



TRANSFORMING THE BUILT ENVIRONMENT THROUGH SUSTAINABLE MATERIALS

GHANA

Ghana's construction sector is booming, driven by rapid urbanization and rising living standards. Buildings already account for 43% of the country's total energy use and are a major source of greenhouse gas emissions. Residential structures increased by 73% in the last decade in Ghana and demand is projected to grow. This accelerated urbanization presents both an opportunity and a challenge—balancing development needs with the urgent imperative to reduce greenhouse gas emissions.

The United Nations Environment Programme (UNEP) in collaboration with UN Habitat and UNOPS is supporting Ghana to accelerate its transition towards circular, low-carbon, and resource-efficient built environment. Through the creation of enabling frameworks for sustainable materials, the project fosters responsible acquisition and use of building materials, stimulates local market development, and supports countries in raising their climate ambition within the buildings and construction sector.

Implemented in collaboration with:



With financial support from:



THE CHALLENGE

Ghana's construction sector is expanding rapidly, yet this growth comes with significant environmental pressures. Conventional building materials such as cement, steel, and imported products account for a large share of the sector's carbon footprint, while increasing demand for sand, timber, and aggregates places mounting strain on local ecosystems. Fragmented supply chains, limited awareness of low-carbon alternatives, and high upfront costs often hinder the adoption of more sustainable materials.

At the same time, many urban developments prioritize speed and affordability over durability and energy performance, locking in high levels of embodied and operational carbon for decades to come. Without a coordinated shift toward climate-smart practices, the current trajectory risks accelerating emissions, deepening resource depletion, and limiting Ghana's ability to meet national climate and development goals

THE SOLUTION

This initiative focuses on transforming the built environment through sustainable materials and practices that reduce embodied and operational carbon, enhance resilience, and promote inclusion and well-being. By prioritizing low-carbon construction materials, improving energy efficiency, and fostering innovation across the supply chain, Ghana can turn a pressing challenge into an opportunity for green growth and job creation.

THE PROGRAMME SUPPORTS THREE KEY ACTIVITY AREAS

The project strengthens capacity, policies, and markets to enable Ghana to adopt sustainable building materials at scale – promoting circularity, climate action and economic opportunities.

- 1. Strengthening policy and regulatory frameworks:** Develop national decarbonization and resilient roadmaps for the buildings sector. Integrate resource efficiency and environmental performance requirements for building and construction materials into procurement policies, building codes, and national climate strategies. Support the development of incentives and planning instruments to accelerate market uptake of sustainable materials.
- 2. Demonstration projects:** Implement pilot projects that showcase the techno-economic viability of low-carbon, resource-efficient materials and circular construction approaches, providing evidence for wider market adoption.
- 3. Build institutional and professionals' capacity:** Provide targeted training for SMEs, construction practitioners, and government officials on low-carbon materials, resource efficiency, eco-innovation, and circular construction practices—strengthening skills across the entire value chain.

KEY ACHIEVEMENTS AND ONGOING ACTIVITIES

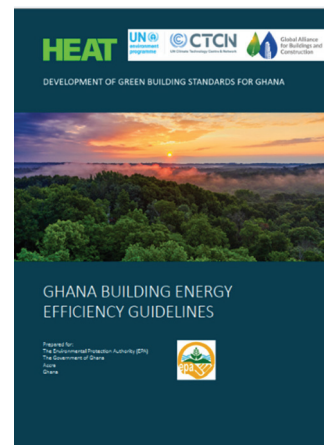
- 1. Climate Action Roadmap for Buildings and Construction (launched October 2024):** Developed using the latest GlobalABC methodology, the roadmap outlines a clear pathway with targeted actions, timelines, and ambitious goals to reduce operational and embodied carbon in buildings. More than 30 stakeholders—including government bodies, industry associations, financial institutions, and academia—contributed to its development. The roadmap also emphasizes resilience, wellbeing, and inclusivity across the sector. The roadmap sets out a pathway to decarbonize the sector by 2050, aligning with



Ghana's commitments under the Paris Agreement and its Nationally Determined Contributions (NDCs). UNEP in collaboration with UN Habitat and UNOPS is supporting the implementation of priority actions identified in the roadmap.

- 2. Policy Recommendations and Standards Development** The project is driving key policy and regulatory actions to create an enabling environment for sustainable materials in Ghana, including:

- **National Building Energy Efficiency Guidelines:** Developed in collaboration with the UNEP-hosted Climate Technology Centre and Network (CTCN), Ghana's Environmental Protection Agency, the Energy Commission, and Heat International.



- **Material Efficiency Strategies:** Supporting the formulation of national strategies to reduce resource consumption and embedded carbon across the construction value chain.
- **Integration of buildings into NDC 3.0:** Assisting the Government of Ghana in incorporating buildings and construction measures into the new Nationally Determined Contribution, building on the Climate Action Roadmap for Buildings and Construction.
- **Low-Carbon Materials Compendium:** Preparing a comprehensive compendium of locally available low-carbon materials with basic technical specifications, while identifying regulatory barriers facing producers and proposing actionable recommendations to scale their adoption

3. Demonstration Project on green and affordable housing: In partnership with the Ministry of Works and Housing, the project is supporting the design of three scalable, low-carbon, and affordable housing prototypes. These prototypes will serve as models for future national affordable housing programmes, demonstrating practical pathways to reduce emissions while meeting housing need.

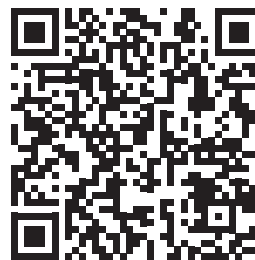
4. Capacity Building for Industry Professionals and Policymakers: The project delivers targeted training programmes on material efficiency, eco-innovation, sustainable materials, and enforcement of building regulations. Participants include manufacturers, engineers, architects, planners, and representatives from government and non-government organizations—strengthening the skills and knowledge needed to accelerate Ghana's transition to a low-carbon built environment.



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