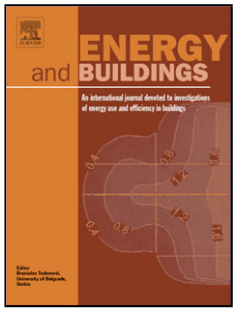

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Analysis of energy impacts of façade-inclusive retrofit strategies, compared to system-only retrofits using regression models

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Highlights

- This study explored variations in energy performance resulting from retrofits.
- The energy impacts resulting from the inclusion of facade systems into retrofits were quantified.
- Regression models revealed significant energy savings from retrofits.
- Cost effectiveness of the retrofits was analyzed and confirmed.
- Occupants and their behaviors should be considered for estimating more accurate energy performance.

Abstract

Reducing the energy consumption in existing buildings became one of the critical challenges at the beginning of the 21st century. Several types and levels of retrofits are now being implemented in the building stock. To obtain a better understanding of the actual impact of these actions, evidence-based research has been playing an increasingly important role. This paper describes