Special Issue

Building Retrofits and Zero Energy Building for Carbon Reduction

Message from the Guest Editors

Efforts to reduce carbon emissions to combat climate change continue around the world. Buildings are an essential target for reducing carbon emissions, and mandating zero-energy buildings with building retrofits has been a very important research topic recently. Building retrofits are the key means to achieve zero-energy buildings and can be achieved from various perspectives. Against this background, this Special Issue aims to explore technologies, policies, design, control, and operational measures that can be used to reduce the carbon from buildings. Topics of interest include, but are not limited to, the following:

- Technology to achieve the zero-energy buildings (ZEBs);
- Technology to retrofit the exist buildings;
- Renewable energy systems for building retrofitting and ZEBs;
- HVAC system for building retrofitting and ZEBs;
- Passive system for building retrofitting and ZEBs;
- Advanced envelope system for building retrofitting and ZEBs;
- Achieving economical building retrofitting and ZEBs;
- Policies to support building retrofits and ZEB;
- Life cycle assessment of building retrofits and ZEB.

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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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