# Special Issue

# Circular-Economy Solutions for Sustainable Building Materials

### Message from the Guest Editors

This Special Issue aims to provide interdisciplinary insights into how circular material solutions contribute to environmental, economic, and social sustainability by reducing waste, conserving resources and creating new business opportunities. In addition to conventional approaches, this issue emphasizes the emerging role of big data, digitalization, and artificial intelligence in enabling material traceability, optimizing resource flows, and supporting evidence-based decision-making for circular construction. We invite original research articles and reviews addressing (but not limited to):

- Design for the disassembly and reuse of building materials;
- Life-cycle and circularity assessment tools;
- Bio-based or high-recycled-content construction materials;
- Digital platforms enabling material tracking and recovery;
- Circular business models and policy instruments for construction;
- Big data collection, integration, and analytics for material circularity;
- AI- and machine learning–based approaches for predictive material management;
- Data-driven life-cycle assessment (LCA) and material flow analysis (MFA);
- Open data infrastructures and interoperability for construction material databases.

### Guest Editors

Dr. Ali Amiri

Dr. Yang Shen

Prof. Dr. Jukka Heinonen

### Deadline for manuscript submissions

30 November 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

Prof. Dr. David Arditi
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JCR - Q2 (Construction and Building Technology) / CiteScore - Q1 (Architecture)

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).