

Special Issue

New Thermal Insulation Materials in Green Buildings

Message from the Guest Editors

Thermal insulation materials play an important role in the construction industry in terms of reducing energy consumption in new and existing buildings, which is of key importance for environmental protection and sustainable development. Currently, the most commonly used insulation materials in Central Europe are expanded polystyrene, mineral wool and polyurethane materials. However, these materials significantly burden the environment both during the production of the material itself and after its service life in the structure. Experts are striving to return to the original, easily renewable sources of raw materials or to use secondary industrial sources in the development of non-traditional but effective insulation materials. This Special Issue will focus on the development, characterization, and application of innovative thermal insulation materials that will contribute to improving the energy efficiency of buildings and reducing greenhouse gas emissions, especially CO₂. The aim of the journal is to present research that supports the transition to low-carbon, energy-efficient buildings through innovative insulation technologies and sustainable construction practices.

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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.

Editor-in-Chief

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