

UNIVERSITI TEKNOLOGI MARA

**COST BENEFIT ANALYSIS OF
LIGHTING RETROFIT OF T8 BULB
AT TAR 1 UITM KAMPUS BUKIT
BESI**

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ABSTRACT

This study presents the potential energy saving, life cycle cost analysis and payback period of the lighting system in Tun Abdul Razak 1 building at UiTM Bukit Besi. According to the results of the survey, fluorescent lamps contribute for about 90% of the lighting on the Tun Abdul Razak 1 building at UiTM Bukit Besi. In terms of potential energy savings, life cycle cost analysis, and payback period, a cost benefit analysis of retrofitting with more efficient lighting systems was conducted. On the basis of energy usage, a comparison of existing and retrofitting lighting systems is presented. In this survey the policy for retrofitting the old lighting system with the new energy saving LEDs starts with 10% for the first year and continues constantly for 5 years until all the lighting systems have been replaced. The result of the life cycle analysis reveals that after 9 months, the selected buildings will bring profit for the investment. Based on the analysis, it can be inferred that using energy efficient lighting systems will save large amounts of energy and cost while also reducing emissions indirectly.

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