



# Finance and built environment primer

*Accelerating the decarbonization of the built environment through finance sector engagement*

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## Executive summary

Real estate and infrastructure represent two-thirds of global wealth and are the largest global asset class. However, they also have a significant impact on climate and nature, as the built environment is responsible for 40% of all carbon emissions and consumes 40% of raw materials globally (Global ABC, 2022). Unfortunately, emissions continue to rise. Achieving our emissions reduction goals – cutting them in half by 2030 and reaching net zero by 2050 – demands a collective vision and radical collaboration between the finance sector and all stakeholders in the value chain.

There is a need for a system transformation to accelerate the transition to a decarbonized built environment. The finance sector, as a fundamentally important stakeholder, has a huge role to play as it has a major influence and impact on the industry: directly, through loans and investments, and indirectly, through investment in value chain businesses. It plays a crucial role in the very early stages of buildings, and its decisions have a significant impact on the future emissions of buildings.

This paper is a guide for the finance sector's pivotal role in the just transition to a net-zero built environment. It provides high-level context, vision and actionable steps, seeking to bridge the gap between finance stakeholders and the rest of the built environment value chain.

Finance stakeholders are facing mounting reporting pressures, and this is combined with emerging costs associated with decarbonization and increased risks (both physical and transitional), which affect operations as well as valuations. They face many hurdles in their efforts to respond to these changes, however, with these come opportunities:

- The built environment is a **complex, siloed and fragmented system** which offers the opportunity to find and accelerate new efficient ways of working and collaborate to achieve a long-term common goal.
- **Data** availability and quality have been lacking, and regulatory pressure is accelerating the need and stimulating innovation to improve this. **Guidance, standards and tools** are emerging and aligning.
- The **valuation business case** of decarbonization efforts and other sustainability actions has been hard to prove and there remains a need for evidence, knowledge and expertise to lift the whole market. Proper assessment and inclusion of the costs of decarbonization can reduce risk and protect value, and inclusion of non-financial KPIs can help inform ESG investment decision-making. Initiatives such as ULI's C Change and RICS Sustainability and ESG in commercial valuation are accelerating efforts to inform professionals.
- There remains a **skills gap** across most job roles in the finance sector and wider built environment industries, but the opportunity exists to upskill and empower employees to integrate sustainability throughout their roles, which filters through the market.
- Naturally, the finance sector has prioritized financial performance over positive environmental, social and governance returns due to fiduciary duties and industry **culture**. As demands change, the opportunity exists to elevate ESG priorities through cultural influences such as linking compensation to non-financial aspects.

To achieve true system transformation, it is urgently required that all initiatives and actions align and build on each other along the full value chain. This is outlined in the foundational [Market Transformation Levers](#) of the Global Alliance for Buildings and Construction (GlobalABC), which form the basis of our key finance sector action areas:

- **Adopt a Whole Life Carbon (WLC) approach** in all built environment related investment and lending decisions and align with value chain partners on a consistent taxonomy of key indicators, metrics and targets.
- **Integrate carbon cost and price** - Treat carbon like a cost by internalizing (whole life) carbon costs in decision-making and reflecting carbon in financial assessments.
- **Transform supply and demand dynamics** for decarbonized solutions) - Align investments with science-based carbon reduction trajectories (thresholds) and consider

providing incentives for improved carbon performance of projects as well as products and solutions.

To achieve this, finance sector companies can seek collaboration up and down the value chain to overcome the key finance-related market barriers to decarbonization, such as alignment behind common standards, data quality and flow, and sharing innovation risks, among others.

To tackle and encourage collaborative results throughout 2023, WBCSD and its partners in the GlobalABC and BuildingToCOP Coalition have been running targeted value chain workshops to develop a collective Market Transformation Action Agenda towards a Net Zero Built Environment. The objective is to develop a shared global agenda to overcome market barriers that is endorsed by a critical mass of key actors. It hones down on a series of targeted interventions along the value chain including those affecting the finance sector - which, subject to continued industry support, will be monitored and managed into delivery, providing tangible results that shift the system in a 1-3 years' time horizon. This action agenda will align with and mutually reinforce the action recommendations of the government-led emerging Buildings Breakthrough initiative.

This paper recognizes that it is important to differentiate specific actions for a range of different finance sector stakeholders and their varying priorities and roles. Specific actions include:

For **asset owners and investors**, we must set clear portfolio- and asset-specific targets and timelines, embedding climate and ESG factors into requests for proposals, investment mandates, manager selection and stewardship engagement, and incorporating the related risks (and opportunities) into valuations and investment decisions.

For **asset managers**, the lack of consistent, comparable and decision-useful information is still a barrier to integrating climate impact information into decision-making. However, the growing demand to consider these aspects from asset owners and regulatory bodies motivates every firm to overcome data challenges through proprietary or third-party solutions.

**Finance providers** can acquire a better understanding of their financed emissions (emissions linked to investment and lending activities) using data, tools and standards, including the cost of carbon and transition risk considerations.

For **insurance providers**, integrating both physical and transition risks into underwriting decisions means developing methodologies to assess and quantify different climate change scenarios.

Lastly, **investment advisors and data providers** can facilitate top-down learning as they share and spread best practices and become significant players in the standardization and harmonization of data and target-setting.

## Introduction to the transition

The transition to a net-zero carbon emissions built environment is underway through new technical solutions to decarbonize buildings. Yet, there has been limited pressure on real estate and financial stakeholders to aid in the transition, mainly due to lagging policy and regulations as well as limited evidence to prove the business case. This is now changing.

Real estate and infrastructure are highly valuable and growing asset classes of institutional investment portfolios. Therefore, the finance sector has a unique opportunity to shape demand and drive the transformation of the built environment. Ambitious policies and regulations, changing public awareness and radically shifting demand drivers are pushing real estate and finance sector stakeholders in particular to make sustainability a focus due to the threat to business in the short, medium and long terms.

### Market transformation levers

The challenge is to decarbonize a system that is responsible for a total of 40% of all carbon emissions today, by halving emissions by 2030 and achieving net-zero emissions by 2050.

To achieve this, it is essential to meet the following targets:<sup>i</sup>

- All new buildings must have net-zero operational emissions by 2030 and all buildings – new and existing – should achieve net-zero emissions by 2050.
- By 2030, embodied carbon in the built environment should be 40% lower than it is today and be net zero by 2050.

Considering the lead in times in typical built environment projects, it is essential for companies planning and designing projects today to include these targets already for 2030 (just six years from this publication).

To succeed on this path will require a shared vision for decarbonizing the built environment as a system and extensive collaboration between the finance sector and all other value chain participants on three market transformation levers:

- **Align behind whole life carbon (WLC) for the whole of the built environment, not just individual segments** – Adopt WLC and life-cycle thinking across the value chain and market to align on key indicators, metrics and targets consistently;
- **Integrate a carbon cost and price** – Internalize WLC emissions costs and reflect them in the price of products and services throughout the value chain, including in governance, procurement and taxonomy mechanisms;
- **Transform supply and demand dynamics for decarbonized solutions** – Strengthen a positive and reinforcing supply and demand dynamic that incentivizes low-carbon solutions along the value chain. This requires signals from government and finance and, most importantly, collaboration between industry players across the built environment value chain.

A detailed narrative and description of the Market Transformation Levers, including a short insightful video, can be found on the website of the Global Alliance for Buildings and Construction (GlobalABC), see [here](#).

In WBCSD's insight article, "[Decarbonizing the 40% - How the finance sector can drive the transformation to a net-zero built environment](#)"<sup>ii</sup>, we laid out several ways how the finance sector can drive this transformation to a net-zero emissions built environment. These include:

- Adopting standards and frameworks, such as WBCSD's [Building System Carbon Framework](#) to measure and report whole life carbon performance;
- Integrating this information into decision-making;
- Working to prove the business case through leadership and collaboration;

- Research and reporting to assess and manage relevant risks;
- Engaging with policymakers to provide industry perspectives and raise expectations.

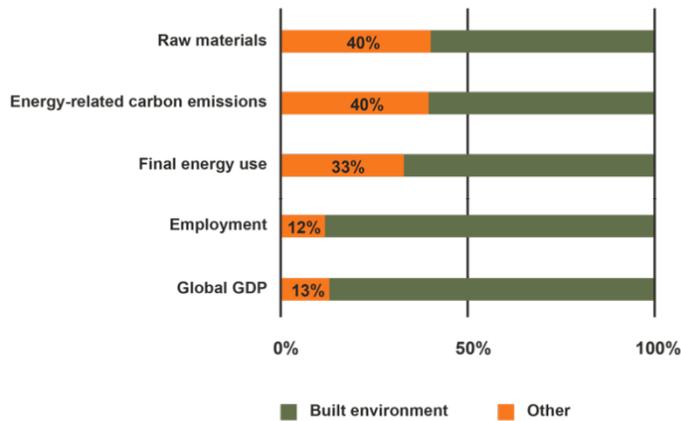
In this white paper we are going into more detail on what specific actions different stakeholders from the finance sector can take to support the systemic change.



# The finance sector in the built environment

## Finance sector role, responsibilities and influence

Figure 1 1: Global scale of industry impact



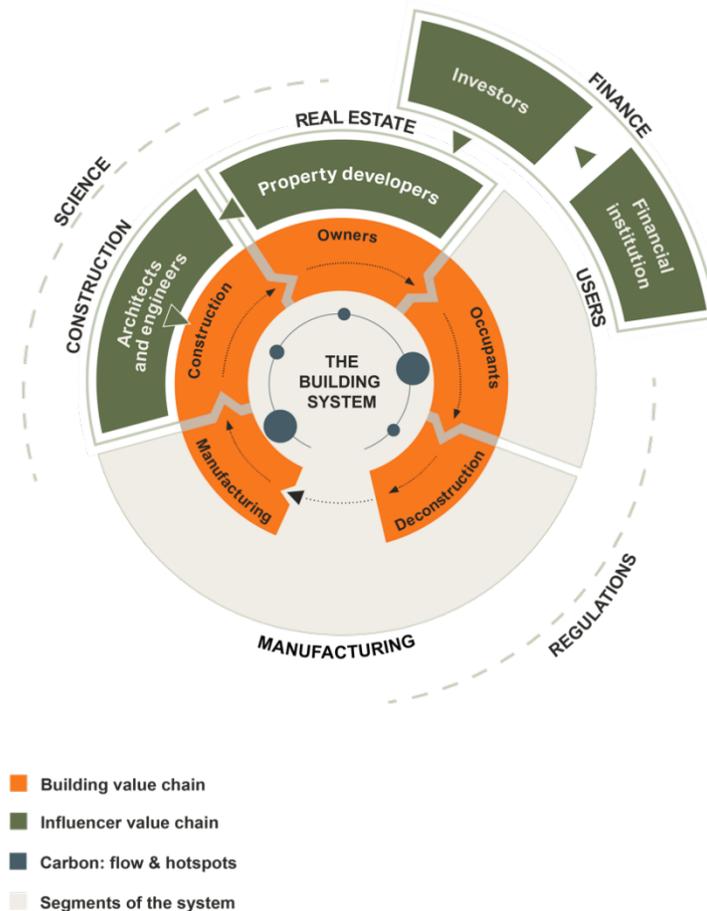
Real estate is the world's most valuable asset class, representing two-thirds of global wealth.<sup>ii</sup> With construction-related activities making up more than 13% of global GDP<sup>iii</sup> and 12% of employment,<sup>iv</sup> its size means it contributes to over one-third of final energy use globally, generates nearly 40% of global energy-related carbon emissions (> 13 Gt per year)<sup>v</sup> and consumes 40% of raw materials globally. However, according to GlobalABC, operational emissions have not yet peaked despite urgent need for this trend to reverse.<sup>vi</sup>

Financial services and investment are at the heart of all economic activity. They support and drive action and outcomes across all commercial industrial and service sectors. They are vital to ongoing social and economic stability and resilience. Financial products include corporate and personal financial mechanisms and transactions that provide the means to give or receive investments and loans and obtain security through insurance. Financial services are the means by which the finance sector delivers and monitors financial products, such as investment and payment services, retirement planning, mortgage broking and accountancy.<sup>vii</sup>

To give some scale to the market and the impact, the professionally managed global real estate investment market was USD \$11.4 trillion in 2021<sup>viii</sup> and represents a significant proportion of key economic, demographic and environmental factors. Although estimations are difficult due to uncertainties about the future potential impact of innovations and technologies, forecasts suggest that reaching net-zero carbon emissions in the built environment by 2050 will require investments of USD \$1.7 trillion annually and half a million new direct jobs.<sup>ix</sup> This presents huge opportunities.

As visualized in Figure 2, although not necessarily directly accountable for the associated emissions, finance sector stakeholders are deeply involved in the real estate development process (or property life cycle) and, as such, significantly influence the industry through their decisions. We therefore categorize their impact in terms of **direct influence**, through loans and investments, and **indirect influence**, through value chain businesses.

Figure 2 2: Key stakeholder in the value chain of the building system



Source: WBCSD (2020). The Building System Carbon Framework

Financial stakeholders are demand-side actors (influencers) who can set requirements for low-carbon solutions across the full built environment project life cycle as they mobilize financial capital for buildings. These stakeholders include investors, financial institutions and insurance companies, among others. They influence if and how buildings are constructed even when they do not have an active role in building the asset. As influencers, they play a crucial role in the very early stages of buildings and their decisions have a significant impact on the future emissions of buildings. This includes the energy performance of buildings (operational emissions) as well as setting requirements to reduce embodied emissions from building materials and the construction and maintenance processes. At the same time, the low levels of carbon emissions reported throughout this value chain might result in an underestimation of the importance and power of the companies to drive system decarbonization.<sup>x</sup>

As financial institutions begin reporting on scope 1, 2 and 3 emissions,<sup>xi</sup> financed emissions (estimated to be 700-times greater than operational emissions)<sup>xii</sup> are coming into sharp focus, with the built environment representing a huge proportion of such emissions. Alongside emissions reporting and accounting pressure, the sector is also facing significant costs of inaction, namely **physical risks** associated with adaptation and resilience to climate change and **transition risks** associated with regulation and policy changes. Companies that are ahead of this curve can gain competitive advantage and avoid the risk of serious impact on value or even obsolescence. As

Figure 3 demonstrates, the benefits of sustainable investments in real estate are becoming clearer as such investments visibly filter into a number of demand drivers. However this must be done on a system level with valuations accounting for the cost of decarbonization, discouraging divestment from those 'in-the-know' to those not, and create a level-playing field between investors.

Figure 3: The opportunities in sustainable real estate investment



Source: Foster, K. (2021). "Why real estate investors can make a real difference to climate change". Schroders.

## Challenges and opportunities

The transition faces many complex challenges, however with these come opportunities. The chances of succeeding requires in-depth understanding of these challenges in order to rapidly adapt strategies and solutions that can serve the sector

### *A complex, siloed and fragmented system*

#### The challenge

There is a disconnect between the construction, real estate and finance sectors despite a deep link and reliance between them. The wider property value chain is notoriously siloed and complex, and processes lack consistency in stakeholder participation and power; the multiple stakeholders all have specific and well-defined roles with differing drivers and objectives. Consequently, there has been little need for true collaboration and understanding across roles in the past. Stakeholders miss opportunities to influence projects up front as concepts arrive too late in the design process and after the budget and feasibility analysis has taken place.

A highly fragmented market (95% of construction companies in Europe are small and medium-sized enterprises (SMEs)<sup>xiii</sup>) results in challenges in adopting and implementing consistent change. Fractured ownership (potentially changing multiple times throughout a property's life cycle) affects accountability and how companies approach strategies with a long-term vision, while also limiting solution scalability and uptake.

## The opportunity

It is essential to integrate change throughout the whole value chain for the transition to be effective. Consequently, there are opportunities in finding new ways of working and collaboration across all stakeholders (which has not in the past been forthcoming) to achieve this common goal. For example, when multiple stakeholders are involved in the process, they find efficiencies and resources faster and more effectively.

Legally binding contracts between these stakeholders and long-term ownership can help ensure the right incentives, procurement methods and metrics to support net-zero emissions goals for project delivery. They ultimately govern and influence participants' ability and willingness to collaborate on a long-term zero-carbon strategy.

## *Data, guidance, standards and tools*

### The challenge

Data availability and quality are holding up measurement, benchmarking and target-setting processes aimed at Paris Agreement-aligned net-zero emissions pathways. Because the setting of these pathways and the related decision-making cannot wait, companies are using proxy data in the absence of accurate and specific data. While the data and methodologies are improving, there are concerns in the industry that proxy data is not an effective basis for decision-making and that, even as data becomes more accessible, it is not publicly available and is instead becoming a point of competitive advantage for private companies. This restricts the progress of the system, with the datasets themselves limiting progress. All stakeholders must advocate for data transparency.

### The opportunity

Regulatory pressure is forcing companies to address the data challenges and the growing number of guides, standards, tools and certifications is encouraging and signals that the industry is heading in the right direction. There is an opportunity for the organizations producing these materials to come together to ensure the sheer volume of information does not overwhelm those beginning the transition and paralyze action. Additionally, businesses can work with these organizations to ensure alignment in standards to reduce the burden of assessment and reporting.

## *Valuation and the business case*

### The challenge

In the past, companies have not integrated issues relating to carbon emissions and the cost of decarbonization into valuations and business case analysis. The reasons for this include a lack of data and information as market evidence, a lack of specialist knowledge and the prioritization of financial performance over everything else – meaning long-term sustainability versus short-term financial gain. The lack of data, information and market evidence means it remains difficult to qualify and quantify the impact of non-financial key performance indicators (KPIs) on value.

There is a looming risk of obsolescence as tougher regulation targeting decarbonization comes into force. Never has it been more fundamental to accurately incorporate transition and climate risk into valuations, whether market valuation for financing or investment in real assets or companies, or for insurance valuations as weather events continue to change.

### The opportunity

As policies and regulations legislate disclosure and reporting (creating transition risk) and climate change takes hold (climate risk), their impacts on value are becoming clearer, making it possible to include the impacts in valuations. Consequently, realistic and demonstrably achievable decarbonization pathways that align with legislation are becoming more relevant to investors and

other core stakeholders, since value chain stakeholders demand them and they can directly and indirectly affect property values in multiple ways, such as through revenue streams, decarbonization costs, rentability or reputation.

Because valuers and analysts currently have limited technical knowledge or understanding of the subject matter, leaving a gap in skills and knowledge, associations representing these professions have a role to play in filling these gaps by providing standards and guidance, education and training.

Linking non-financial KPIs with financial impact translates into a common language and stimulates action, for example, by integrating transition risk into valuations and using carbon pricing or integrating the cost of decarbonization in property appraisals.

### Examples of Industry Initiatives

**C Change** is a program led by the Urban Land Institute (ULI) to mobilize the European real estate industry to decarbonize. A group of leading real estate players united in the focus on collaboration to ensure companies large and small have access to practical solutions and education on decarbonization formed C Change in late 2021. There are two intervention points that require industry attention:

A common industry methodology to assess transitional climate risks as part of property valuations to avoid investment market stagnation and stranded assets;

Practical ways to improve alignment between tenants and landlords to create common goals for decarbonizing and retrofitting.

**RICS Sustainability and ESG in commercial property valuation and strategic advice, 3rd Edition** provides a practical framework to deliver on sustainability and environmental, social and governance (ESG) investigation and reporting requirements in professional valuation advice. It provides good practice advice supporting everyday commercial valuation practices and its interface with ESG and sustainability; the alignment of ESG and sustainability considerations with the core mechanics of valuation (purpose, basis, approach); and a glossary of globally relevant sustainability and ESG terms and an appendix referencing leading rating, benchmarking and performance frameworks and tools. RICS plans to publish an updated version in 2023. WBCSD is a member of the RICS Leaders' Forum on the Future of Valuation: Integrating ESG.

**The United Nations Environment Programme Finance Initiative's Climate Risk and Commercial Property Values** provides real estate professionals and investors advice on how physical risks affect commercial real estate asset values and prices through a centralized review of previous literature and research. It also offers recommendations for next steps by market actors, policymakers and researchers connected with commercial real estate to guide future cross-sector engagement and research.

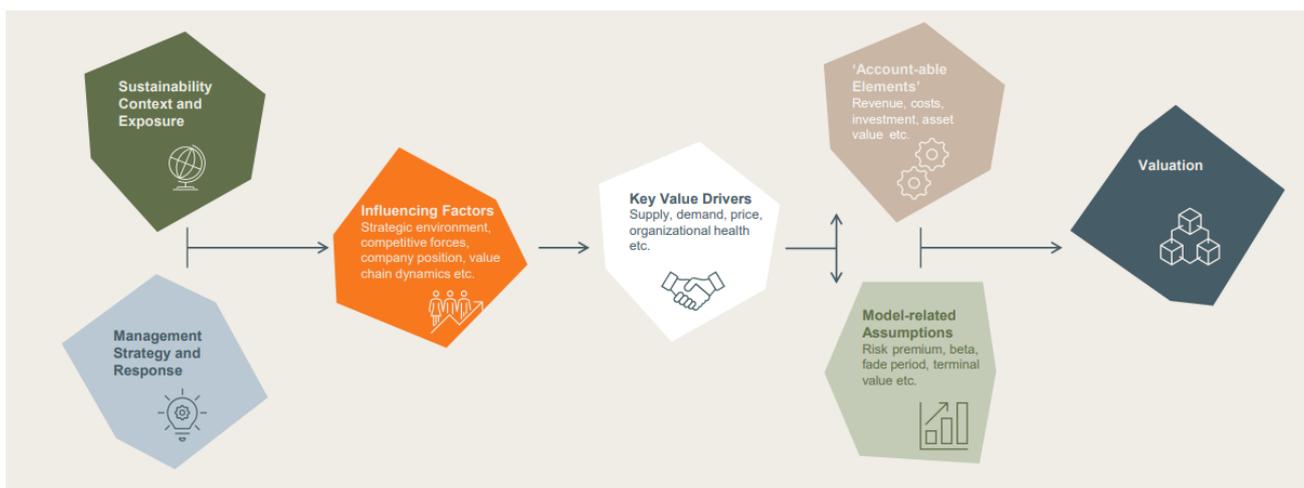
### WBCSD's Guiding the integration of sustainability in valuation

Explores sustainability in intrinsic valuation, offering a structured framework (see Figure 4), exploring key intervention points for integration including forecasted financials and model assumptions such as terminal value. This framework, accompanied by real-world examples, shows how investors, including Robeco, UBS, abrdn and DWS, are already incorporating sustainability factors into fundamental research and valuation processes.

For Companies it provides insights into how investors are incorporating sustainability into their valuation approaches and guidance on how to effectively communicate sustainability ambition, plans and action to further enhance integration.

For Investors it demonstrates how to elevate practices integrating sustainability in fundamental equity research and valuation and foster transparent communication with companies, clients, and stakeholders to encourage better information flow and, through leadership, drive innovation and sustainable decision-making.

Figure 4: A framework for Sustainability in Intrinsic Valuation (SiV)



Source: WBCSD (2023). "Guiding the integration of sustainability in valuation".

### Skills and knowledge

#### The challenge

There is a skills gap in "green" jobs according to LinkedIn's Global Green Skills Report: hiring for green jobs is the fastest growing category and demand for green skills will outstrip supply within five years.<sup>xiv</sup> Built environment industries are facing skills shortages, which the fragmented nature of the industry is exacerbating. Additionally, as local businesses and SMEs make up a large proportion of the market's size and research suggests that in Europe the share of turnover of SME construction companies is 80%,<sup>xv</sup> organizations of this size lack agility and flexibility in human resourcing, which affects system-wide resourcing. There is also a mismatch in supply and demand for sustainability-related skills within the finance sector. This lack of is holding the industry back when it comes to adapting to current demands.

## The opportunity

Top-down (from market leaders) and bottom-up (from market demand) pressure is leading to the need for training and upskilling across all sectors and among all stakeholders. There is huge emerging opportunity to develop and provide on-the-job sustainability training and upskilling.

For example, as more companies prepare for sustainability-related disclosures and reports and develop plans and strategies to align with the Paris Agreement, investors could see greater value in these documents and ensure they become part of the central decision-making process for investments. To do so, portfolio managers need the necessary skills to consult and, understand these documents effectively to establish how the results could drive investments. Organizations like WBCSD, the Institutional Investors Group on Climate Change (IIGCC), RICS and other professional groups play a leading role here in bridging the skills gap and building ESG and decarbonization knowledge by offering guides, cross-learning and networking opportunities, short courses and micro-credentials (certified short-term learning experiences).

## *Culture*

### The challenge

Financial services organizations have traditionally prioritized short-term financial returns over positive environmental, social and governance returns. Organizational cultures and incentive structures that focus solely on short-term goals and competition will be a significant barrier in efforts to achieve net-zero carbon emissions in the finance sector because the risks facing the industry go beyond operational impacts. Such legacy thinking and traditional business success metrics are hampering progress because sustainability cannot be measured in the near term.

### The opportunity

Changing corporate culture will require a top-down approach: where the board and management understand environmental risks and opportunities, they set a vision that orients leaders at all levels to achieve the company's goals, and employees feel part of the process. This culture change includes understanding that the goal goes beyond achieving a return on investment and should include interventions such as linking personal remuneration to ESG criteria to encourage responsibility and drive action at an individual level. In such a system, companies measure their success in value created beyond shareholders, ensuring authenticity and avoiding the multifaceted risks of transitioning to net-zero emissions.

## Built Environment Market Transformation Action Agenda

The above-described challenges and opportunities are picked up and addressed by various stakeholder groups and industry associations, however, there is a need for consistency, speed and scale of the response if we are to accelerate the decarbonization of the built environment in line with 2030 goals as a first milestone.

To achieve true system transformation, it is urgently required that all initiatives and actions align and build on each other along the full value chain. As a continuation of the GlobalABC Market Transformation Levers, WBCSD and its partners in the Global Alliance for Buildings and Construction (GlobalABC) and the BuildingtoCOP Coalition are running value chain workshops to develop a collective action agenda building on the Market Transformation to a Net Zero Built Environment.

The workshops bring together all stakeholders from every segment along the value chain (manufacturing, architecture, engineering & construction, real estate, finance, and end users) as well as policy makers, to drive consensus on (i) what - exactly - needs to be done (system intervention points), (ii) who - exactly - needs to do it and (iii) how - we can call to action global governments to support through the Buildings Breakthrough agenda.

The expected outcome of this initiative will be a collective action agenda that is endorsed by a critical mass of key actors, and a prioritized set of advocacy messages for national governments as part of the Buildings Breakthrough Initiative. It will hone down on a series of targeted interventions along the value chain - which, subject to continued industry support, will be monitored and managed into delivery, providing tangible results that shift the system in a 1-3 years horizon.

The Market Transformation initiative uses a Systems Intervention Point (SIP) approach. These are key bottlenecks when taking a systemic and all-stakeholder approach to the transition. They are areas where change would have a far-reaching ripple effect throughout the built environment ecosystem. Such an approach is useful in this context because:

It **builds on** pre-existing levers for change and transformative goals, but recognizes transformation can be paralyzing

It **drills down** to precise and manageable interventions to achieve them

It **delivers solutions** to deep systemic barriers in the language of business strategy: tangible, measurable results within 1-3 years

Following the value chain workshops held throughout 2023, targeted system interventions are emerging under the Market Transformation Levers. These interventions are still subject to further stress-testing and refinement but they start outlining a clear global collective action agenda for market transformation. The role of stakeholders from the financial sector will be critical in delivering these actions. Some examples of these intervention areas are: mainstream transition risk estimation in finance and insurance, financing stranded assets, sharing risks, industry-co-created carbon price.

## How the finance sector can support the transition to net-zero emissions

As sustainability becomes mainstream and companies become more aware of the risks and opportunities associated with decarbonization, there has already been a dramatic shift in the industry's response. What else does the finance sector need to do to accelerate the transition to net-zero emissions buildings through their influence? And what do built environment stakeholders need from the finance industry to accelerate the transition to net-zero emissions buildings?

### Key considerations for the finance sector

#### *Market Transformation Lever 1: A whole life carbon approach*

It is crucial to extend the scope of carbon accounting from operational emissions to whole life carbon emissions, including both operational and embodied carbon. This is captured by the WBCSD's [Building System Carbon Framework](#), which introduces a whole life carbon approach to enable internal benchmarking and set targets and identify the best emissions-reduction strategies for their part of the value chain. This allows the stakeholders to make informed decisions based on clear and transparent whole life carbon information. Other organizations have also introduced their own approaches, such as the [Partnership for Carbon Accounting Financials](#) (PCAF) and UN-convened [Net Zero Asset Owner Alliance](#) (NZAOA). It is critically important that different approaches converge towards a single standard for how carbon is assessed along the full life-cycle, bringing together both actors from the private and public sectors. Important initiatives to leverage include the RICS and Ashrae/ICC processes.

#### *Market Transformation Lever 2: Integrating carbon and carbon price into decision-making*

Carbon pricing is an approach to reduce emissions via market mechanisms to pass the costs of emitting on to emitters. The goal is to bring carbon emissions considerations into decision-making, ultimately encouraging the reduction of carbon emissions, addressing climate change and meeting climate agreements. Long-term investors use carbon pricing to analyze the potential impact of climate change policies on their investment portfolios, allowing them to reassess investment strategies and reallocate capital toward low-carbon or climate-resilient activities.

Carbon price research is in its infancy in real estate, and there is recognition that at current pricing levels, it doesn't have a big enough impact on financial performance to change decision-making. However, some leading companies are looking into internal carbon pricing, an important first step and cultural shift, which sets an internal charge on the amount of carbon emitted from assets and investment projects to see how, where and when their emissions could affect their business and investment choices. Corporate carbon accounting is just one means by which business leaders can manage transition risk, support corporate values, and improve their investment decision-making.<sup>xvi</sup>

#### *Market Transformation Lever 3: Changing supply and demand dynamics*

Strengthening and reinforcing a positive supply and demand dynamic that incentivizes low-carbon solutions along the value chain requires signals from government/public sector finance and end-users (building occupiers) and, most importantly, collaboration between industry players across the built environment value chain. WBCSD's [Decarbonizing construction – Guidance for investors and developers to reduce embodied carbon](#) report provides over 50 embodied carbon-reduction policies and best practices that investors and developers can adopt for their projects and guidance on how to use them. We have grouped each measure into one of the following five categories.

1. Create a carbon policy that sets out consistent requirements for all projects to follow.
2. Set targets and transparency requirements for projects to meet across all their phases.
3. Prioritize circularity – that is, less new building and more reuse and refurbishment.
4. Design optimization to use less material and to choose materials with a low carbon footprint.
5. Low-carbon procurement to ensure the acquisition of materials with a low carbon footprint.

Developers and investors can use the guidance as it stands or adapt it to their needs. The measures and requirements are flexible and can easily be combined with different green building certifications or sustainability reporting systems.

As the emerging Built Environment Market Transformation Action Agenda outlines, the financial sector can pull its weight behind critical collective actions such as sharing innovation risk along the value chain, financing stranded assets as well as advanced market commitments to scale low carbon solutions.

### *Other considerations*

#### **Measurement and Disclosure**

As companies set net-zero emissions pathways and associated targets, there is a requirement for financial firms to accurately measure and disclose asset or portfolio emissions and for them to develop Paris Agreement-aligned targets and pathways. Several finance sector-facing organizations have been working on harmonizing the standards, setting targets and accelerating the needed actions, for example:

- In the EU, the [Corporate Sustainability Reporting Directive \(CSRD\)](#)
- [PCAF Global GHG Accounting and Reporting Standard for the Financial Industry](#)
- [Science Based Targets Initiative \(SBTi\) Financial Sector Science-Based Targets Guidance](#)
- The [Task Force on Climate-related Financial Disclosures \(TCFD\)](#)
- The [Taskforce on Nature-related Financial Disclosures \(TNFD\)](#)
- [Greenhouse Gas \(GHG\) Corporate Accounting and Reporting Standards](#)
- Taxonomies such as the [EU taxonomy for sustainable activities](#)
- Platforms like the [Carbon Disclosure Project \(CDP\)](#).

In more detail, the [Global GHG Accounting and Reporting Standard](#), developed by the Partnership for Carbon Accounting Financials (PCAF) Global Core Team, comprises three parts:

- **Part A – Financed Emissions** provides detailed methodological guidance to measure and disclose GHG emissions associated with seven asset classes as well as guidance on emission removals
- **Part B – Facilitated Emissions** provides methodological guidance for measuring and reporting the GHG emissions associated with the capital markets transactions (to be launched in early 2023);
- **Part C – Insurance-Associated Emissions** provides methodological guidance for measuring and reporting the GHG emissions associated with re/insurance underwriting.

Holding organizations accountable for financed emissions will be an effective approach to embed carbon considerations into key decision-making, particularly in investment or funding decisions, and consequently enable incentives to transform the system.

#### **Materiality and scale of impact**

The first key question is to establish and prioritize materiality and scale of impact. Financing the net-zero emissions economy is a complex and multi-decade journey. Therefore, first tackling the things that are easy to achieve and the high-impact areas will help stakeholders better prioritize the effort across their loans and investments.

### Scope 3 emissions

Although the focus has been on scopes 1 and 2 emissions as data on these emissions are generally easier to obtain and are more directly controlled, scope 3 emissions make up a huge proportion of financial institution exposure through their financed and wider supply chain emissions. When a company excludes scope 3 emissions from its carbon footprint, it cannot identify the resulting risks and opportunities.

The WBCSD-hosted [Partnership for Carbon Transparency \(PACT\)](#) completes standardized exchanges of product-level emissions data, enabling companies to access primary data from their value chains and better meet evolving and mandatory climate reporting requirements.

### Showcasing the business case

All financial actors need to prioritize the generation of financial returns as per their fiduciary duty. It is therefore critical to understand how applying sustainability criteria can enhance the short and long-term business case. Explaining the business case of sustainability is the key to the transition:

- Proving the business case by considering non-financial impact and value in key decisions and integrating whole-life carbon methodologies to incorporate emissions-related data into fundamental processes and decision-making, such as the cost of decarbonization and carbon pricing.
- Collaborating with organizations working to incorporate the value contribution to externalities such as social, nature and biodiversity and understanding how this translates to project performance (risk and opportunity analysis).

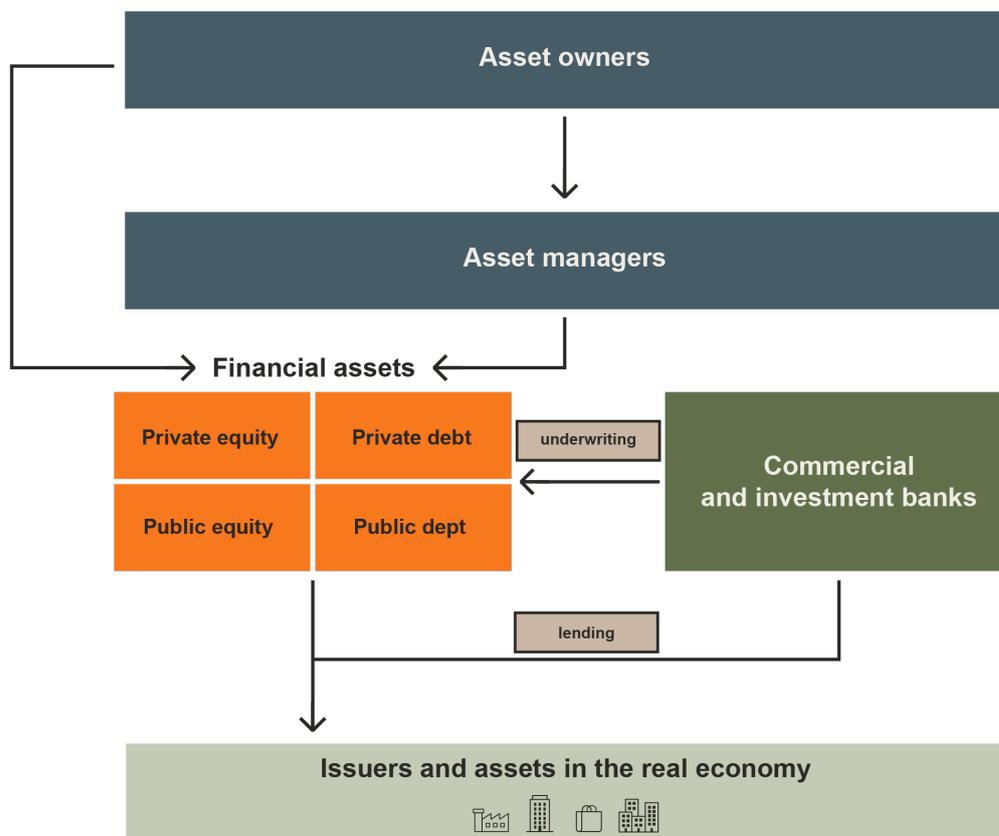


## Finance sector stakeholder-specific actions

The finance sector guides and influences project decisions through financial products and services, carbon markets, requirements for environmental, social and governance factors, credit risk assessment and project life-cycle assessment. Therefore, through the aim to achieve global carbon targets, its preferences and requirements for climate-related policies and low-carbon emissions projects play a key role.

It is important to distinguish the role of different actors in the financial market. As Figure 5 shows, we need to differentiate between asset owners, managers, lenders, insurance firms, advisors, and brokers. There are vastly different drivers, priorities and time horizons between these groups:

Figure 5 3: Who we are talking about in the finance sector



## *Asset owners/investors*

Asset owners and investors sit at the beginning of capital flows and their investments and policies ultimately set the direction for capital allocation in the financial market. For most asset owners, improving the risk-adjusted return is the first and foremost goal; therefore, the investor community has been increasingly integrating financially material climate and ESG considerations to make better-informed decisions. Given the longer time horizon of their real estate holdings and other equity and debt investments in the building sector, climate and ESG risks and opportunities have more significant implications for investors' decision-making.

In practice, asset owners and investors have begun to assess the carbon performance of real estate properties and related companies to develop metrics for benchmarking and target setting to decarbonize. Moving forward, the investor community can further contribute to real economy decarbonization by setting clear, asset-specific targets and timelines and setting clear, aligned investment criteria. It would help investor transparency, accountability and wider market adoption if they communicate and share their transition plans with the public and stakeholder groups.

However, asset owners may not be directly involved in the transactions – asset managers execute the actual capital moves. Therefore, asset owners need to embed the key climate and ESG factors into requests for proposals (RFPs), investment mandates, manager selection and, occasionally, stewardship engagement with portfolio companies.

### **Key organizations for asset owners/investors**

- The UN-convened [Net-Zero Asset Owner Alliance](#) (NZAOA) is a member-led initiative of institutional investors committed to transitioning their investment portfolios to net-zero GHG emissions by 2050 – consistent with a maximum temperature rise of 1.5°C.
- Paris Aligned Asset Owners (PAAO) are a global group of asset owners, with over \$3.3 trillion in assets. They have committed to transitioning their investments to achieve net zero portfolio GHG emissions by 2050, or sooner, drawing on the [Net Zero Investment Framework](#) to deliver these commitments.
- [Glasgow Financial Alliance for Net Zero](#) (GFANZ) is a global coalition of leading financial institutions committed to accelerating the decarbonization of the economy.
- The mission of the [Institutional Investors Group on Climate Change](#) (IIGCC) is to support and enable the investment community in driving significant and real progress by 2030 towards a net zero and resilient future. This will be achieved through capital allocation decisions, stewardship and successful engagement with companies, policy makers and fellow investors.
- [Partnership for Carbon Accounting Financials](#) (PCAF) enables financial institutions to assess and disclose greenhouse gas emissions associated with financial activities.
- The [Principles for Responsible Investment](#) (PRI) works to understand the investment implications of environmental, social and governance (ESG) factors and support its international network of investor signatories in incorporating these factors into their investment and ownership decisions.

### **Standards, guidance and tools**

- [PCAF: Global GHG Accounting and Reporting Standard for the Financial Industry](#)
- [NZAOA Target Setting Protocol](#)

## *Asset managers*

Asset managers have the fiduciary responsibility to invest on behalf of their clients – the asset owners. They generally see climate and ESG considerations as an additional lens to inform investment decisions and a growing number of asset managers are using them. In many instances, asset managers stay ahead of the curve to understand industry trends and provide investment strategies and solutions to clients.

Asset managers have created more advanced ESG integration approaches than owners have. In the built environment context, asset managers have been using labeling mechanisms, such as Leadership in Energy and Environmental Design (LEED) and Building Research Establishment Environmental Assessment Methodology (BREEAM) certifications, to screen the properties they invest in and have found financial benefits from this approach.

For mainstream asset managers, the lack of consistent, comparable and decision-useful information on climate impact is still a barrier to better implementation. However, due to growing demand and regulatory pressures, every firm now has strong motivation to overcome data challenges through proprietary work or third parties. Standardized frameworks and local/regional taxonomies help the asset management industry with enhanced tools for assessment, benchmarking and reporting.

### **Key organizations for asset managers**

- The [Principles for Responsible Investment](#) (PRI) works to understand the investment implications of environmental, social and governance (ESG) factors and support its international network of investor signatories in incorporating these factors into their investment and ownership decisions. The [Net Zero Asset Managers initiative](#) is an international group of asset managers committed to supporting the goal of net zero greenhouse gas emissions by 2050 or sooner, in line with global efforts to limit warming to 1.5 degrees Celsius, and to supporting investing aligned with net zero emissions by 2050 or sooner.

### **Standards, guidance and tools**

- [PCAF: Global GHG Accounting and Reporting Standard for the Financial Industry](#) [IIGCC: Net Zero Investment Framework](#) [EU taxonomy for sustainable activities](#)

## Finance providers

As providers of capital for transactions at both the asset and portfolio level, as well as for development projects, banking institutions or other finance providers make go/no-go decisions for funding and therefore directly influence the building industry. While these decisions are primarily based on financial factors, the mounting climate risk exposures have pressured finance providers to evaluate their portfolio and expand their risk management to a broader set and longer term. The market has seen first-mover banks make unprecedented commitments on climate-aligned financing and engage with their clients on these topics.

For finance providers, physical and transition risks provide additional information along the decision-making process – especially the risks most relevant to the holding period. As the industry moves forward with a whole-life carbon perspective to evaluate properties and portfolios, finance providers may take a more holistic view of their financed emissions with adequate data, tools and standards, eventually enabling them to adjust their pricing and cost of finance depending on the new criteria.

In contrast, the industry as a whole needs clear and transparent information on new and relevant financial products to build trust and enable their incorporation into business case analysis reliably.

### Key organizations for finance providers

- The [Net-Zero Banking Alliance](#) (NZBA) reinforces, accelerates and supports the implementation of decarbonization strategies, providing an internationally coherent framework and guidelines in which to operate, supported by peer-learning from pioneering banks.
- Energy Efficiency Financial Institutions Group (EEFIG) working groups, such as the Evolution of financing practices Working Group
- Through the [United Nations Environment Programme Finance Initiative](#) (UNEP FI) more than 450 banks and insurers with assets exceeding USD \$100 trillion work together to facilitate the implementation of UNEP FI's [Principles for Responsible Banking](#) and [Principles for Sustainable Insurance](#), as well as three UN-convened net-zero alliances, such as the [Net-Zero Asset Owner Alliance](#).
- [Green Finance Institute](#) (GFI) is channelling global finance into local solutions. Its mission is to accelerate the transition to a clean, resilient and environmentally sustainable economy by channelling capital at pace and scale towards real-economy outcomes that will create jobs and increase prosperity for all.
- [Commercial Real Estate Finance Council](#) (CREFC) plays a critical role in the financing of office buildings, industrial and warehouse properties, multifamily housing, retail facilities, hotels and other types of commercial real estate that help form the backbone of the US economy.

### Standards, guidance and tools

- [PCAF: Global GHG Accounting and Reporting Standard for the Financial Industry](#)
- [Principles for Responsible Banking](#)
- [Guidelines for Climate Target Setting for Banks](#)
- [UNEP FI Transition check](#)
- [Overview of Transition Risk Approaches](#)
- [SBTi Financial Sector Science-Based Targets Guidance](#)
- [The Climate Risk Tool Landscape](#)
- [IIGCC Net Zero Standard for Banks](#)
- [Transition Pathways Initiative \(TPI\) online tool \(forthcoming\)](#)
- [Better Buildings Partnership: Beyond Risk Management \(updated version expected end 2022\)](#)
- [UNEP FI Managing Transition Risk in Real Estate](#)

## *Insurance providers*

Better managing and mitigating risks is at the core of the insurance provider business model and the building sector represents a major portion of risk exposure through property and business insurance. Over time, the insurance industry has developed methodologies and thinking to monetize and predict different climate change scenarios. The transition of major players to industrial decarbonization has demonstrated that they take climate risks seriously – insurance providers are translating these commitments into visible actions when they choose to enter or exit an underwriting.

Insurance company general accounts – the investments these companies make – have also been integrating ESG into the same investment practices as other asset owners.

### **Key organizations for insurance providers**

- The [UNEP FI Principles for Sustainable Insurance](#) serve as a global framework for the insurance industry to address ESG risks and opportunities.
- [Net-Zero Insurance Alliance](#) members have committed to transition their insurance and reinsurance underwriting portfolios to net-zero greenhouse gas (GHG) emissions by 2050, consistent with a maximum temperature rise of 1.5°C above pre-industrial levels by 2100, in order to contribute to the implementation of the Paris Agreement.

### **Standards, guidance and tools**

- [UNEP FI PSI ESG Guide for Non-Life Insurance](#)
- [Task Force on Climate-related Financial Disclosures \(TCFD\)](#)
- [Taskforce on Nature-related Financial Disclosures \(TNFD\)](#)

## *Advisors and data providers*

Investment advisors and data providers are emerging players associated with built environment finance and investment. Along with other service providers, they support the functioning of capital markets. Typically, investment advisors work with asset owners and managers to shape investment principles, including developing their net zero targets and transition plans, alongside providing guidance and directing them to solutions available on the market. Data providers work with clients to deliver fundamental information for decision-making by providing climate metrics for modelling.

Although the roles and impact of these stakeholders in decarbonization are yet to be seen, advisory and data providers are well positioned given their connection to real economy companies and financial sector companies. They are the facilitators of top-down learning as they share and spread best practices shown from leaders. They could also become significant players in the standardization and harmonization of data and target-setting.

### **Key organizations for advisors and data providers**

- [GRESB](#) provides actionable and transparent ESG data to financial markets. It collects, validates, scores and independently benchmarks ESG data to provide business intelligence, engagement tools, and regulatory reporting solutions for investors, asset managers and the wider industry.
- [RICS](#) global standards, professional progression and data and insight promote and enforce the highest professional standards in the development and management of land, real estate, construction and infrastructure.
- The [Urban Land Institute's C Change](#) program mobilizes the European real estate industry to decarbonize. Advisors form a large part of their membership.
- The [Carbon Risk Real Estate Monitor \(CRREM\)](#) provides the industry with appropriate science-based carbon reduction pathways at building, portfolio and company level and with financial risk assessment tools to cost-effectively manage carbon mitigation strategies.
- The [Science Based Targets initiative \(SBTi\)](#) drives ambitious climate action in the private sector by enabling organizations to set science-based emissions reduction targets.

### **Standards, guidance and tools**

- [RICS Global Guidance note Sustainability and ESG in commercial property valuation and strategic advice](#)
- [ULI C Change Initiative](#)
- [UK Green Building Council \(UK GBC\) Guide to Scope 3 Reporting in Commercial Real Estate](#)
- [PCAF: Global GHG Accounting and Reporting Standard for the Financial Industry](#)
- [NZAOA Target Setting Protocol](#)
- [PAII: Net Zero Investment Framework](#)
- [Carbon Risk Real Estate Monitor Tool](#)
- [Managing Transition Risk in Real Estate: Aligning to the Paris Climate Accord](#)

## What needs to happen next?

The first step in the transition to net-zero emissions is to halve overall emissions by 2030. 2030 is just six years from the publication of this whitepaper, falling within typical lead times for many built environment projects. It is imperative therefore for the following targets to be considered and integrated into decision making by all stakeholders today:<sup>xvii</sup>

- All new buildings must have net-zero operational emissions by 2030 and all buildings – new and existing – should achieve net-zero emissions by 2050.
- By 2030, embodied carbon in the built environment should be 40% lower than it is today and be net zero by 2050.

The three market transformation levers are: alignment behind WLC for the whole of the built environment, not just individual segments; the integration of a carbon cost and price; and the transformation of supply and demand dynamics for decarbonized solutions.

To get there, the finance sector has to collectively and simultaneously commit to taking action:

For **asset owners and investors**, this means setting clear, asset-specific targets and timelines. They also must embed the key climate and ESG factors into RFPs, investment mandates, manager selection and stewardship engagement with portfolio companies. But to do so, they need; accurate data to help inform benchmarking and pathways; consistent, market-adapted standards to base investment decisions on; and guidance and support from asset managers and other advisors. Although the business case is becoming clearer, further work needs to happen to inform valuation and analysis – proving the financial case for action.

**Asset managers** need to use climate and ESG considerations as an additional lens to inform investment decisions, stay ahead of the curve to understand industry trends and provide investment strategies and relevant solutions to clients. They also need to focus on overcoming data challenges through proprietary or third parties solutions and use standardized frameworks and local/regional taxonomies to help assessment, benchmarking and reporting. This will require adopting a common language on emissions accounting and reporting, such as according to our [Building System Carbon Framework](#).

**Finance providers** need to take a more holistic view of their financed emissions (emissions linked to investment and lending activities) with adequate data, tools and standards, eventually adjusting their pricing and cost of finance depending on the new criteria. They also need to provide clear and transparent information on new relevant financial products to build trust and enable their reliable incorporation into business case analysis.

For **insurance providers**, this means continuing to develop methodologies to integrate both physical and transition risks into underwriting decisions and translate net zero commitments into demand pressure when engaging with those seeking insurance.

And lastly, **investment advisors and data providers** need to facilitate top-down learning as they share and spread best practices and become significant players in the standardization and harmonization of data and target-setting.

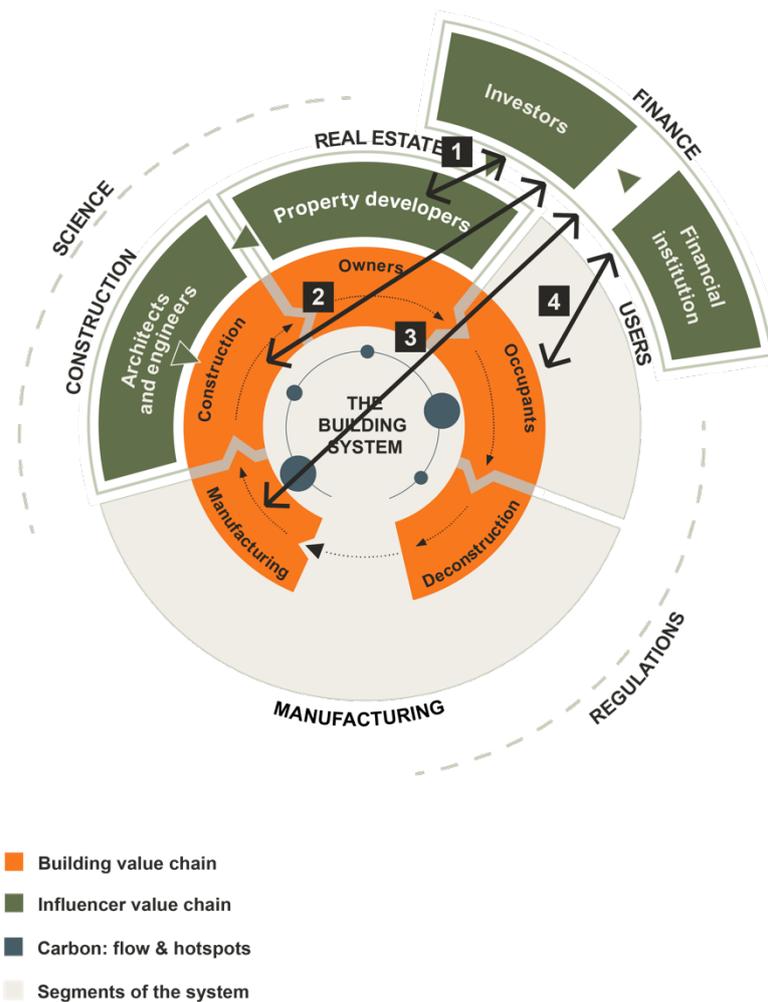
### Dynamics between stakeholders – A collaborative approach for the built environment

To implement these actions, finance sector stakeholders cannot work in isolation. They need to collaborate and seek the input and support from other stakeholders along the value chain. This is the fundamental premise of the Built Environment Market Transformation Action Agenda, as laid out above, so that we unite all stakeholders collectively and collaboratively on a common vision and aligned actions.

### Examples of key interventions

Finance providers, whether dealing with debt or equity, have a role in supporting the industry-specific alignment with climate and sustainability targets through demand pressure, in particular accounting for whole life carbon and incentivizing improved carbon performance. Figure 6 and Table 6 shows examples of actions between stakeholders at the points of connection and collaboration opportunities, some of them illustrating the relevant Market Transformation Intervention areas introduced above.

Figure 6: Collaborative approaches in the building system carbon framework



Source: Based on WBCSD (2020). *The Building System Carbon Framework*.

**Table 1: Collaboration opportunities**

1. Finance sector to property developers and building owners	2. Finance sector to architecture, engineering and construction firms
<p><b>Investors</b> can incorporate WLC considerations and other non-financial KPIs into strategic decision-making.</p> <p><b>Finance providers</b> can give preferential terms for developments reaching certain standards and provide transparent finance terms to allow developers to base assessments on trusted numbers.</p> <p>They can more transparently link carbon performance to their loans and provide incentives (e.g., as currently done for mortgages related to energy efficiency).</p> <p><b>Property developers</b> can set carbon performance requirements as part of the procurement process and funding solutions for their projects, also including circular solutions.</p> <p><b>Asset owners and investors</b> can adopt decarbonization policies and set requirements for their real estate assets and portfolios, in line with Paris Agreement compatible emissions trajectories resulting in downstream change.</p>	<p><b>Investors</b> can adjust their risk profile to encourage and accept more innovative and creative solutions.</p> <p><b>Finance providers</b> can provide new financial products to this adjusted risk profile.</p> <p><b>Architecture, engineering and construction firms</b> can set carbon performance requirements as part of the client's minimum requirements, procurement process and funding solutions for their projects, also including circular solutions.</p>
3. Finance sector to manufacturers	4. Finance sector to end-users (occupiers)
<p><b>Investors</b> can use their influence to affect product strategy and ensure WLC is considered as a core factor when developing new products/solutions.</p> <p><b>Finance providers</b> can give preferential terms for products/solutions reaching certain standards and provide transparent finance terms for those products with better environmental performance. This is only possible with a robust methodology for assessing the contribution to decarbonization.</p> <p><b>Asset managers</b> who hold company equity can influence the company's strategic direction and business transformation by making capital allocation decisions and directly engaging with the management.</p> <p><b>Manufacturers</b> can set carbon performance requirements as part of the procurement process throughout their supply chain and prioritize circular solutions.</p>	<p><b>Investors</b> can adopt legal instruments such as green leases across their portfolios to enable data sharing and transparency and the establishment of joint roadmaps.</p> <p>They can also activate tenant engagement and maintain open lines of communication to jointly work on solutions with occupiers.</p> <p><b>Finance providers</b> can give preferential terms for assets reaching certain standards, provide transparent finance terms and green financial instruments to allow asset owners, their managers or tenants to fund retrofits and base feasibility on trusted numbers, protecting asset value into the future and allowing effective management.</p> <p><b>Asset managers</b> can support investors in setting and executing their strategies and highlight physical and transition risk where relevant, including legal strategies.</p> <p><b>End-users/occupiers</b>, as they own or rent real estate as part of their corporate operations, can develop policies for low-carbon performance in their role as occupiers, putting demand pressure on asset owners. Supporting the adoption of green leases improves the landlord/tenant relationship, transparency and collaboration into the future.</p>

## WBCSD Built Environment Pathway's role

WBCSD's Built Environment pathway mobilizes leading **global companies** along the **value chain** to accelerate the transition to a **sustainable built environment system** and unite **all stakeholders** around a **common vision** and aligned **actions**. Our mission is to accelerate the achievement of net-zero emissions across the entire built environment life cycle no later than 2050 through system-wide collaboration.

We bring neutral and unbiased thought leadership and a global system and whole value chain perspective to the issue and speak both up and down the value chain as a translator and connector. Our unique position allows us to influence two-way accountability and identify system intervention points.

WBCSD's Built Environment pathway provides guidance, frameworks and a platform for **collaboration and accountability**. This gives us the opportunity to focus on key connection and collaboration points between stakeholders.

The extent to which businesses orient products and services to supporting and driving sustainable development outcomes is critical to achieving our [Vision 2050: Time to Transform](#), which sets a shared vision of a world in which more than 9 billion people are able to live well, within planetary boundaries, by 2050. Achieving this vision requires transformation at scale, with business focusing its actions on areas through which it can best lead system transformations.

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## Endnotes

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Development*

