



Sustainable Energy Saving Building Envelopes

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Message from the Guest Editors

Designing sustainable energy-efficient buildings is the key to reducing the carbon footprint from the building sector, which typically contributes to at least 30–40% of carbon emissions in most countries. Building energy efficiency can be achieved by the use of highly efficient and intelligent smart systems. However, the first and critical area to be addressed is the building envelope. The best envelopes are those which produce the least carbon emissions during manufacturing and construction, have a long lifetime and reduce the energy and humidity transfer into the conditioned areas of the building while using optimal daylighting techniques. As such, the scope of this Special Issue focuses on novel developments in energy-efficient building envelopes such as (but not limited to)

- Low-e glass / electrochromic smart glass developments;
- Cool paints;
- Solar films for glass facades;
- Lightweight, low cost, good insulating materials;
- Phase change material embedment over roofs or facades;
- Green roofs and walls;
- BIPV facades, windows etc.;
- Novel shades and blind systems.





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