ENERGY AND ENVIRONMENTAL AUDIT FOR BANGUNAN MENARA SERI WILAYAH AND BANGUNAN KASTAM, PUTRAJAYA: ANALYSIS AND RECOMMENDATIONS

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ABSTRACT

The rapid growth of building in Malaysia contributes to increasing of energy consumption as building is among the major user of electricity in Malaysia. Optimization of energy consumption should be done in order to save the expenses on electricity, indirectly helps the environment from pollution. Energy audit and environmental audit are the process which can be implemented on the building to optimize the energy consumption. Audit has been executed on Bangunan Kastam and Bangunan Menara Seri Wilayah in Putrajaya. The objectives of the study are to identify the performance of environmental and energy efficiency in two buildings with different audit history, to asses energy performance, thermal improvement and visual comfort of Bangunan Menara Seri Wilayah and Bangunan Kastam, and to recommend a solution to optimize the energy efficiency and environmental aspects of the building. The audit covered the illuminance of the building, indoor building temperature, relative humidity and carbon dioxide percentage in indoor air quality. Malaysian Standard 1525 (MS1525) was used as quality control for illuminance, temperature and relative humidity, while Department of Occupational Safety And Health, 2005(DOSH 2005) was used as quality control for carbon dioxide percentage in air. The process of audit executed was data collection during on-site survey, analysis on data obtained and recommendation for improvement of performance. Thus, this study shows the performance of a building, Bangunan Kastam, which had undergoes an audit process previously, by comparing to Bangunan Menara Seri Wilayah which never undergoes any assessment on environmental and energy efficiency. Energy and environmental audit are able to optimize the efficiency of building without compromise on ergonomics aspect to the people in the building.

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