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Tailored Domestic Retrofit Decision Making towards Integrated Performance Targets in Tianjin, China

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Highlights:

- Residences are classified based on China's building stock and construction reality.
- We present a performance-oriented retrofit approach for early decision-making stage.
- We simulate three representative residences for different building types.
- Energy consumption, CO₂ emissions and cost are calculated for each elemental measure.
- Different routes and corresponding priorities are illustrated towards each building.

ABSTRACT

Due to global warming and energy exhaustion, building retrofitting has attracted increasing attention worldwide. With 67.1 billion square meters of existing building area, China normally targets separate defect remedies to improve building energy efficiency in conventional renovation practices rather than taking a holistic approach to optimize whole building performance.

This article presents a working procedure that is employed in the decision-making process of domestic

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