Special Issue

Energy Applications in Low-Carbon Buildings and Sustainable Cities

Message from the Guest Editors

Recent urbanisation, global warming, and the energy crisis have warranted an increased need for improvements in outdoor thermal comfort, building energy efficiency, and renewable energy utilisation. It is becoming ever more important to study how buildings and urban cities can be better planned to have positive impacts on energy efficiency and occupants' thermal comfort, both indoor and outdoor. It is also imperative that new methods and strategies for applications in buildings and urban regions be developed and implemented in built environments to optimise energy usage and occupant satisfaction. This SI aims to provide selected contributions on new technologies, methods, and guidelines for application in buildings and urban regions in order to improve energy efficiency and occupant wellbeing. Potential topics include:

- Low-carbon technology applications and assessment in buildings;
- The effect of urban morphology on energy efficiency;
- Low-energy and low-carbon buildings;
- The impacts of urban morphology on outdoor thermal comfort.

You may find more information at the following link:
https://www.mdpi.com/journal/buildings/special_issues/ZLK9WBNR9J

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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.

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