Market Transformation Levers for a Net Zero Built Environment

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Introduction

The built environment is a critical sector to tackle if we are to reach the climate mitigation targets set out in the Paris Agreement, as it represents close to 40% of global energy-related GHG emissions (almost 14 Gt per year) and 50% of global resource extraction.[1]

Action and collaboration are needed immediately from all stakeholders to achieve the paradigm shift to a net-zero and resilient built environment. If action is not taken today, we risk locking emissions and vulnerability into our buildings and infrastructure that will become increasingly costly to mitigate in the future. (Climate Action Pathway, Human Settlements, Marrakesh Partnership for Global Climate Action)

To decarbonize the built environment, whole-life carbon emissions (operational and embodied) must be assessed and tracked on all new and existing developments to determine how best to minimize emissions while ensuring resilience for the future. System decarbonization requires demanding less material, minimizing energy use, and implementing low-carbon and renewable heating, cooling, material and construction technologies at scale, while promoting the decarbonization of the energy, transportation, and material manufacturing sectors (e.g. steel and cement) in parallel.

The common vision

By **2030**, the built environment should halve its emissions, whereby 100 per cent of new buildings must be net-zero carbon in operation, with widespread energy efficiency retrofit of existing assets well underway, and embodied carbon must be reduced by at least 40 per cent, with leading projects achieving at least 50 per cent reductions in embodied carbon. By **2050**, at the latest, all new and existing assets must be net zero across the whole life cycle, including operational and embodied emissions. (MPGCA Human Settlements Pathway)

To achieve this vision is possible if all actors – from business, finance, policy and science – focus on the common goal and collaborate to achieve it, based on a full life cycle and performance-based approach and starting to set absolute reduction targets.

The how – GlobalABC Market transformation levers for a net-zero built environment

[1] The built environment generates 37% of global energy related GHG emissions of which 27% from energy used during the use phase of buildings (operational emissions, 9% on site direct emissions and 19% of indirect emissions from electricity generation) and 10% from the manufacturing of building materials (embodied carbon). (Source: Buildings Global Status Report 2021, GlobalABC). A drop of emissions levels of ca. 10% in 2020 in the built environment was due to the global pandemic and not to structural changes.
The built environment represents more than 13% of global GDP, 12% of employment and 50% of global wealth. Every week, an area equivalent to the size of the city of Paris is built, driven by rapid urbanization.

To reach “net zero” it is essential to understand the **whole life cycle impact** of the building and construction system. The value chain is very fragmented, made up of different segments such as manufacturing of building materials, construction, real estate, finance and users, all coming together to achieve the primary purpose of delivering buildings through a process focused on short term cost, risk reduction and fast delivery. This fragmentation makes it difficult to eliminate the silos and create a system that seeks collaboration across the value chain. Demand side actors such as developers, investors, owners, and end users, as well as cities, have influence over if and how buildings are constructed but they do not have an active role in the delivery and do not account for the full carbon emissions. Yet, they can play a significant role at the beginning of building projects to improve the overall carbon performance.

To transform the building and construction system to “net zero”, all actors from business, finance, policy and science need to work together on a few “key levers for market transformation”, which are based on two underlying enablers.

The GlobalABC vision for market transformation of the built environment towards net zero builds on the following two enablers:

- A shared understanding of the **importance of the built environment** for climate mitigation and a **common vision** for its urgent decarbonization as a system;
- The importance of **radical and deep collaboration** within and across all stakeholders of the built environment.

The three fundamental levers to drive the market transformation along the full value chain of the built environment are the following:

1. **Align Behind Whole-Life Carbon (WLC):** Adopt whole-life carbon and life-cycle thinking and concepts across the value chain and the market to align on key indicators, metrics and targets consistently.
2. **Integrate Carbon Cost & Price:** Internalize the WLC emissions costs and reflect them in the price of products and services throughout the value chain, including in mechanisms of governance, procurement and taxonomy, from government and financial sector.
3. **Transform Supply & 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, the collaboration between industry players across the core BE value chain.

You can find more information and visuals about this work on the Market Transformation part of the Built Environment System Map.

The GlobalABC Market Transformation Levers for a Net Zero Built Environment will be presented on November 2 at 09:30-11:00 GMT in the Business and Buildings Pavilion’s Climate Pledge Theatre, Hall 5, PV93, Blue Zone. https://events.wbcsd.org/virtual-meetings/built-environment-market-transformation/