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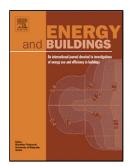
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### ACCEPTED MANUSCRIPT

## Analysis of energy impacts of façade-inclusive retrofit strategies, compared to systemonly 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 21<sup>st</sup> 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

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