



sustainability



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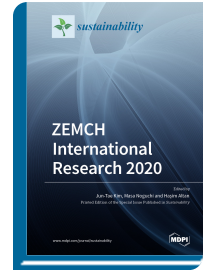
ZEMCH International Research 2020

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Globally, record weather temperatures and changing climatic patterns, attributed partly to energy use and related carbon dioxide (CO₂) emissions, indicate that the issue of global warming cannot be marginalized. In most countries buildings account for a significant share of the total final energy consumed and are responsible for associated CO₂ emissions. In response to market needs and demands for social, economic, and environmental sustainability of housing in developed and developing countries, the Zero-Energy Mass Custom Home (ZEMCH), integrating lean design and sustainable construction concepts, was envisaged and discussed internationally. To deliver a marketable and reliable near-zero-energy/emission-conscious mass custom home, various key design, technological, production and marketing, and delivery and operational parameters need to be optimized harmoniously. This book compiles recent research articles of ZEMCH International Research 2020. A wide range of ZEMCH topics, including building envelope evaluations, occupant choice and experience, indoor environmental quality, automated control systems, mass customization, and integration of renewable energy, on both building and urban scales are covered. It aims to address current questions as well as present challenges and opportunities for continuous development of built environments for users with diverse socio-economic backgrounds and cultural differences in developed and developing countries.



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