Special Issue

Renewable Energy and Sustainable Building Design

Message from the Guest Editors

Buildings account for 30% of global energy consumption, and zero-carbon construction is an important method that can be used to slow down global warming. Wide applications of renewable energy could contribute to adjusting the energy structure and realizing near-zero or zero-carbon buildings. Exploring application methods of renewable energy in buildings, their carbon reduction effect, and their energy management is crucial to zero-carbon buildings' design and operation. This Special Issue aims to showcase recent advancements regarding the contribution of renewable energy and zero-carbon buildings. It welcomes high-quality original research papers focusing on renewable energy for zero-carbon buildings, including (but not limited to) integrated renewable energy building application approaches, the evaluation of the effectiveness of carbon reduction in renewable energy buildings, renewable energy and the built environment, renewable energy management in buildings, and the components of renewable energy buildings. We especially welcome papers that explore "**The 19th China Renewable Energy Congress–Technical Committee of Solar Building**".

Guest Editors

Prof. Dr. Yupeng Wang

Prof. Dr. Dengjia Wang

Dr. Barbara Galli

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Deadline for manuscript submissions

closed (20 June 2025)

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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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