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Solar Energy System and Carbon Emissions Reduction for Sustainable Buildings

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Deadline for manuscript submissions:
closed (25 September 2024)

Message from the Guest Editors

Dear Colleagues,

The energy consumption of buildings is the major contributor to carbon emissions, accounting for 40% of the global total. Developing sustainable buildings has become essential to global carbon neutrality. Solar energy has been widely regarded as a potential solution. Integrating solar energy into buildings can significantly reduce the carbon emission of buildings, while meet the energy demand of users. In the future, buildings with integrated solar energy systems with a low cost, high energy conversion efficiency, and stable energy supply will receive more attention.

For that, this Special Issue will focus on new technologies, devices, and systems, as well as their applicability and economic research related to solar energy and sustainable buildings. Original research, theoretical and experimental work, case studies, and comprehensive review papers are invited...

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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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