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Beyond Zero: Advancements and Prospect for the Next Generation of Net-Zero Energy/Emission Buildings

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Deadline for manuscript submissions:
30 September 2024

Message from the Guest Editors

Dear Colleagues,

The Special Issue seeks to:

Explore novel definitions of zero-energy/zero-emission buildings;
Understand the role of emerging renewable technologies and their integration within buildings;
Analyze the influence and potential of districts in fostering energy sharing;
Investigate the application of AI-based technologies in supporting the design of sustainable buildings;
Examine whether the goal of achieving net-zero energy/emission is a utopian ideal or a realistic possibility.

This Special Issue invites contributions that critically engage with these themes, providing insights and advancements that contribute to the discourse on the future of zero-energy, low-impact buildings. We welcome rigorous research, innovative methodologies, and practical applications that address the challenges and opportunities in this dynamic field. Researchers and practitioners are encouraged to submit papers that deepen our understanding of the complexities involved and pave the way for sustainable and energy-efficient building practices in the years to come.

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Editor-in-Chief

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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.

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