

Enhancing Building Envelope of Existing Residential Buildings and Using PV Panels to Reach nZEB

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Abstract

The study starts with the analysis of the current situation of both the existing buildings and the energy sector in Egypt, analyzing the energy consumption patterns and the inefficiencies leading to these patterns, then defining the nZEB concept to familiarize the reader with its different aspects. The empirical part of the study utilizes simulation to validate the proposed guideline by applying it on an already existing residential building. The detailed steps of converting an already existing residential building to an nZEB is the final outcome of the research.

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