



Research on Energy Efficient Green Building Based on Wood and Composite Wood

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Message from the Guest Editor

Wood and its products like wood-based composites are nature's most efficient building materials. They can be used as main construction materials, as insulation, or in many cases as both. Since the carbon footprint of wood and its products is low or lower compared to other building materials, its usability in and for construction becomes important when considering the environmental impact. Although this is an important issue, it is not the most important. The important issue is the functioning in the green building perspective; i.e., if one wants to characterize a material as a green material, it is important that its impact and its usability result in low environmental impact. The aim of this Special Issue is to present scientific results showing the positive influence of wood or wood composites as green building materials through creating conditions for efficient heat and mass flow (low energy consumption, creating appropriate climate conditions, etc.), demonstrating their potential as lightweight load-bearing materials, conducting C2C or LCA analysis, or presenting their energy efficiency in use.





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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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