Special Issue

Renewal and Retrofit in Buildings: Toward a Sustainable and Low-Carbon Future

Message from the Guest Editors

Buildings are the key places of human activities. Building-related carbon emissions account for 39% of global emissions. However, many existing buildings are subject to challenges, such as ageing structure, poor building functions, and outdated energy designs. Timely and innovative building renewal and retrofitting are regarded as key solutions. This Special Issue aims to bring together the current state-of-the-art technologies and new developments in building renewal and retrofitting and to explore interdisciplinary solutions from engineering and social sciences. The topics for consideration in this Special Issue include, but are not limited to, the following:

- Start-of-the-art reviews and case studies of building renewal and retrofit;
- Renewal and retrofit strategies for existing buildings
- Sustainable assessment method on building renewal and retrofit;
- Improvement on energy efficiency and service performance of buildings;
- Advanced techniques of structural retrofitting and strengthening;
- Advanced techniques on building insulation performance;
- Existing building material management and circular economy.

Guest Editors

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Deadline for manuscript submissions

closed (31 January 2026)

Buildings

an Open Access Journal by MDPI

Impact Factor 3.1
CiteScore 4.4

mdpi.com/si/223368

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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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