Special Issue

Designing for Both Efficiency and Resilience: Harmonizing Energy, Comfort, and Climate Adaptation

Message from the Guest Editors

As the built environment evolves, balancing energy efficiency with thermal resilience is increasingly vital. While measures like airtight envelopes and highperformance insulation reduce energy use, they can also jeopardize a building's ability to endure extreme weather, such as heatwaves and cold snaps. For instance, super-insulated buildings may overheat in summer, and reliance on active cooling increases vulnerability during power outages. This Special Issue seeks original research and case studies on the tradeoffs between energy efficiency and thermal resilience. Topics include BPS applications for evaluating these interactions, passive and active strategies to enhance both, risks of overheating in insulated buildings, and the role of thermal mass and phase change materials. We aim to advance interdisciplinary knowledge for designing climate-responsive, energy-efficient buildings that meet contemporary challenges.

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Message from the Editor-in-Chief

Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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