



Developments in Sustainable Buildings

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Message from the Guest Editors

The built environment, by its nature, is one of the main users of natural resources. The construction industry contributes 36% of energy usage and 40% of CO₂ emissions worldwide. It is estimated that the construction industry creates 1/3 of the world's waste. With the growing concerns regarding finite natural resources and climate change, there is a need to rethink construction practices and focus on sustainable construction. The development of sustainable buildings means using environmentally friendly, renewable, recyclable materials, reducing energy consumption, carbon footprint, green house gas emissions, waste production and application of circular economy principles. Moreover, sustainable construction principles should be followed in all stages of the building life cycle.

Potential topics for this Special Issue include, but are not limited to, research on recent developments in sustainable buildings, green buildings, high-energy-efficiency buildings, use of environmentally friendly materials, sustainable design, construction, maintenance, renovation strategies, life cycle assessment of the buildings and insurance of circular economy in the building sector.





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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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