

Special Issue

The Effects of Urban Climate on the Energy Performance and Carbon Emissions of Buildings

Message from the Guest Editors

This Special Issue aims to cover various aspects involving the urban climate's effect on buildings' performance. We invite submissions of a broad range of building performance studies from various parts of the world. We also welcome papers reporting on innovative methods and interdisciplinary research, with the aim to provide insights into recent research in experimental and numerical modeling, integrated planning, and other design approaches. We hope that this Special Issue will enrich the ongoing research on energy efficiency and building design practices. We welcome papers on topics including, but not limited to, the following:

- The effects of the urban climate and microclimate on buildings' performance;
- Urban building energy modeling;
- Smart, energy-efficient, and green buildings;
- The application of renewable energy in buildings;
- Carbon emissions across various phases and the entire life cycle of buildings;
- The use of artificial intelligence to improve the comfort and energy efficiency in buildings.

For further reading, please follow the link to the Special Issue Website at:

https://www.mdpi.com/journal/buildings/special_issues/R2Z8A246O5

Guest Editors

Prof. Dr. Lihua Zhao

Prof. Dr. Lei Yuan

Dr. Yueer He

Dr. Meng Tian

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Buildings
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
buildings@mdpi.com

[mdpi.com/journal/
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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

Construction Engineering and Management Program, Department of Civil, Architectural, and Environmental Engineering, Illinois Institute of Technology, 3201 South Dearborn Street, Chicago, IL 60616, USA

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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).