

Future Earth Construction Materials and Earthen Architecture: International Opportunities and Applications for Türkiye



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ABSTRACT

The rise of green market dynamics in Europe is rapidly driving demand for eco-friendly construction materials with a low carbon footprint. While the high-standard EU market struggles with rising production costs, Türkiye stands out with its rich raw material reserves and deep-rooted heritage in earthen architecture, though it needs to advance its certification and scaling processes. At this juncture, transforming high-quality earth blocks from a niche craft offering into a scalable industrial material—backed by strategic global partnerships—will define Türkiye's competitive strength in the international market.

Making the right to live in healthy spaces universally accessible necessitates the widespread adoption of natural building materials. Earth-based products directly address this need through their indoor climate regulation, moisture balancing, and high thermal comfort capabilities. Successful global and local built examples prove that traditional earth, when integrated with modern engineering standards, transforms into a safe, aesthetic, and industrial building component. This shift presents Türkiye with a key opportunity to position itself as a global supplier and practitioner in sustainable architecture.

Today's modern buildings are hybrid systems where natural and non-natural materials are blended together. This combination necessitates new research in structural details as well, and the Kadiovacık, Barbaros, Korubaşı, and Süleymanköy Biohouses, constructed under the leadership of YBE, provide concrete examples of this situation.