Special Issue

Toward Carbon Neutrality in the Construction Industry

Message from the Guest Editors

This Special Issue aims to explore the cutting-edge research, innovative technologies, policy tools, and practical strategies that are driving the decarbonization of the construction industry. We welcome interdisciplinary contributions that advance theoretical understanding, propose novel frameworks, or present empirical case studies from around the world. Topics of interest include (but are not limited to):

- Lifecycle carbon assessment methods for buildings and infrastructure
- Low-carbon and carbon-negative construction materials (e.g., bio-based, recycled)
- Digital technologies for carbon monitoring and optimization (e.g., BIM, IoT, blockchain, digital twins)
- Carbon-neutral building design and construction strategies
- Policy frameworks, standards, and incentives for low-carbon construction
- Industrialized and modular construction approaches for carbon reduction
- Renewable energy integration in construction and building operations
- Embodied carbon reduction in supply chains and procurement
- Carbon offsetting and trading mechanisms in the construction sector
- Case studies on net-zero or carbon-neutral buildings/infrastructure

Guest Editors

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Deadline for manuscript submissions

closed (20 January 2026)

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.1 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the second half of 2025).