporting, procurement, and comparison of products. This system ensures transparency in low-carbon procurement and supports global efforts toward net-zero emissions by 2050. Universal standards of this nature support advance market commitments.	*9*
Global Property Linked Finance Initiative	The Global Property Linked Finance Initiative (GPLFI), launched by the Green Finance Institute and Climate Bonds Initiative, aims to scale Property Linked Finance (PLF) into a globally recognized asset class to unlock billions in private capital for net-zero and climate-resilient buildings. PLF ties repayments to properties rather than owners, enabling long-term, affordable financing for upgrades. Already successful in countries like the U.S., Canada, and Australia, PLF helps overcome barriers like high upfront costs. GPLFI seeks to unify fragmented markets, provide technical support, and accelerate adoption through shared standards and financial tools.	*10*
GREEN×LOTUF Workstream	In 2025, GREEN – a network of institutional investors in real estate – partnered with LOTUF to launch a new workstream to streamline ESG data practices, improve access to reliable energy and carbon performance metrics, and address systemic barriers preventing the real estate sector from accurately pricing climate risk and accelerating decarbonization.	*10*
Green Lease Toolkit (Better Buildings Partnership)	Contract wording for knowledge-sharing/Data provides commercial property owners with appropriate, relevant environmental clauses for incorporation into their standard lease agreements, and a template Memorandum of Understanding (MoU) which can sit alongside a lease and be used as a tool to enable an owner to work in partnership with occupiers to improve the Environmental Performance of their buildings.	*8, 11*
Industrial Transition Accelerator	The Industrial Transition Accelerator (ITA), part of the Mission Possible Partnership, helps heavy industry sectors rapidly decarbonize by bringing together industry leaders, governments, investors, and innovators. ITA develops sectoral roadmaps, advances large-scale clean technology projects, secures financing, and aligns policy to accelerate progress toward net-zero. It focuses on scaling up climate solutions, removing barriers to investment, building business cases for first movers, and fostering cross-sectoral collaboration to transform hard-to-abate industries like steel, cement, chemicals, and shipping. It undertakes a number of activities that support advance market commitments from its Green Demand Policy Playbook. It also supports harmonization of standards through its standards mapping tool.	*9*
ITA Standards Map	The ITA Standards Map by the Mission Possible Partnership (2024) provides the most comprehensive global landscape analysis of low-emissions product standards across high-impact sectors: steel, cement/concrete, aluminum, chemicals, and SAF (sustainable aviation fuel). It evaluates over 70 initiatives, classifying them by scope, maturity, level of ambition, and coverage of emissions scopes (1-3). The report identifies leading standards (e.g. ResponsibleSteel, CSC, GCCA Roadmap, ASI, IEA Annex 82), gaps in traceability and comparability, and opportunities for harmonization. The aim is to guide governments, buyers, financiers, and producers toward credible, scalable, and interoperable standards that can unlock demand and investment for low-carbon materials.	*9*
London's Mayor Energy Efficient Fund	The Mayor of London's Energy Efficiency Fund (MEEF) is a £500 million investment fund supporting energy-efficient retrofits and low-carbon projects across London's public and private buildings. By providing loans and flexible financing for upgrades like insulation, heating, renewables, and EV infrastructure, MEEF accelerates carbon reduction and energy savings. It has mobilized over £420 million in capital, delivering significant emissions cuts and supporting London's ambition to be a net-zero city by 2030 through large-scale action in the built environment. It mobilizes demand by tenants and owners by offering favorable financing.	*11*
Multi-Jurisdiction Common Ground Taxonomy	The Common Ground Taxonomy (CGT), developed by the International Platform on Sustainable Finance, maps and compares sustainable finance taxonomies to improve global interoperability. Initially launched in 2021 by the EU and China for climate change mitigation, it identifies aligned activities and highlights differences using a structured classification. Expanded in 2024 to include Singapore as the Multi-Jurisdiction CGT, it now covers 110 activities across eight sectors – including construction and real estate – supporting transparency, cross-border investment, and harmonization in sustainable finance frameworks.	*10*

Annex 1
Record of stocktake activities

Lever 3 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
National & Sub-national Sectoral Roadmaps	National and sub-national sectoral roadmaps, like those prepared by GlobalABC, WRI, C40 and WorldGBC, help structure and orientate the direction of action of many stakeholders in the region. To this end, they offer an enabler for many of the interventions in the MTAA. Where roadmaps include credible quantitative targets they more directly support the harmonization of data and WLC accounting.	*8, 9, 10, 11*
Nationwide 0% Loan for Retrofit (Domestic)	Nationwide's Green Additional Borrowing is a mortgage scheme that allows existing mortgage customers to borrow between £5,000 and £25,000 at a preferential interest rate to fund energy-efficient home improvements. Eligible upgrades include insulation, solar panels, heat pumps, double glazing, and more. The goal is to help homeowners lower energy bills and reduce carbon emissions. The scheme is open to Nationwide mortgage holders with sufficient equity, subject to affordability checks and standard lending criteria.	*10*
Net-zero Carbon Buildings Commitment	Launched in 2018 and strengthened in 2021, the WorldGBC Net-zero Carbon Buildings Commitment is a voluntary pledge taken by companies, governments, and organizations to decarbonize their building portfolios. Signatories commit to reducing Scope 1 & 2 operational emissions and embodied carbon for new developments and major renovations by 2030, with compensation for residual emissions. The framework requires: annual disclosure, a bespoke decarbonization roadmap, third-party verification, and advocacy for wider transformation. It now mandates reporting of Whole Life Carbon (WLC) in line with EN 15978, positioning signatory action as a catalyst for sector-wide change.	*9*
NYC Local Law 97	Local Law 97 (LL97) is a landmark NYC climate law targeting large buildings (over 25,000 sq ft) to cut carbon emissions. It sets strict emissions caps by building type, requiring compliance in phases: initial limits from 2024-2029, tighter caps in 2030-2034, and further restrictions by 2035. The goal is a 40% emissions reduction by 2030 and 80% by 2050. Non-compliance incurs significant fines. Buildings must undertake major energy upgrades, with support available through loans, incentives, and planned carbon trading.	*10*
PACE (Property Assessed Clean Energy) Financing	PACE (Property Assessed Clean Energy) is a financing tool that enables long-term, low-cost funding for energy efficiency, renewable energy, and resilience improvements to buildings. Covering 100% of eligible project costs, PACE loans are repaid through property tax assessments that transfer upon sale. Enabled by state and local legislation, PACE is available for most commercial and some residential properties. Over 350,000 building owners have invested $15+ billion in upgrades using PACE in 38 states and Washington, D.C.	*10*
Regional Sustainable Finance Taxonomies	Regional sustainable finance taxonomies provide guidance to investors on whether an economic activity is environmentally sustainable, and often include provisions for investment into construction activities. As of February 2024, 47 sustainable finance taxonomies had been issued globally, of which at least 14 recognize real estate activities. These finance taxonomies offer a means to direct finance toward sustainable construction, to this end it can support intervention 9 and 10. The technical screening criteria of the taxonomies varies. Examples include: EU Taxonomy, Singapore Asia Taxonomy, Columbia Green Taxonomy.	*10*
Renovation Revolution (Climate Group)	Renovation Revolution, launched in 2024 by Climate Group, is a global campaign to make large-scale renovation the default pathway for decarbonizing buildings. With a focus on Europe as an early proving ground but global ambitions, it convenes sub-national governments, businesses, and civil society to promote renovation over demolition, linking climate action with energy security and affordability. The initiative has published a position paper, convened multi-stakeholder dialogues, and begun building political momentum to integrate renovation into policy frameworks. Its core aim is to scale retrofits and extend building lifecycles as a key climate solution.	*10*
Scalable business models for transforming supply & demand dynamics (WBCSD & JLL)	The project is a collaborative, market-driven initiative focused on rapidly closing the gap between net-zero asset demand and supply. By building robust business models, piloting them in leading global cities, and fostering collaboration across the value chain, the project aims to create a scalable template for the decarbonization of the built environment – addressing not only operational and embodied carbon, but also integrating circularity and resilience for long-term asset value.	*9, 11*
Singapore's first Market Benchmark on the Embodied Carbon of Concrete (Concrete Zero)	Launched in 2025 by Climate Group's ConcreteZero and CapitaLand Development, this project maps the embodied carbon of concrete in Singapore to drive transparency and industry engagement. By expanding ConcreteZero's methodology, it provides consistent, comparable data to support developers, policymakers, and suppliers in scaling low-carbon concrete.	*9*

Annex 1
Record of stocktake activities

Lever 3 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
SteelZero (Climate Group)	The Climate Group's SteelZero campaign mobilizes corporate demand to drive the steel industry toward net-zero emissions. Participants commit to sourcing 50% low-emission steel by 2030 and 100% net-zero steel by 2050, sending a strong market signal. SteelZero collaborates with ResponsibleSteel to define emissions thresholds, supports members with procurement guidance, transparency tools, and supply-chain engagement, and has drawn major organizations like Maersk, Volvo, and Ørsted into its global network – all to accelerate investment in decarbonized steel production.	*8, 9, 10, 11*
Sustainable Construction Observatory (Saint-Gobain)	The Sustainable Construction Observatory by Saint-Gobain is a global knowledge platform that monitors, analyzes, and shares the latest developments, regulations, innovations, and best practices in sustainable construction. It provides country profiles, thematic reports, trend analyses, and case studies to support stakeholders – such as policymakers, industry professionals, and researchers – in accelerating the transition to sustainable and low-carbon buildings. By making high-quality data and insights accessible, the Observatory helps harmonize approaches, inform decision-making, and drive progress across the construction sector worldwide.	*10*
Tenant Power (Octopus)	The Tenant Power Initiative by Octopus Energy empowers renters in the UK to benefit from cheaper, greener energy – regardless of their landlord's choices. The program offers tenants access to 100% renewable electricity, fair pricing, and flexible tariffs, along with support for installing green technologies like smart meters and EV chargers where possible. Octopus also provides resources to help tenants engage landlords on energy upgrades, aiming to overcome common barriers and accelerate the transition to affordable, sustainable energy in the rental sector.	*9*
The Chancery Lane Project – Built Environment Workstream	The Chancery Lane Project empowers the built environment sector to cut carbon via legal contracts across the entire value chain. They offer free climate-aligned clauses, guides, and a TLT-developed interactive contract tool to embed emissions reductions from planning and construction through leasing and supply-chain procurement. Their clauses are already used by major organizations like Buro Happold and the UK Environment Agency. They also deliver bespoke training, workshops and stakeholder support to embed and cascade climate obligations effectively.	*10*
UAE Built Environment Sustainability Blueprint	The UAE Built Environment Sustainability Blueprint, launched at COP28 by Emirates Green Building Council with leading developers, is a collective industry commitment to decarbonizing the sector. Developed through collaboration between major construction actors, it identifies barriers and outlines priority actions on embodied and operational carbon, financing, skills, and data. Its ambition was formally recognized in the UAE's third Nationally Determined Contribution (NDC), underscoring its national importance. The initiative has strengthened collaboration between industry and policymakers, and established a working group to guide ongoing action and overcome barriers, positioning it as a cornerstone of the UAE's net-zero transition.	*10*
UK's consultation on "Growing the market for low-carbon industrial products"	The UK government launched a policy consultation in June 2025 that proposes a voluntary framework to stimulate demand and transparency for low-carbon industrial products, with an initial focus on steel, cement, and concrete used in construction.	*10*
ULI C change Owner-Occupier Alignment	The ULI C Change Community of Practice initiative aims to bridge the gap between building owners and occupiers to accelerate decarbonization and ESG progress in real estate. It brings together property owners, investors, and occupiers to share knowledge, co-create solutions, and develop best practices for aligning sustainability goals, data sharing, and contractual frameworks. By fostering collaboration and dialogue, the initiative helps overcome split incentives and unlocks collective action, making it easier for both owners and tenants to drive meaningful energy and carbon reductions across their buildings.	*11*
Unlocking Capital: Aligning Asia Pacific Green Building Rating Tools to the ASEAN Taxonomy for Sustainable Finance	The report, developed by the WorldGBC Asia Pacific Regional Network (APN) in partnership with OCBC, systematically analyses 14 major green building rating tools across 11 countries. The report benchmarks these tools against the ASEAN Taxonomy's Technical Screening Criteria and Do No Significant Harm principles, demonstrating how widely used systems including Green Star, Green Mark, LEED v5, BEAM Plus, LOTUS, BERDE, IGBC, GreenSL, GBI, GreenRE, MyCREST, Greenship, GB/T and Green SL already support projects that deliver on climate mitigation, resource efficiency, and circular economy objectives.	*10*

Lever 3 (continued)

Initiative	*Description*	*MTAA Intervention(s)*
Voluntary Building Standards & Certifications	Standards and certications often have regional focus and relevance responding to regional market needs. They vary in their scope and stringency of whole life carbon measures with the recent report by SystemIQ offering a good summary. Such standards and certifications offer a tool to mobilize tenant demand insofar as they command a green premium for these spaces. Examples of such certifications and standards include: UK Net-zero Carbon Building Standard, Greenstar, BREAM, DGNB, EDGE, ILFI Zero Carbon Certification, NABERS, LEED V5.	*11*
White Certificates' Scheme (France)	France's white certificates scheme, or Certificats d'Économies d'Énergie (CEE), is a national program requiring energy suppliers to achieve set energy savings targets by funding efficiency upgrades across buildings, industry, and transport. Suppliers earn tradable "white certificates" by supporting measures like insulation or heat pumps, proving energy savings. Failure to meet targets results in penalties. Particularly impactful in the building sector, the scheme has driven millions of retrofits, reduced emissions, and played a key role in tackling energy poverty and advancing national decarbonization goals since 2006.	*10*
Zero Carbon Building Accelerator (ZCBA)	The Zero Carbon Building Accelerator (ZCBA), led by the World Resources Institute, helps governments decarbonize the building sector through outreach, policy dialogue, roadmaps, and financing strategies. In Colombia, ZCBA co-developed a national Zero Carbon Building Roadmap and city action plans in Bogotá and Cali, aligning national and local priorities. In Turkey, it supported the country's first Building Decarbonization Roadmap, created with government, private sector, and civil society to identify sectoral priorities and accelerate transition. Operating globally across 60+ countries, ZCBA provides technical assistance, peer learning, and replicable pathways toward a zero-carbon building future.	*8, 9, 10, 11*
Zero Emissions and Resilient Buildings Accelerator (SCALE)	The Zero Emissions and Resilient Buildings (ZERB) Accelerator, launched at COP29 by Subnational Climate Action Leaders' Exchange (SCALE) partnership, is a global initiative to fast-track the transformation of buildings to net-zero emissions and climate resilience. It supports countries in developing and implementing ambitious building decarbonization and resilience policies, provides technical assistance, and mobilizes finance for large-scale action. By fostering collaboration between governments, industry, and finance, the ZERB Accelerator aims to significantly cut emissions and strengthen climate adaptation across the global built environment. This work is a critical enabler to indirectly raise demand for low-carbon and resilient building construction. The first subnational jurisdictions to join the ZERB Accelerator include Maryland, U.S.; Washington, U.S.; and Bogotá, Colombia.	*9*

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Disclaimer

This report is released in the name of WBCSD. Like other reports, it is the result of collaborative efforts by WBCSD staff and experts from member companies. WBCSD's Built Environment pathway participants reviewed drafts, ensuring that the document broadly represents the majority of pathway members' views. It does not mean, however, that every member company of WBCSD agrees with every word. Please note that the data published in the report are as of 03 November 2025.

Acknowledgements

About Arup

Arup is a sustainable development consultancy providing services in management, planning, design, and engineering. As a global firm we draw on the skills of nearly 20,000 consultants across the world. Our reputation in striving to continually develop innovative tools and techniques shared with industry, is founded on the people, expertise, processes engaged in delivering holistic solutions for clients.

Our work is shaped by our mission statement, to shape a better world, and in 2020 we revised our global strategy to put sustainable development at the heart of everything we do. Arup has committed to undertake lifecycle carbon assessments on its building projects globally and align its ambitions with the UN 2030 Breakthrough Outcomes, which state: all new and refurbished buildings should be both net-zero in operation and achieve at least a 40% reduction in embodied carbon by 2030.

In addition to its project aims, Arup has committed to achieving net-zero emissions across its entire operation by 2030, covering everything from the energy used in offices to goods and services purchased. To achieve this the firm has set a target to reduce its scope 1, 2 and 3 global greenhouse gas (GHG) emissions by 30% by 2025 from a 2018 baseline.

We are Race to Zero signatories and founding signatories of UK Architects and Engineers Declare Climate and Biodiversity Emergency.

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About WBCSD

The World Business Council for Sustainable Development (WBCSD) is a global community of over 220 of the world's leading businesses, representing a combined revenue of more than USD $8.5 trillion and 19 million employees. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature, and tackle inequality.

We accelerate value chain transformation across key sectors and reshape the financial system to reward sustainable leadership and action through a lower cost of capital. Through the exchange of best practices, improving performance, accessing education, forming partnerships, and shaping the policy agenda, we drive progress in businesses and sharpen the accountability of their performance.

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Driving the ambition loop – A Stocktake on Market Transformation to Reach a Net-Zero Built Environment