

The Financial Aspect and Practicability of Converting Existing Buildings to nZEBs

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Abstract

Financial feasibility of a project is a strong indicator of whether the project will be accepted by different stakeholders of the building or not. This research aims at analysing the financials of converting an existing residential building to net zero energy building. On a case study building, specific retrofit actions are selected, specific PV system is considered and a complete cost analysis is performed based on market available materials in actual prices in the Egyptian market. The research utilizes energy simulation to compare the amount of energy saving between the current and retrofitted cases of the case study building. Actual electricity bills are used to calculate the electricity usage of the building. Similarly, actual solar energy pricing is considered in order to evaluate the feasibility of the conversion. The pricing of the retrofit actions using market available materials is calculated as well. The return on investment study shows how applicable the conversion is.

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