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Achieving energy efficient buildings via retrofitting of existing buildings: A case study

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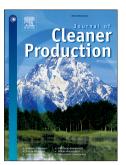
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## ACCEPTED MANUSCRIPT

Achieving energy efficient buildings via retrofitting of existing buildings: A
 case study

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Abstract: Retrofitting of existing buildings plays a critical role to achieve sustainable development. 12 There are a number of factors that affect the effectiveness of building energy efficient retrofitting. 13 14 These factors can be broadly categorised as technology and management. A case study approach was employed in this study to examine effective ways of building energy efficient retrofitting based on 15 one year of monitoring. Several feasible schemes of building energy efficient retrofitting were 16 identified according to the characteristics of the case building. The best scheme was chosen according 17 18 to results of simulation, comparison and analysis. The focuses of building energy efficient retrofitting were placed on energy conservation and indoor environment quality. In particular, during the 19 operation stage, staff can regulate the terminal unit in accordance with their own demands. Results 20 showed that the building operation can satisfy staff's individual requirements after the retrofit. 21 22 Similarly, the annual energy consumption can be reduced by 57% compared to the national average of

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