

**STUDY OF EFFICIENCY TECHNIQUE (ENERGY MANAGEMENT) IN  
APPLICATION TO THE KOREAN LANGUAGE CENTRE BUILDING  
AT THE ITM CAMPUS, SHAH ALAM, SELANGOR**

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## **Abstract**

Rapid development requires efficient energy usage. New devices and products have been designed and produced for lighting and air-conditioning efficiency by world wide manufacturers.

This report summarises the result of an energy efficiency study performed for the Korean Language Centre building at the Mara Institute of Technology campus in Shah Alam, Selangor.

Electricity is provided by TNB under its C1 tariff. The utility costs under this tariff are RM 17.30 per kilowatt of demand per month ( kW) and RM 0.19 per kilowatt-hour (kWh) of electricity. The annual electricity usage for the entire ITM campus between January 96 and December 96 is 21,748,389 kWh (electricity demand is 81,420kW) and the annual energy cost is RM5,462,594.00. The power factor of electricity load at the ITM campus is 0.88 and minimum power factor specified by TNB is 0.85.

The baseline electricity usage and electric demand for the entire ITM campus are shown in Figure 1.1 and Figure 1.2 respectively and are based on monthly electrical bill summaries obtained from TNB. Figure 1.1 shows that the electricity consumption at the ITM campus is fairly uniform during the semester with an expected drop in energy consumption during the two semester holidays.

A cost estimate was performed for each measure and the simple payback period was calculated. The energy savings and economic analysis for the measures identified during

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