Special Issue

Built Environment and Building Energy for Decarbonization

Message from the Guest Editors

The issue of carbon neutrality is gaining more importance as global warming continues, pushing governments, industries, and societies to adopt more sustainable practices. The building sector is one of the major energy-consuming industries and has a significant role in achieving carbon neutrality. Furthermore, the demand for a better-built environment has been rising, driven by many recent technological advancements. The growing importance of carbon neutrality has led to considerable research being carried out on improving energy efficiency in the building sector. The aim of this Special Issue is to find a new research area on building energy-saving and indoor and built environments. It seeks to address the energy challenges faced by the building sector and explore potential pathways toward carbon-neutral buildings. The main topics of interests include the following:

- Building energy;
- Indoor air quality;
- Indoor environmental quality;
- Thermal comfort;
- Advanced building control and optimization;
- Building simulation;
- Building materials;
- IoT technology.

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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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