Special Issue

Building-Integrated Photovoltaics: Prospects, Theories and Key Technologies

Message from the Guest Editor

This Special Issue seeks to consolidate cutting-edge research, innovative methodologies, and technological advancements driving the BIPV revolution. Contributions are welcome to explore the interdisciplinary nexus of material science, architectural design, energy engineering, and policy frameworks to address challenges such as cost-effectiveness, durability, energy yield optimization, and large-scale deployment.Topics of interest for this Special Issue include the following:Development of lightweight, transparent, and flexible photovoltaic materials.
Novel materials for hybrid energy harvesting (e.g., solar–thermal, thermoelectric integration).
Customizable PV modules for façades, windows, roofs, and shading systems.
Digital tools (building information modeling, parametric modeling) for BIPV design optimization.
Grid interaction, energy storage integration, and smart energy management.
Life cycle assessment (LCA) and carbon footprint analysis of BIPV deployments.
Thin-film, perovskite, and organic PV technologies for BIPV applications.
Circular economy approaches for BIPV recycling and reuse.
Human-centric design (thermal comfort, daylighting) in BIPV-integrated spaces.

Guest Editor

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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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