



2023 Climate and Energy Benchmark in the buildings sector

Insights Report

March 2023

Table of contents

Table of contents.....	2
The 2023 Climate and Energy Benchmark in the buildings sector.....	3
Presenting the 50 companies in the Buildings Benchmark.....	5
Five key findings	7
Key finding 1: Today's choices in the buildings sector will impact emissions for decades	7
Key finding 2: Only a small portion of buildings sector companies are planning for a low-carbon transition	9
Key finding 3: Companies should lead by example and work with all stakeholders to mitigate emissions.....	12
Key finding 4: There is a systemic lack of commitment and action regarding the fundamentals of responsible business conduct in the buildings sector.....	14
Key finding 5: Over a million workers are at risk due to non-existent just transition plans	14
Module level summaries	16
Module 1: Targets.....	16
Module 2 and 4: Material Investment, Sold Product Performance.....	17
Module 3: Intangible Investment.....	21
Module 5: Management	22
Module 6: Supplier engagement	24
Module 7: Client Engagement.....	25
Module 8: Policy Engagement.....	26
Module 9: Business Model	27
Appendix I: Companies in the Buildings Benchmark 2023	30
About the World Benchmarking Alliance	32



The 2023 Climate and Energy Benchmark in the buildings sector

It is now widely acknowledged that globally we must increase climate action to reduce emissions. Without urgent action to limit climate change, the world will experience more extreme weather events, rise in sea levels and negative impacts on biodiversity, ecosystems and oceans. The [IPCC's 2022 Sixth Assessment Report: Impacts, Adaptation and Vulnerability](#) shows that global warming, exceeding 1.5°C in the coming decades, will cause increases in climate hazards and present a multitude of risks to ecosystems and humans. These will have a disproportionate effect on the poorest and most vulnerable populations for decades to come.

In 2015, 196 countries signed the [Paris Agreement](#) for climate action. In the same year, 193 countries committed to the United Nations (UN) [Sustainable Development Goals](#) (SDGs). However, the world still needs a major decarbonisation and energy transformation if we are to align global efforts to achieve the goals set out in the Paris Agreement and prevent the worst impacts of climate change. One of these goals is to limit global warming to 1.5°C. Moreover, efforts need to be carried out in a just and equitable way, so that no one is left behind. Yet, even after the 10th anniversary of the publication of the UN Guiding Principles on Business and Human Rights (UNGPs), companies are still lagging in implementing human rights due diligence processes.

To accelerate action towards a just global decarbonisation and energy transformation, the World Benchmarking Alliance (WBA) has formed a strategic partnership with the [Assessing low-Carbon Transition \(ACT\) initiative](#). ACT has been co-developed by ADEME, the French Agency for Ecological Transition, and CDP, the world's environmental disclosure platform. Furthermore, WBA continues to work in partnership with CDP to apply ACT assessments to the WBA Climate and Energy Benchmark.

The WBA Climate and Energy Benchmark assesses companies in high-emitting sectors and aims to cover 450 companies by 2024. The buildings sector is the latest in the Climate and Energy Benchmark series (following Automotive, Electric Utilities, Oil and Gas, and Transport). The buildings and construction sector is critical to achieving global decarbonisation. Emissions from the buildings sector, including buildings operation, materials manufacturing and buildings construction, was responsible for 37% of all global CO₂ emissions in 2021, making it, alongside transportation, globally one of the highest emitting sectors.

WBA's Climate and Energy Benchmark aims to provide an accountability mechanism for corporate non-state actors, specifically key companies in high-emitting sectors, to track their progress and contributions to the Paris Agreement goals. In this way, it supplements the Paris Agreement, which serves as an accountability mechanism for states, as they need to report the progress on their national climate plans under the UN Framework Convention on Climate Change (UNFCCC). WBA's Climate and Energy Benchmark aims to provide an accountability mechanism for corporate non-state actors,



specifically key companies in high-emitting sectors, to track their progress and contributions to the Paris Agreement goals.

The Buildings Benchmark is the second of WBA's Climate and Energy Benchmark series to combine the ACT assessment along with the just transition and social assessment to provide an overall score and ranking. The ACT assessments track companies' low-carbon transition, and the social assessments track whether they are transitioning in a just and equitable way, with respect for human rights and a due diligence process.

By considering social and decarbonisation issues together, the benchmark can mobilise stronger action needed to hold companies accountable on contributing to a low-carbon transition that leaves no one behind. The benchmark process details of how we integrate the two assessments can be found in our latest [methodology report](#), as well as how we engage the companies themselves on the findings.

Just as high-emitting sectors need to take action to prevent climate change, so they need to consider human rights, green and decent work, the needs of their workers, communities and other stakeholders to ensure their low-carbon transition is just and socially responsible. The [Just Transition](#) and [Core Social](#) indicators used in this assessment consider these issues in a way that can be applied to all high-emitting sectors, to evaluate how ready companies are to undertake a just transition.

What constitutes a just transition for the buildings sector is a complex topic with a wide range of affected stakeholders. As the buildings sector plays a big role in creating the built environment, it has an impact on emissions throughout the lifetime of the buildings as well as a lasting impact on the communities in the built environment. The companies in the Buildings Benchmark will be further assessed on their impact on communities in WBA's upcoming Urban Benchmark, which places an emphasis on inclusiveness and examines affordability, accessibility, participatory processes and land rights and cultural heritage. These are all important aspects because tenants and communities need to play a central part for the low-carbon transition in the buildings sector to be just and fair.

This report presents the five key findings from the Buildings Benchmark as well as a deep dive into the findings for each ACT assessment module covering the key elements of companies' low-carbon transition plans. The findings are designed to provide investors, civil society and policymakers – as well as the companies themselves – with the insights they need to take action.

WBA's mission is to build a movement to measure and incentivise business impact towards a sustainable future that works for everyone. Working with about [350 organisations in our Alliance](#), we envision a society that values the success of business by what it contributes to the world. To achieve this, we need all actors in the ecosystem to drive the needed transformations. If you have any feedback on our findings, please reach out to Vicky Sins, Decarbonisation and Energy Transformation Lead at WBA: info.climate@worldbenchmarkingalliance.org



Presenting the 50 companies in the Buildings Benchmark

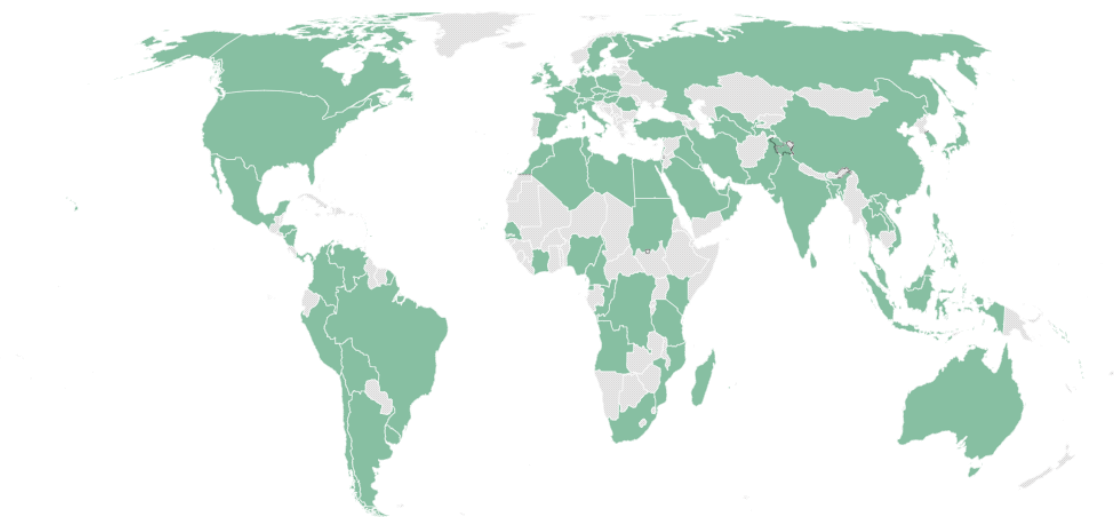
As mentioned above, activities from buildings sector are responsible for a large share of global emissions. As a result, WBA has identified this sector as crucial for inclusion in the Climate and Energy Benchmark. The Buildings Benchmark assesses 50 keystone building companies that have a significant influence on achieving the Paris Agreement goals and the SDGs. The list of companies is available in the appendix.

The structure of the buildings sector is complex, with companies in the different subsectors, having varying levels of influence over emissions reduction. In line with the scope of the ACT methodologies and available decarbonisation scenarios, the Buildings Benchmark covers companies playing in at least one of the following fields: construction, property development and property management.

Out of the 50 assessed companies, a majority (31, i.e. 62%) operate across more than one subsector. However, most companies focus on one subsector, with 17 (34%) specialising in property management and 24 (48%) specialising in property development or construction. Only nine companies (18%) have significant activities across both property management and property development or construction activities.

Overall, these companies operate in 91 countries worldwide (highlighted in green in the figure below), with China having the most presence (26 companies) and USA coming in second (17 companies).

FIGURE 1: REGIONAL DISTRIBUTION OF ASSESSED COMPANIES



The Buildings Benchmark is unique in that although the number of companies assessed is smaller than for other sectors covered by the Climate and Energy benchmark, in comparison this sample is extremely important in terms of impact. Within the sector, a significant number of companies operate behind the scenes and may not be well known publicly. Many of these hold substantial influence in terms of m2 of retail space, housing, offices, etc. These few companies hold major stakes in achieving a just transition and a low-carbon future for the sector. The buildings sector has immense impact as well as great potential for positive change. We know that in 2021 only a few companies held the keys to 8,206 km² of real estate, and thus they are crucial in this benchmark.

The key findings below highlight the main barriers to a just low-carbon transition in the buildings sector, as identified through the assessment of the 50 companies.



Five key findings

The 2023 Climate and Energy Benchmark for the buildings sector shows an industry with an immense amount of progress to make. While building companies' choices are critical for people everywhere, these companies are currently impacting emissions for generations to come. Most building companies do not have targets and transition plans in place to reduce their emissions and achieve net-zero goals. The sector needs to show leadership in connecting and collaborating with all stakeholders in the value chain to ensure responsibility for mitigating emissions and aligning with the 1.5°C goal.

The benchmark findings also show that, overall, only a minority of the assessed companies are engaged with the necessary preconditions for a just transition, if undertaking a low-carbon transition at all. As with the low-carbon assessment, companies demonstrate a lack of commitments and action towards undertaking a just transition in their business relationships and value chain, as well as within the companies themselves for their own employees. A just transition requires urgent and concerted effort from companies and policymakers to bring people along in the transformation to a low-carbon world. Lack of action by companies could risk the success of the low-carbon transition and could lead to increased inequality, mass unemployment and civil unrest.

Key finding 1: Today's choices in the buildings sector will impact emissions for decades

Companies in the buildings sector are failing to take responsibility for reducing the in-use emissions from the operations of buildings. The longevity of buildings means that making the wrong design, construction and renovation decisions today will have a lasting impact on society's ability to decarbonise. However, there is little evidence that property developers and construction companies are committing to deliver efficient low-carbon and zero-carbon-ready buildings or that property managers are planning to convert existing buildings to zero carbon ready through deep renovations and retrofits. As a result, companies in the buildings sector are locking in emissions for decades to come and are unlikely to achieve net zero by 2050.

The in-use emissions of buildings, arising from the energy consumption during lifetime (mainly from space heating and cooling, water heating and lighting), are the dominant source of emissions throughout the buildings sector value chain, representing 75% of sectoral emissions. This is because they are emitted across the entire lifetime of the building. Embodied emissions associated with the manufacturing of building materials make up 25% of sectoral emissions and direct emissions from construction of buildings account for less than 1%. It is therefore imperative that the sector tackles in-use emissions.

Responsibility for the in-use emissions of buildings starts with property developers and construction companies. Poorly designed, inefficient buildings constructed now will produce significant in-use



emissions and will require deep renovations or demolition and rebuilding, leading to additional embodied emissions. To align with the International Energy Agency (IEA) Net Zero Emissions by 2050 (NZE) Scenario, all new buildings will need to be zero carbon ready from the year 2030.

There is limited evidence that developers and construction companies are giving adequate consideration to the in-use emissions of the buildings they deliver. Only five (16%) of the 32 companies with significant development or construction activities (Ayala, Gecina, Hyundai E&C, Lendlease and Prologis) have a net-zero target that includes the in-use emissions of delivered buildings. However, none have a time-bound roadmap of how they will deliver solely zero-carbon-ready buildings by their target year. Gecina is the only company that targets the delivery of zero-carbon-ready buildings by 2030 in line with the IEA NZE Scenario requirement. Currently, only two companies (Gecina and LEG Immobilien) are developing zero-carbon-ready buildings in their property development operations.

Furthermore, only five companies (Godrej, Hyundai E&C, Macrotech, Mitsubishi Estate and SEGRO) report the projected in-use emissions of the buildings they delivered in the reporting year. Unfortunately, none of the companies in the benchmark disclose the emissions or energy intensity at a level of granularity required for the assessment. To enable a proper assessment of their in-use emissions, companies should aim to clearly disclose the proportion of low-carbon floor area they currently deliver and that they plan to deliver in the future. Ideally, companies should report the emissions or energy intensity and floor area for each project they have delivered in a given year.

With limited action from property developers and construction companies to deliver zero-carbon-ready buildings, property managers are forced to take responsibility for deep renovation and retrofits to make buildings zero carbon ready. The IEA NZE Scenario requires 50% of existing buildings to be zero carbon ready through renovation and retrofitting by 2040. This increases to 85% by 2050. To achieve this, almost all existing and new buildings will need a deep renovation over the coming decades. However, there is an absence of robust commitments across the sector to renovate buildings.

Of the 33 companies with property management activities, 11 (33%) plan to renovate buildings in their portfolios. Eight of these companies have net-zero targets across their value chain. Although this suggests that these companies plan to undertake deep renovations to achieve their net-zero targets, only Vonovia and Gecina have made detailed time-bound renovation commitments. Vonovia has an ongoing target to renovate 3% of its managed buildings per year (2.3% in 2021). However, it is unclear whether Vonovia plans to extend this rate of renovation through to 2045, by when it aims to be net zero. If Vonovia achieves a renovation rate of 3% per year through to 2045 and ensures that it undertakes deep renovation, it will likely remain within its 1.5°C carbon budget. Vonovia and Gecina demonstrate a clear commitment to reduce the in-use emissions of their portfolios, though they can provide more detailed renovation plans and report the intended emissions savings from renovations.

Overall, given the lack of commitment to renovate, all the property management companies assessed in the benchmark are predicted to exceed their 1.5°C carbon budget across the next 25 years. Furthermore, no company is projected to align with its 1.5°C pathway in five years' time. It is crucial that property management companies step up and commit to renovating their portfolios to reduce emissions intensity and keep on track to limiting global warming to 1.5°C.

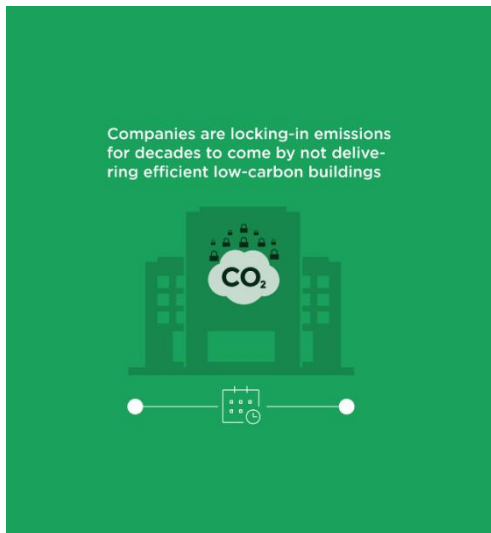
Most companies (32 of the 50) develop or manage some buildings certified by sustainability certifications, such as Building Research Establishment Environmental Assessment Method (BREEAM), Leadership in Energy and Environmental Design (LEED), China 3-star green buildings and WELL Building Standard. Although these certifications can help incentivise decarbonisation, the emissions



intensity requirements they prescribe are unclear and are not reported by the companies. There is a need for regulators in the buildings sector to improve decarbonisation standards and energy codes and govern their implementation.

To achieve net zero by 2050, building companies must act now. Companies need to step up and take clear measurable steps to ensure new buildings are not locking in emissions for decades and existing buildings undergo planned renovation to become zero carbon ready.

FIGURE 2: ASSESSED COMPANIES AND LOCKED-IN EMISSIONS



Key finding 2: Only a small portion of buildings sector companies are planning for a low-carbon transition

Companies in the buildings sector have insufficient decarbonisation targets and transition plans in place. To align with a 1.5°C pathway, buildings sector companies need to take urgent action to tackle their emissions by developing low-carbon transition plans, committing to renovating their existing portfolios and delivering zero-carbon buildings. Currently, the sector does not have a consistent approach to decarbonisation, and the lack of targets is closely linked to the absence of low-carbon transition plans.

The lack of emissions reduction targets in the buildings sector is alarming. Setting targets allows companies to establish a framework for action and quantify progress towards decarbonisation. Yet many companies are lagging in this area: almost half (22) of the assessed companies do not have any emissions reduction targets and a further six companies (12%) have set only one target. Only 11 companies (22%) have set net-zero targets for all scope 1, 2 and 3 emissions. Additionally, only 13 companies (26%) have set 1.5°C aligned targets validated by the Science Based Targets initiative



(SBTi). Three companies – Cushman and Wakefield, Jones Lang LaSalle (JLL) and Mitsubishi Estate – have net-zero targets validated by the SBTi.

Material manufacturing represents the majority of embodied emissions in the buildings sector. Currently, only four companies (8%) – Gecina, New World Development, Segro and Unibail-Rodamco-Westfield (URW) – have set specific targets for embodied emissions. Replacing or reducing emissions-intensive materials, such as cement, glass and steel, will create demand for and boost the development of low-carbon materials. It can also be a way to take advantage of energy saving measures by reaching higher levels of energy efficiency, thanks to better thermoregulation, for instance. Legal limits on embodied emissions need to tighten the screws on companies and incentivise them to take much-needed action.

Moreover, emissions are also released during the transportation, installation and disposal of building materials. These process emissions are being released upfront during this key decade of decarbonisation action, even before the building is used. If buildings sector companies fail to tackle both their embodied and process emissions urgently, it will impact the sector's ability to reach the net-zero target in line with the Paris Agreement.

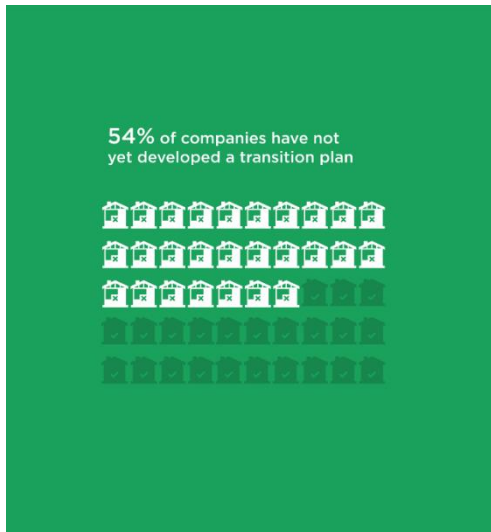
To add to this picture, in 2040, more than two-thirds of existing buildings will still be in use. To align with the objectives of the Paris Agreement, all existing buildings will need improvements to increase energy efficiency and transition to full electrification powered by renewable energy sources. This means that property management companies, which currently lack clear plans and commitments to renovate their portfolios and reduce the in-use emissions from the cooling, heating and electricity use of buildings, will need to step up their game.

All of this requires detailed transition planning, which includes financial commitments, to ensure that the companies' long-term targets are realistic and achievable. A transition plan should outline how a company aims to align with a 1.5°C world. Further, it should include commitments along with the timescales to implement them, quantitative measures of success, details of actions the company realistically expects to implement in the short- and long-term and estimates of costs associated with the plan.

Out of the 50 assessed companies, 27 (54%) have not yet developed a low-carbon transition plan, though 12 (24%) are planning to do so in the next two years. To add to this, the transition plans that companies have developed till date, lack detailed actions, depth of analysis and financial commitments towards decarbonisation. Half of the 50 assessed companies do not show any transition planning beyond 2025 and the majority of companies have not conducted a climate-related scenario analysis to identify the most relevant risks and opportunities.



FIGURE 3: ASSESSED COMPANIES ON TRANSITION PLANS



Three out of the 50 companies – Gecina, Hyundai E&C and SEGRO – have the most comprehensive transition plans. They clearly describe the measures of success in terms of emissions reduction, short-term actions and long-term vision. The companies have also used a sufficiently ambitious carbon price as a financial indicator to support strategic decisions. The most popular short-term actions that companies include in their transition plans are increasing the use of renewable energy through on-site generation and procurement, improving buildings’ energy efficiency and using low-carbon materials and low-carbon construction technologies.

Only 18 companies (36%) have established at least two quantitative and time-bound measures of success to monitor their progress towards decarbonisation. 28 companies (56%) provide no financial details related to their transition planning. Only SEGRO reports sufficient financial information in this regard. Next to publishing the 'SEGRO Green Finance Framework', the company has established a Green Finance Committee. Moreover, the company requires all its capital expenditure over £10 million (about USD 12 million) to be consistent with the Responsible SEGRO commitments and targets, which include energy efficiency, building certification and renewable energy use and generation.

A final interesting observation under this finding is that the companies whose management of climate change is most aligned with the Paris Agreement – Gecina, JLL, Hyundai E&C, Mitsui and URW – are all headquartered in countries that have set net-zero emissions targets for no later than 2050 – France, the United States, the Republic of Korea and Japan. This goes to show that companies can be driven to speed up change through national policies and regulations.



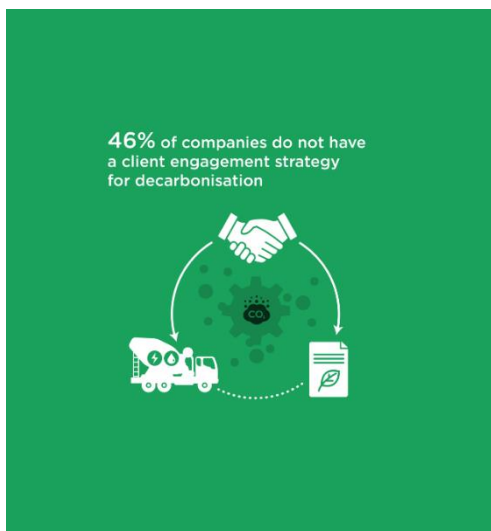
Key finding 3: Companies should lead by example and work with all stakeholders to mitigate emissions

The bulk of the buildings sector emissions are indirect scope 3 emissions from the use of buildings or from purchased goods and services. As a result, the sector is heavily reliant on its value chain to decarbonise. It is critical for building companies to engage not just with each other but also with their suppliers, customers and other external actors to achieve emissions reductions at the pace and scale required to meet the Paris Agreement goal. This means they will need to scale up their client and supplier engagement strategies to make a concerted effort to lower emissions.

Within the buildings sector, scope 3 emissions are often the majority of a company's total emissions. For example, CBRE is a property manager and property developer and 99% of its emissions come from the tenants' use of the buildings in its portfolio. Similarly, Macrotech Developers is a property developer and over 80% of its emissions come from purchased goods and services. Ayala Land is a company that does property management, property development and construction; 26% of its emissions come from downstream leased assets. These examples demonstrate how a significant proportion of the buildings sector emissions are beyond the direct control of the companies. Consequently, engaging with and supporting those who do have direct control over these emissions is an essential step for companies to decarbonise their portfolios.

However, the results of the ACT assessment illustrate that instead of acknowledging the significance of their value chain, the majority of companies are failing to develop the strategies needed to work with others and tackle these indirect emissions. Data shows that 8 companies (16%) do not have a supplier engagement strategy and a staggering 23 companies (46%) do not have a client engagement strategy.

FIGURE 4: ASSESSED COMPANIES AND CLIENT ENGAGEMENT



Even when companies have developed client and supplier strategies, they are inadequate. For example, only 15 companies (30%) have supplier engagement strategies which cover at least 90% of suppliers, and only 14 companies (28%) include emissions reduction requirements in their supplier engagement strategies. However, companies such as Godrej demonstrate that best practice is possible. Godrej encourages its key suppliers (representing over 90% of its supplier-related scope 3 emissions) to set science-based targets and also requires suppliers to report their emissions.

The picture is similar for client engagement. Only four companies (8%) have strategies which cover at least 90% of clients, and just eight companies (16%) have quantified emissions reduction targets to be achieved in conjunction with clients.

The assessment finds that companies are choosing actions that require minimal effort and that rely on other parties to drive significant change. For example, companies engaging with clients are most likely to undertake education and information-sharing actions, such as putting up posters in communal areas, and these actions are most likely to be directed towards tenants. It is important for companies to take clear responsibility for change. Some companies offer examples of how this can work. For example, Prologis' SolarSmart initiative installs solar panels on tenants' roofs without any upfront costs and provides below-market-rate electricity fees for tenants. By taking on both organisational and financial responsibility, the company shows how emissions reductions can be achieved through client engagement.

The assessment also shows that construction companies have the strongest supplier engagement strategies, while property managers have the strongest client engagement strategies, indicating that companies are selecting only the easiest engagement levers to pull. Furthermore, there is little measurement of the impact of company actions and so it is unclear if they actually lead to emissions reductions. Only four companies (Gecina, SEGRO, Unibail-Rodamco-Westfield and Welltower) quantitatively measure the impact of their supplier engagement measures and eight companies (16%) quantitatively measure the impact of their client engagement measures.

No company in the buildings sector value chain can operate alone, as each subsector is reliant on the others, as well as on external suppliers and clients. The complexity of this sector means any one company may occupy one or more of these roles depending on which other actors it is dealing with in a given situation. While complex, it is clear that forming strategic working relationships with other actors in the value chain, both upstream and downstream, is vital to decarbonising the buildings sector. Moreover, measurement and disclosure is critical across all aspects of the company's business, including their client and supplier engagement, in addition to their own operations.

SEGRO is implementing strategies to engage both suppliers and clients and it ranks second among the 50 assessed companies in the benchmark, illustrating the value of this engagement. The company demonstrates best practices by collaborating with contractors to work on the Sustainable Materials Brief for the UK and procuring renewable energy for all SEGRO-controlled electricity. Evidence shows that it is only by using their influence across the value chain that buildings sector companies can take responsibility for influencing emissions beyond their direct control and meet the ambition of the Paris Agreement.



Key finding 4: There is a systemic lack of commitment and action regarding the fundamentals of responsible business conduct in the buildings sector

Responsible business conduct is a crucial first step for a company to be able to contribute to the systems transformations needed to achieve the SDGs. Companies in the buildings sector fail to demonstrate the fundamentals of responsible business conduct in relation to their workers and the workers in their supply chains. While only 34% of companies have publicly available policies committing to respect human rights, not one of the companies demonstrates having an effective human rights due diligence process. Moreover, only 28% of companies have policies committing to protect the health and safety of both their own workers and those in their supply chain. The assessed companies in the buildings sector not only show low performance, but a systemic lack of commitment and associated action regarding responsible business conduct, both in as well as beyond their own operations.

FIGURE 5: ASSESSED COMPANIES WITH HUMAN RIGHTS POLICIES



Key finding 5: Over a million workers are at risk due to non-existent just transition plans

A 'just transition' envisions communities and workers that are thriving and resilient to change, while remaining within the global 1.5°C boundary set out in the Paris Agreement. WBA's Climate and Energy Benchmark for the buildings sector shows a striking and systemic lack of action by companies to prepare for and mitigate the social impacts of decarbonising. Alarming, all companies score 0 on just transition planning, putting 1.2 million direct employees and millions of contracted workers at risk. This corresponds to the alarming lack of emissions reduction targets in the sector, as well as the

fact that only 10% of building companies are committed to engaging in social dialogue – two necessary preconditions for companies to engage in effective just transition planning.

Of all the sectors assessed by the Climate and Energy Benchmark on their readiness for undertaking a just transition, the buildings sector emerges as the least committed, prepared and aware of the social impacts of a low-carbon transition. This is also mirrored in the systemic lack of responsible business conduct among building companies in relation to their workers. The number of companies committed to engaging in social dialogue, which is only a first step towards just transition planning, ranges from 10% of companies in the buildings sector and 13% in the transport sector, to 39% and 40% in the automotive and electric utility sectors respectively, indicating just how far the buildings sector is lagging when it comes to undertaking responsible business actions for their employees.

To begin planning for a just transition, companies in the buildings sector need to first engage in low-carbon transition planning. Additionally, they need to engage in participatory processes with workers, communities and other affected stakeholders in their value chains to understand the social impacts of the low-carbon transition and see how these impacts can be appropriately managed. All of this is needed for building companies to ensure that no one is left behind in the low-carbon transition.

FIGURE 6: ASSESSED COMPANIES ON JUST TRANSITION PLANNING



Module level summaries

This section aims at providing more information about the ACT assessment results. Results for each of the nine modules included in the ACT performance score are discussed.

Module 1: Targets

Module 1, Targets, assesses companies' emissions reduction targets as these are the north star for navigating the low-carbon transition. They provide a direction to which companies can align their strategy, capital expenditure (CapEx) and research and development (R&D) to deliver emissions reductions. Time-bound, science-based targets demonstrate the credibility of companies' transition planning to investors, consumers, regulators and other stakeholders. This module assesses:

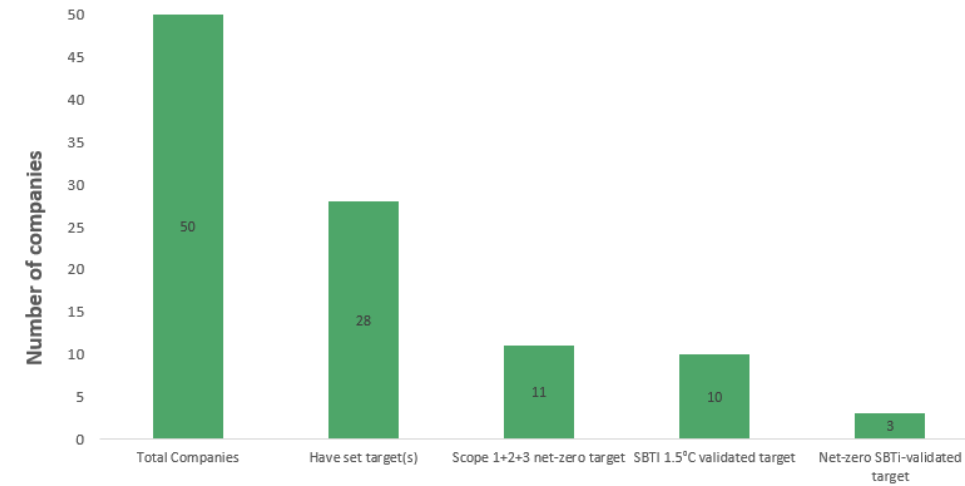
- the alignment of the company's buildings emissions reduction targets with its 1.5°C pathway across different target types, including owned buildings, use phase emissions of new buildings, use phase of renovated buildings, use phase of managed buildings and emissions from materials used in new developments;
- the time horizon and interval spacing of all the company's targets; and
- the company's progress towards its current emissions reduction targets.

Out of the 50 companies, 22 (44%) have not set any targets and a further six (12%) have only set targets that cover their scope 1 and 2 emissions, excluding scope 3 emissions which for many of these companies make up the majority of their total emissions. This lack of target setting illustrates how many of the companies are not taking action to reduce their emissions and, even more so, are not accepting responsibility for all their value chain emissions.

Only eleven companies (22%) have set net-zero targets which cover all of their emissions including scope 1, 2 and 3. Further, 13 companies (26%) have had their targets validated by the Science Based Targets initiative (SBTi), with ten of these being aligned with a 1.5°C scenario. A further four companies have committed to have their targets validated. Three companies – Cushman and Wakefield, Jones Lang LaSalle (JLL) and Mitsubishi Estate – have had their net-zero targets validated in line with the SBTi's net-zero standard.



FIGURE 7: EMISSIONS REDUCTION TARGETS FROM ASSESSED COMPANIES



The majority of targets are focused either on companies’ operational emissions (for example, energy use in company offices or construction emissions) or on the in-use emissions of companies’ portfolios. There are very few targets specifically focused on reducing the embodied emissions of developments. However, given that in-use emissions comprise the largest share of total emissions in the buildings sector, reducing embodied emissions will need to be an important step towards achieving net-zero emissions. Although some companies have set targets that cover all their scope 1, 2 and 3 emissions, only four companies (Gecina, New World Development, SEGRO and Unibail-Rodamco-Westfield) have set targets for reducing the emissions from the materials used in construction/development activities.

The assessment of the time horizons of targets is split into two parts. The first looks at the time horizon of the company’s longest target and compares it with a long-term time frame of 2050. The second assesses the time horizons of the company’s intermediate targets; the company scores full points in this part if it has set intermediate targets between the reporting year and the year of its longest-term target (covering this entire period) at gaps of five years or less. Only seven companies (14%) had long-term targets until 2050 (including companies with targets to reach net zero before 2050) which covered over 90% of their total emissions. Moreover, none of the companies in the benchmark had set long-term targets or interim targets at intervals of no more than five years between the reporting year and their longest-term target. Setting regularly spaced intermediate targets is crucial as it will incentivise near-term actions on longer-term goals. Intermediate targets also improve the credibility of a company’s transition planning as it clearly lays out the company’s decarbonisation pathway.

When looking at companies’ progress towards the achievement of their targets, 12 companies (24%) were found to be on track to achieve all of their targets. However, despite having reduction targets, seven companies’ emissions have increased between their base year and the reporting year; these companies therefore scored 0 for this part of the assessment.

Module 2 and 4: Material Investment, Sold Product Performance

Top-level summary:

The quality of reporting for activities and emissions is inadequate. As a result, it was only possible to score around 15 of the 50 companies on modules 2 or 4.



Reporting on in-use emissions of buildings is inconsistent across the 50 companies (will investigate whether this could be because there is limited guidance in GHG protocol, etc.)

Property management companies have better reporting of floor area and emissions compared to property developers and construction companies, who lack reporting on use phase emissions intensity.

Property management companies lack clear commitments to renovate their portfolio and reduce emissions. Property developers and construction companies lack commitments to deliver low-carbon or zero-carbon buildings in the future.

Companies do not define what they consider a low-carbon building. They hide behind certifications that lack a clear definition.

Among property managers, 15 out of 42 companies report emissions intensity or enough information to calculate it. However, only nine of these companies have reported a decrease in intensity in recent years. Property developers and construction companies have poor reporting standards for use phase emissions intensity.

Out of 44 property developers and construction companies, only nine report the use of sold products and of these, only three provide a clear and accurate figure for emissions. None of these companies report the floor area of properties delivered in a given year. Further, 14 companies report the floor area, but only one additionally reports the use of sold product emissions and the emissions included are unclear.

Only two property management companies have made quantifiable commitments to renovate their portfolio.

No property developer or construction company has made a clear commitment to develop low-carbon or zero-carbon buildings. Although some have net-zero targets, they lack financial or design commitments towards low-carbon buildings. When companies talk about low-carbon buildings, they do not define what a low-carbon building is and do not disclose the intended emissions associated with such buildings. At most, companies report the number of buildings meeting certain sustainability standards, but these standards lack clear emissions intensity parameters, making it difficult to determine the proportion of floor area considered to be low carbon.

There is a lack of consistency in reporting by property management companies of buildings in-use emissions. Companies were found to report these emissions in scope 1 and 2, scope 3 category 11 Use of sold products, scope 3 category 13 Downstream leased assets (most common) and scope 3 category 15 Investments. Property developers and construction companies should be reporting the in-use emissions of buildings they develop in scope 3 category 11 Use of sold products.

Module 2

Module 2, Material investment, is relevant for companies in the benchmark which operate as property managers. This module assesses companies' actions to reduce the in-use emissions from the buildings they manage. Of the 50 assessed companies, 33 (66%) undertake property management activities. Of these, 17 are focused primarily on property management, with seven only operating within that subsector.

Module 2 is split into three indicators. Indicator 2.1 assesses the trend in past emissions intensity for a company's managed buildings. The in-use emissions from tenants' use of buildings make up a significant proportion of a property management company's total emissions. Reductions in the



emissions intensity can show the effectiveness of actions that property managers can take, including gas renovation, energy efficiency improvements, installation of renewable energy generation and engagement with clients.

As part of the benchmark assessment, an emissions intensity pathway was established for the in-use emissions of buildings in each company's portfolio over the last five years. This pathway was then compared with the company's 1.5°C pathway to establish if the company's emissions reduction trend is aligned with a 1.5°C scenario.

Of the 33 companies with property development activities, only eight companies were scored for this module, highlighting overall poor performance and low level of disclosure. Five companies have reduced the emissions intensity of the buildings at the rate needed to align with their 1.5°C pathway (Ayala Land, Gecina, Prologis, Simon Property Group and Vonovia). Two companies show upward emissions intensity trends and therefore score zero for this indicator (Cushman & Wakefield and CBRE); these companies need to take urgent action to reduce their emissions to align with their 1.5°C pathways.

Of the companies with property management activities, 22 did not disclose sufficient emissions and/or floor area data for the buildings in their portfolios, which meant they could not be assessed. This lack of transparency undermines the credibility of these companies' commitments to transition to a low-carbon economy and further shows that companies in the sector are not taking responsibility for all of the emissions over which they have influence.

Indicators 2.2 and 2.3 assess companies' future emissions trends. Indicator 2.2 looks forward 25 years and compares a company's projected cumulative emissions from the use phase of its managed buildings to its projected 1.5°C carbon budget. The company's in-use emissions intensity for the reporting year is used as a baseline, and its commitments to renovate its portfolio (with associated emissions reduction) and decarbonise the grid over time in the regions where it operates are considered.

Indicators 2.2 and 2.3 look at companies' long-term commitments to renovate their portfolios to achieve significant emissions reduction. The IEA states that to align with its NZE Scenario, 20% of the existing building stock must be retrofitted to zero-carbon-ready levels by 2030, requiring an annual renovation rate of 2% from now to 2030 and beyond. However, only two of the 33 companies with property management activities in the benchmark have made significant forward-looking commitments to renovate their portfolios (Gecina and Vonovia, both of which have also achieved significant in-use emissions reduction and therefore scored 100% for indicator 2.1). Renovation will be an important tool to achieve net zero and limit warming to 1.5°C, especially in the developed nations where a large proportion of current buildings will still be standing in 2050. It allows for significant reductions in the in-use emissions of buildings and the process produces lower emissions from the use of materials than demolishing and rebuilding.

The scores for indicator 2.1 show that some companies have taken significant efforts to reduce their emissions; however, indicators 2.2 and 2.3 show that none of the companies are making sufficient commitments that show their intention to achieve net-zero emissions in the long term. In the long term, more costly and logistically complicated actions such as renovation will be required to produce significant emissions reductions as opposed to relying on low-hanging fruit such as the decarbonisation of grid electricity and the use of LED lighting. As a result of this lack of commitments, all of the 50 companies assessed in the benchmark are predicted to exceed their 1.5°C carbon budget across the next 25 years. Furthermore, no company is projected to align with its 1.5°C pathway in five



years' time. It is crucial that property management companies step up and commit to renovating their portfolios to reduce emissions intensity in order to keep on track to limiting global warming to 1.5°C.

Module 4

Module 4, Sold product performance, assesses the in-use emissions performance of the buildings that property developers and construction companies deliver each year. The in-use emissions are associated with the operations of the buildings, representing 75% of the emissions across the value chain throughout the lifetime of a building. There are 43 companies in the benchmark that undertake property development or construction activities. Of these, 25 are predominantly focused on property development and construction, with 17 only operating within the subsector.

The long lifetime of buildings means that poor decision-making now will result in emissions from the use of buildings being locked in unless significant investment is made to renovate or rebuild. There is limited evidence that property developers and construction companies are committing to undertake the deep renovations and retrofits required. It is critical for the buildings sector to transition away from poorly designed, inefficient and high-emitting new buildings. To align with the IEA NZE Scenario, all new buildings will need to be zero-carbon-ready from the year 2030.

Unfortunately, there is little evidence that companies are taking responsibility for the in-use emissions of the buildings they deliver. None of the companies reported the projected in-use emissions intensities of the buildings they delivered in the reporting year. In addition, just five companies (Godrej, Hyundai E&C, Macrotech, Mitsubishi Estate and SEGRO) reported the projected absolute in-use emissions of the buildings they delivered in the reporting year with a detailed description of the assumptions used to make this calculation. However, only Macrotech reported the floor area of buildings delivered, allowing for the calculation of an emissions intensity figure for the purpose of the benchmark assessment. However, Macrotech's data only covered the reporting year.

The assessment of the in-use emissions intensity trend of buildings delivered (indicator 4.1 dimension 1) required at least three years of past in-use emissions intensity data. Due to the lack of disclosure of in-use emissions intensities by the companies, it was not possible to assess the emissions intensity trend of any of the 50 assessed companies. Property developers and construction companies need to clearly disclose the projected emissions associated with the buildings they deliver each year. In addition, they must take direct actions to improve the efficiency and emissions intensity of buildings to ensure that the buildings they deliver transition towards net zero.

Companies cannot reduce the in-use emissions intensities of buildings they deliver year-on-year at the rate required by a 1.5°C scenario without increasingly developing or constructing low-carbon buildings. Indicator 4.2 assesses the proportion of low-carbon floor area delivered by the companies in the reporting year and three years in the future. Unfortunately, none of the 50 companies disclose the emissions or energy intensity at a level of granularity required by the benchmark assessment. Companies should aim to clearly disclose the proportion of low-carbon floor area they deliver and that they plan to deliver in the future. Ideally, companies should report emissions or energy intensity and floor area for each project they deliver in a given year.

Property developers and construction companies are also active in undertaking renovation projects for clients. At present, the renovation and retrofit rate of building stock globally is around 1% per year. This needs to increase to at least 2.5% by 2030 and, moreover, companies need to undertake deep renovations. By 2030, all renovations need to provide zero-carbon-ready buildings according to the IEA NZE Scenario. This presents an opportunity to property developers and construction companies who have a key role to play in the conversion of existing buildings to being low carbon



and zero carbon ready. However, there is no evidence that companies are making commitments to undertake deep renovations as part of their business model. None of the assessed companies disclose the amount of floor area they renovated for clients in the reporting year. As a result, it was not possible to assess any company on the share of buildings for which it undertook deep renovations.

Five companies with significant development or construction activities (Ayala, Gecina, Hyundai E&C, Lendlease and Prologis) have set net-zero targets that include scope 3 emissions. However, no company demonstrates sufficient, quantified and time-bound commitments that show how it intends to reduce the in-use emissions intensities of the buildings it delivers. Only Macrotech could be assessed against its carbon budget (indicator 4.4) and future in-use emissions intensity trend (indicator 4.1 dimension 2) due to the data on its emissions intensity and delivered floor area being available. However, because of its lack of commitments, Macrotech is projected to exceed its 1.5°C carbon budget across the next 25 years and is unlikely to align with its 1.5°C pathway in five years.

Property developers and construction companies must begin to report clear in-use emissions and floor area data for the buildings they deliver. Furthermore, it is crucial that they develop detailed, time-bound commitments to improve the efficiency and emissions intensity of new buildings.

Module 3: Intangible Investment

Module 3, Intangible investment, assesses investments in low-carbon innovation and technologies that mitigate climate change relative to overall company research and development (R&D) investments. This module is applicable to construction companies and accounts for 10% of the ACT performance score.

There are 32 companies (64%) that report R&D evidence. Ten of these have construction activities, often in addition to property development or property management activities, and 22 are either engaged in property development, property management or both. The ACT Building Construction Methodology focuses on non-mature technologies or construction and organisational methodologies that mitigate climate change. Investments in other R&D categories were not taken into consideration for this assessment. A selection of nine R&D categories was identified among the 50 assessed companies; these can be split into construction-orientated and non-construction-orientated R&D, as shown below. There is considerable overlap of the activity types across the categories.

Construction-orientated:

- Low-carbon construction materials / concrete / steel / timber
- Development of construction guidelines / eco-design
- Resource-saving through robotics and smart construction
- Low-carbon building practices / modular building / 3D printing / pre-fabrication

Non-construction-orientated:

- Investments in venture capital firms / universities and research groups collaboration (providing them with opportunities for demonstration tests)
- Digital solutions for energy efficiency technology / building control technology / simulation / digital twins



- Improvement of renewable energy technologies and low-carbon systems installation (optimised design technology for solar panel support structures; development of cooling, heating and hot water supply technology, hydrogen, fuel cells, heat pumps and stratified storage; waste as a feedstock to generate alternative sources of energy)
- Physical solutions for energy efficiency savings (radial air conditioning, technologies to create hyper-enhanced insulation)

Of the 50 assessed companies, 15 (30%) are engaged in construction activities, either solely or in addition to property development or property management or both. China Merchants Shekou Industrial Zone Holdings (CMSK) and Hyundai E&C received more than 10% of the points available for intangible investments. CMSK is pioneering ultra-low-energy buildings in Shanghai and has developed several guidelines on low-carbon construction technologies. Hyundai E&C has invested in R&D of optimised design technology for solar panel support structures; the development of cooling, heating and hot water supply technology; the development of an air-cleaning ventilation system; biomass energy conservation research and nuclear power generation research.

The buildings sector relies heavily on the development of low-carbon technologies to replace existing high-emitting materials and equipment. The R&D investment of a company into non-mature technologies allows for direct insight into the company's commitment to alternative technologies that may not currently be part of its main business model. Nine companies of the 15 mentioned above received zero or less than 1% of the points for this module. This suggests that the majority of the companies involved in construction activities completely ignore their responsibility to develop new low-carbon technologies to enable a timely transition.

Module 5: Management

Module 5, Management, is a multi-faceted module that assesses the governance mechanisms companies are using to manage the transition to a low-carbon economy across five indicators, which together paint a picture of the companies' management and strategic approach:

- Level of oversight of climate change issues
- Climate change oversight capability
- Low-carbon transition plan
- Climate change management incentives
- Climate-related scenario testing

This module accounts for 10% of the ACT performance score for all companies. On average, the 50 buildings companies scored about 35% of the available points for the management module. This is one of the lowest scores for this module among all the sectors covered by the Climate and Energy Benchmark. Furthermore, construction and property management companies received a higher score for the management module on average than property developers and companies with mixed activities.

The highest-performing companies scoring at least 70% of the points for this module are Gecina, Jones Lang LaSalle (JLL) and Unibail-Rodamco-Westfield (URW). These are publicly listed companies, headquartered in France and the USA. These companies have implemented board-level oversight of climate change issues and have specific low-carbon transition expertise at the board or equivalent



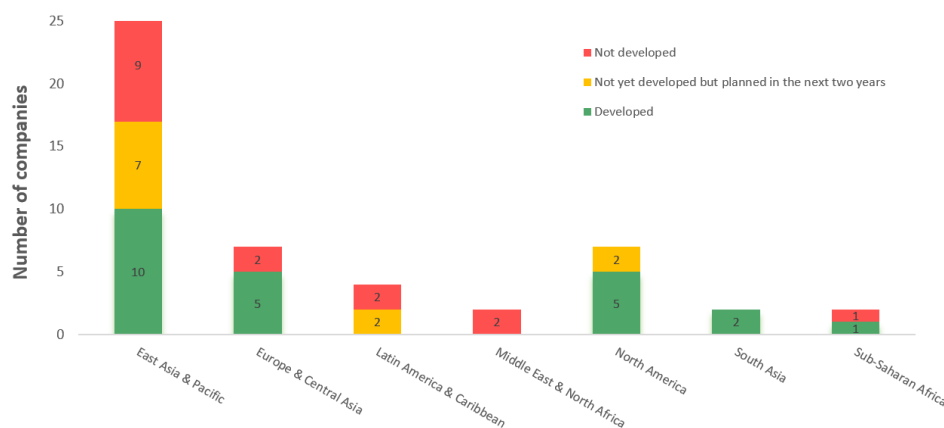
level. They also offer financial incentives for the management of climate change issues and demonstrate transition plans supported by climate change scenario analysis.

The four lowest-ranking companies in this module – Greenland Holdings, IRSA, Palm Hills Development and Qatari Diar – are headquartered in China, Argentina, Egypt and Qatar respectively. These companies have no form of climate governance in place and score zero points across all indicators in this module. No evidence was found indicating the companies have oversight of climate change, incentives for management of climate-related issues or a low-carbon transition plan.

Oversight of climate change issues and climate change oversight capability indicators are given a heavier weighting in the ACT Buildings Methodologies because a structured approach to climate governance is a cornerstone of the low-carbon transition. Seven companies (14%) do not have oversight of climate change issues and 41 companies (82%) do not provide any evidence of climate change expertise. In fact, only four companies (8%) have adequate expertise and professional experience related to climate change and the low-carbon transition at the board or equivalent level.

Detailed transition planning which includes financial commitments is crucial to ensure that the company’s long-term targets are realistic and achievable. A transition plan should outline how a company plans to align with a 1.5°C world. It should include the company’s commitments with the timescales to implement them, quantitative measures of success, details of actions the company realistically expects to implement and estimates of costs associated with the plan. For the low-carbon transition plan indicator, companies scored a median average of 16% – the lowest score across all previously assessed sectors in the Climate and Energy Benchmark. As highlighted in the figure below, 27 companies (54%) have not developed a transition plan, and 15 of them have not indicated an intention to develop one in the near future. These 27 companies represent different regions, active subsectors and ownership types.

FIGURE 8: REGIONAL DISTRIBUTION OF ASSESSED COMPANIES’ TRANSITION PLANS



In general, companies’ transition plans lack detail about the actions the companies plan to take to transition to a low-carbon economy. Plans are often unclear about timescales and boundaries. Moreover, nine companies (18%) scored zero on the low-carbon transition plan indicator, which means these companies have not yet started planning for their transition.

The highest-scoring companies receiving at least 80% of the points for the transition plan indicator are Gecina, Hyundai E&C and SEGRO. These companies demonstrate the most comprehensive transition plans. They clearly describe measures of success in terms of emissions reductions, short-



term actions and long-term vision. These companies have also embedded a carbon price in cost calculations as a financial indicator.

The most popular short-term actions that companies include in their transition plans are increasing the use of renewable energy through onsite generation and procurement, improving assets' energy efficiency and using low-carbon materials. Though these measures are essential and must be scaled up significantly, companies should increase the focus on developing new business models profitable in a low-carbon economy.

Only 18 companies (36%) have established at least two quantitative and time-bound measures of success to monitor their progress towards decarbonisation. Moreover, 28 companies (56%) provide no financial details related to their transition planning. Only SEGRO provides sufficient financial details and has received a full score on the related indicator.

In addition to containing financial details and quantified, time-bound measures of success, transition plans should be informed by company-wide scenario analysis to ensure their ambition matches that required by the 1.5°C scenario. However, less than half of the companies in the benchmark have used scenario analysis and only four companies (8%) – AvalonBay Communities, Gecina, JLL and SEGRO – have expressed the results of the analysis in qualitative, quantitative and financial terms.

Module 6: Supplier engagement

Module 6, Supplier engagement, assesses the strategic policy and processes through which a company engages its suppliers. Companies within the buildings sector are heavily reliant on their value chain to reduce emissions. This may include, among others, property developers, construction companies and materials suppliers. As a result, a strong supplier engagement strategy is key to decarbonisation.

Positively, a significant proportion of building companies claim to be engaging with suppliers. However, data shows that the quality of this engagement must be improved to have the impact required.

Often, companies' engagement strategies don't apply to all suppliers. Though 42 companies (84%) have some form of supplier engagement strategy, a quarter of these either do not specify the strategy's coverage or engage with less than 30% of their suppliers. Only 15 companies' strategies cover at least 90% of their suppliers.

Further, companies' strategies lack clear direction. Of the 42 companies with supplier engagement strategies, 28 don't include any emissions reduction requirements and only one company (Godrej) has set a quantified emissions reduction target that its suppliers are required to report progress against. Nevertheless, 24 companies with supplier engagement strategies integrate other low-carbon transition-related requirements or recommendations in their engagement with suppliers. However, 25 companies only provide sparse details about these requirements and recommendations, such as "requiring good environmental performance" or "encouraging suppliers to reduce energy use".

Fewer than ten companies (20%) include emissions reduction reporting requirements in the selection of new suppliers or contract renewals, and just three companies (CK Asset Holdings, Hyundai E&C and LEG Immobilien) engage with suppliers that fail to meet emissions requirements and exclude those that do not improve following engagement.



The data shows that companies are most likely to embed engagement or incentive-type actions into their strategy. For example, China Merchants Shekou Industrial Zone Holdings organises lectures and training for suppliers on management requirements (among other things). Similarly, JLL organises Supplier Sustainability council meetings across its regions to share information, priorities and expectations. China Resources Land rewards suppliers that fall into the company's excellent/good categories with a performance bonus or other incentive measures. Further, the data shows that companies are least likely to use innovation or collaboration types of actions. However, SEGRO is one company which is an exception, having collaborated with two of its largest contractors to work on the Sustainable Materials brief for the UK.

Despite a range of strategic actions, only seven companies (14%) measure the impact of their supplier engagement and of those, only four have quantitatively measured that impact. As a consequence, it is largely unclear if these actions are actually leading to emissions reductions. Overall, construction companies have the strongest supplier engagement strategies on average, likely as a result of their closer proximity to suppliers in the value chain.

Module 7: Client Engagement

Module 7, Client engagement, assesses the strategic policy and processes through which a company engages its clients. The various roles that companies have in the buildings sector mean that the client is not simply the building occupier. It may be a property manager, property developer, construction company or tenant. Buildings sector companies are heavily reliant on their value chain to reduce emissions. As a result, next to having a strong supplier engagement strategy, a robust client engagement strategy that considers all of the company's potential clients is also key to the sector's decarbonisation.

In contrast to supplier engagement, only over half of the companies (54%) have a client engagement strategy. However, companies that score positively on these two modules are likely to score higher in client engagement than supplier engagement, suggesting a better quality of strategy.

The majority of companies (78%) with a client engagement strategy include requirements for emissions reduction in the strategy and 30% include quantified emissions reduction targets to be achieved through client engagement. For example, through its client engagement, JLL aims to support its targets to achieve scope 3 emissions reduction to 51% by 2030 and 95% by 2040. Similarly, Gecina states that through its client partnerships, it aims to achieve a 5% yearly reduction in in-use emissions intensity for office assets over the next three years.

Fewer companies (66%) with a client engagement strategy include other low-carbon transition-related requirements and recommendations. That said, half of those that do, also provide clear detail on what these requirements are. For example, Avalon Bay aims to increase the number of residents who choose greener electricity supply by 5-10% per year in the markets where this choice is available.

Actions embedded by companies into their client engagement strategies are overwhelmingly focused on education and information dissemination from property managers to tenants. These actions include posting tips on energy saving in public areas (Longfor Group Holdings) and marking Earth Day with activities (China Merchants Shekou Industrial Zone Holdings).

One company developing multiple avenues for action is CBRE. The company provides sustainable solution services to clients, including supporting building owners to achieve green building



certification, providing guidance to implement sustainable supply chain strategies and offering support for clients to transition to renewable energy sources including onsite solar power.

Most companies evidence the actions within their strategies that are used in practice. Nine companies (18%) measure the impact of their programmes and seven of those provide quantitative evidence of that impact.

Property management companies score highest in the client engagement module on average. This may reflect the more direct relationship between property managers and their clients. For example, LEG Immobilien, a property management company, engages with clients by providing environmental data on energy consumption and emissions and launching campaigns to raise awareness on energy-saving measures. This example also illustrates that companies may not be engaging with the full range of their clients to achieve rapid decarbonisation – LEG Immobilien does not describe working with anyone other than its tenants.

Module 8: Policy Engagement

Module 8, Policy engagement, accounts for 2% of the ACT performance score for companies with property development activities, against 5% for companies with construction and/or property management activities. Trade associations are a key instrument by which companies can indirectly influence climate policy. Thus, participating in trade associations which actively lobby against climate-positive legislation is a negative indicator likely to obstruct the low-carbon transition. In particular, this module assesses:

- whether companies have policies on what action to take when industry organisations to which they belong are found to be opposing 'climate-friendly' policies;
- whether companies are on the board or providing funding beyond simple membership to any trade associations that have climate-negative activities or positions – as well as considering whether companies are supporting trade associations with climate-positive activities and/or positions, and;
- whether companies are opposed to any significant climate-relevant policy and/or support climate-friendly policies.

Most of the 50 assessed companies (96%) do not publicly publish an engagement policy governing how they engage with trade associations. Only Mitsubishi Estate and Prologis have a publicly available policy or publicly available details pertaining to a policy within their response to the CDP Climate Change Questionnaire. The lack of public evidence of climate policy commitments by companies is reflected in that the highest performing company in this module still scores only half of the points for this indicator. Moreover, seven companies (14%) were identified to have memberships in trade associations that hold climate-negative positions, demonstrating the need for better climate policy engagement in the buildings sector.

Almost half of the companies (42%) do not report which trade associations they hold a membership with or whether they hold trade association memberships at all. Further, only four companies (8%) have a process to review their memberships in trade associations (Gecina, Hyundai E&C, Mitsubishi Estate and Simon Property Group), half of which (4%) involve C-Suite officers or Directors. But none of the companies show evidence of an action plan outlining the steps to take when trade associations they are members of oppose climate-friendly policies.



Of the 50 assessed companies, 35 (70%) subscribe to building sustainability standards, 31 companies (62%) are members of at least one sustainability initiative, while 27 companies (54%) both subscribe to building sustainability standards and hold membership with at least one initiative. The top three building sustainability standards that companies subscribe to are Leadership in Energy and Environmental Design - LEED (subscribed to by 50% of the assessed companies), Building Research Establishment Environmental Assessment Method - BREEAM (subscribed to by 36%) and WELL (subscribed to by 14%). The top three initiatives companies hold membership with are Task Force on Climate-Related Financial Disclosures - TCFD (supported by 34% of the assessed companies), Global Real Estate Sustainability Benchmark - GRESB (supported by 16%) and Science Based Targets initiative - SBTi (supported by 16%).

Private and public stakeholders of the buildings sector have been developing policies on sustainable building practices that contribute to the transition to a low-carbon economy. Companies should not oppose effective and well-designed policies in these areas but should support them. Two companies (4%) were identified to directly oppose significant climate policies, 20 companies (40%) do not directly report any opposition or support significant climate policies, 24 companies (48%) support significant national or international low-carbon commitments, while only 4 companies (8%) both publicly commit to international low-carbon commitments and actively participate/lead in initiatives against climate change. Most of the companies (90%) do not have a process to monitor and review policy positions to ensure they are consistent with the goals of the Paris Agreement. Among those who do have such a process, three reported a process that is implemented and only one of these company has a process where oversight is held at the board level and is implemented by managers/senior managers and higher positions. Despite this, none of these companies with a review process have a policy on what action to take when trade associations it is a member of are found to oppose "climate-friendly" policies. Overall, only six companies (12%) scored 50% or more in the indicator assessing companies' positions on significant climate-relevant policies; showing the gulf of action required and lack of implementation of any such processes.

Only 15 companies (30%) collaborate with and support local authorities to achieve emissions reductions. Ten companies (20%) engage with local authorities to develop future climate-related policies/partnerships and four companies (8%) participate in programmes with local authorities, while only one company (2%) is a significant partner in the implementation of long-term climate-related partnerships.

The top three performing companies in this module are located in the East Asia & Pacific, Europe & Central Asia and North America regions. These companies (Gecina, New World Development and Prologis) are all identified not to hold memberships with trade associations with climate-negative positions. Additionally, they are found to subscribe to between two and six building sustainability standards, hold membership with five to six sustainability initiatives and publicly support significant climate policies. But only Prologis publicly publishes an engagement policy outlining how it governs trade association relationships. Companies in Europe & Central Asia perform best in this module overall, with a median score of 52%, followed by companies from North America (46%) and Latin America & the Caribbean (39%).

Module 9: Business Model

Module 9, Business model, assesses whether a company is transitioning its business model to low-carbon activities and will remain profitable in a low-carbon economy. The company's future business models should enable it to decouple financial results from greenhouse gas emissions, to meet the



constraints of a low-carbon transition while continuing to generate value. This module identifies relevant current business activities and those still at a growing stage. It recognises that the transition to a low-carbon economy, with the associated change in business models, will take place over several years or even decades.

This module accounts for 10% of the ACT performance score for all companies. The business models are assessed on their profitability, current size, growth potential and deployment schedule.

The three categories of business model that the construction methodology assesses are:

- Energy performance guarantees and services
- Use of circular economy as cost reduction driver
- Design and offer of multipurpose and collaborative buildings

While the module in the property management methodology accounts for the same weighting and assesses business models using the same indicators, the three categories of business model it assesses are:

- Provision of local energy supply system
- Optimisation and renting of additional building spaces
- Provision of mobility services

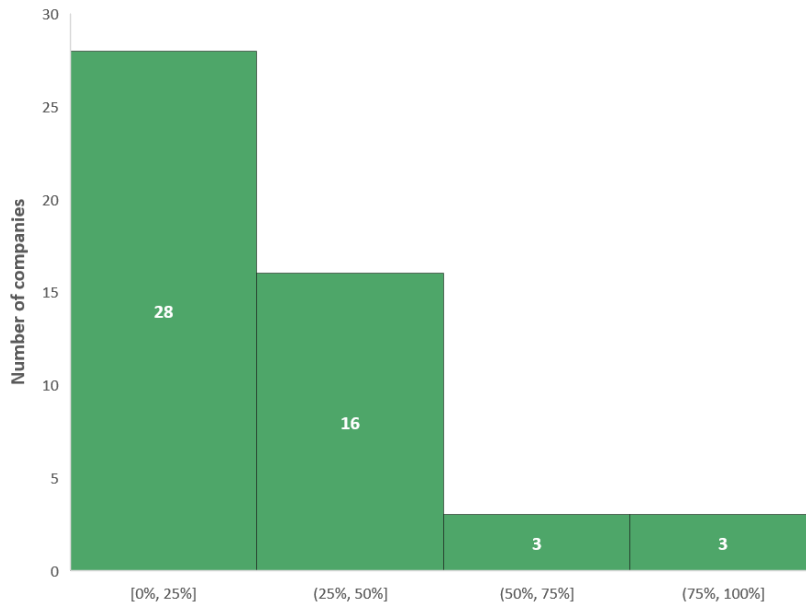
The property development methodology assesses the business models under all six categories.

The average score for companies in the buildings sector for this module is 2.8% of a total possible score of 10%, with 14 companies (28%) showing no evidence of low-carbon business models. Lack of data availability is the main reason for the poor scoring of the sector on this module. Of the 50 assessed companies, 29 (58%) show evidence of operating at least one low-carbon business model that is profitable. However, companies lack disclosure on current size, growth potential and deployment schedule to substantiate the development of the business models. The sector's credibility in low-carbon transition is tarnished by its lack of transparency on planning.

In total, 88 low-carbon business models were identified among the 50 assessed companies in the benchmark. The most common business models identified were improving energy efficiency through construction and renovation (12 companies) and providing renewable energy to tenants or grid operators (21 companies). Companies that operate solely in the construction sector perform best with 4.7% of a total possible score of 10%. Companies that operate in the property management sector or in multiple sectors perform consistently. The worst performing companies in this module are those that operate solely as property developers; 16 of the 19 companies that operate mainly as property developers were identified to have no low-carbon business model that is of significant size or profitability to the company.



FIGURE 9: MODULE 9 SCORES DISTRIBUTION FOR ASSESSED COMPANIES



The three top performing companies – Brookfield Management, Hyundai Engineering and Construction and New World Development – have mature and measurable business models that provide renewable energy to tenants and grid operators. For example, New World Development is using sustainability linked bonds to achieve 100% renewable energy for all its rental properties in China by the end of the financial year 2030-31. The company's roadmap for deploying this business model involves three steps: firstly, installing onsite renewables; secondly, procuring offsite renewable energy (PPAs); and thirdly, purchasing renewable energy certificates. The company has issued at least USD 220 million worth of sustainability linked bonds to finance this project. Ten other companies were identified to have similar business models, but none of these companies provide specific details regarding business model expansion, and only one company has a deployment schedule beyond two years.

Only three of the 88 identified business models are of a crucial size of the market, i.e. representing one of the three largest segments of the business for the company. A majority (54) of the business models are of limited size. These business models generate little income and require little time investment. Further, 55 of the 88 business models are not accompanied with growth plans and 47 have no deployment schedule. Overall, companies have identified and report on the business models required for transition but have not scaled the businesses at the rate required to align with a 1.5°C scenario, nor are they transparent in their plans to scale these business models.



Appendix I: Companies in the Buildings Benchmark 2023

Order	Company Name	Country of headquarters
A	Avalonbay Communities - USA	United States of America
	Ayala Corporation	Philippines
B	Brookfield Asset Management	Canada
	CBRE Group	United States of America
C	China Evergrande Group	China
	China Merchants Shekou Industrial Zone Holdings	China
	China Overseas Land & Investment	Hong Kong, China
	China Poly Group	China
	China Resources Land	China
	CIFI Holdings	China
	CK Asset Holdings	Hong Kong, China
	Country Garden Holdings	China
	Cushman & Wakefield	United Kingdom
	Cyrela Brazil Realty	Brazil
E	Emaar Properties	United Arab Emirates
	Even Construtora	Brazil
G	Gecina SA	France
	Gemdale	China
	Godrej Properties	India
	Greenland Holdings	China
	Greentown China Holdings	China
H	Hyundai Engineering and Construction	Republic of Korea
I	IRSA	Argentina
J	Jiangsu Zhongnan Construction Group	China
	Jinke Property Group	United States of America
	Jones Lang LaSalle (JLL)	United States of America
L	LEG Immobilien SE	Germany
	LendLease Group	Australia
	Longfor Group Holdings	China
M	Macrotech Developers	India
	Mitsubishi Estate	Japan
	Mitsui Fudosan	Japan
	MRV Engenharia	Brazil
N	New World Development	Hong Kong, China
P	Palm Hills Development	Egypt
	Prologis	United States of America
Q	Qatari Diar	Qatar
R	Redefine Properties Ltd	South Africa
	RiseSun Real Estate Development	China
S	Sagax AB	Sweden



	Seazen Holding	China
	SEGRO PLC	UK
	Simon Property Group	United States of America
	Sumitomo Realty & Development	Japan
	Sun Hung Kai Properties	Hong Kong, China
U	Unibail-Rodamco-Westfield	France
V	Vonovia SE	Germany
W	Welltower	United States of America
	Wheelock and Co	Hong Kong, China
Y	Yango Group	China

Of these 50 companies, 7 are also assessed in the [Global Real Estate Sustainability Benchmark \(GRESB\)](#).



About the World Benchmarking Alliance

Founded in 2018, the World Benchmarking Alliance (WBA) is a non-profit organisation holding 2,000 of the world's most influential companies accountable for their part in achieving the United Nations Sustainable Development Goals. It does this by publishing free and publicly available benchmarks on their performance.

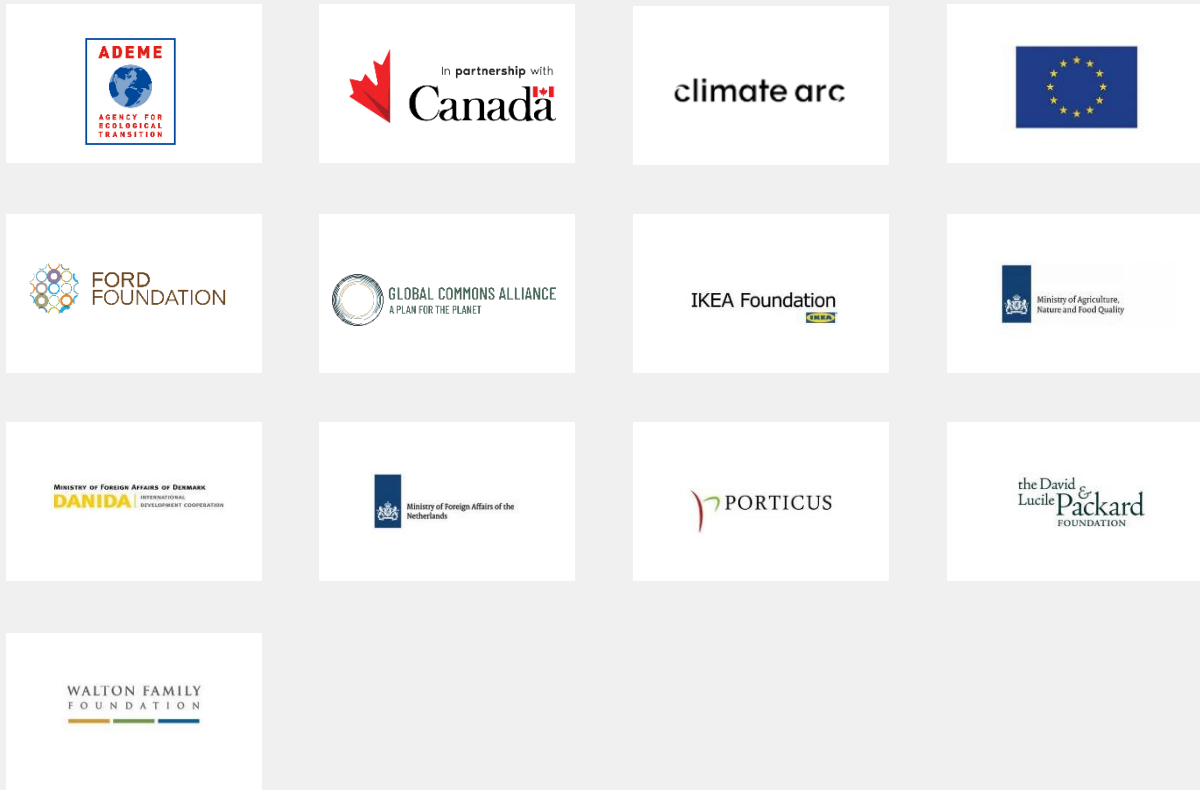
WBA shows what good corporate practice looks like so that leading companies have an incentive to keep going and laggards feel pressure to catch up. WBA has identified seven systems that, if transformed, have the greatest potential to put our society, planet and economy on a more sustainable and resilient path. These are the transformation of our social system, our agriculture and food system, our decarbonisation and energy system, our nature system, our digital system, our urban system and our financial system.

By benchmarking companies on each system transformation every second year, WBA reveals where each company stands in comparison to its peers, where it can improve and where urgent action is needed. The benchmarks provide companies with a clear roadmap of the commitments and changes they must make. Over time, they will show whether or not these 2,000 companies are improving their business impact on people, workers, communities and the environment. They equip everyone – including a community of about 350 organisations, referred to as the WBA Allies – with the insights that they need to collectively ensure that the private sector changes.

For more information, visit www.worldbenchmarkingalliance.org and follow us on Twitter @SDGBenchmarks.

If you have any feedback on our findings, please reach out to Vicky Sins, Decarbonisation and Energy Transformation Lead at WBA: info.climate@worldbenchmarkingalliance.org





COPYRIGHT

This work is the product of the World Benchmarking Alliance. Our work is licensed under the Creative Commons Attribution 4.0 International License. To view a copy of this license, visit: www.creativecommons.org/licenses/by/4.0/

DISCLAIMER

Information available on our website, visit: www.worldbenchmarkingalliance.org/disclaimer

WORLD BENCHMARKING ALLIANCE

Prins Hendrikkade 25, 1021 TM Amsterdam The Netherlands. www.worldbenchmarkingalliance.org