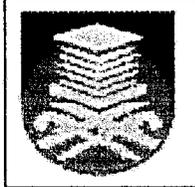


# **ENERGY AUDIT IN A BUILDING**

**This project report is presented in partial of fulfillment for the award of the  
Bachelor of Electrical Engineering (Honours)**

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## **ABSTRACT**

Energy plays an important role in the development of a country. As such it needs a lot of efforts in the supply and the demand side to go hand-in-hand. Energy audit is a comprehensive method in checking the energy usage and wastage in buildings.

This project presents the process of energy audit carried out at UiTM campus and the proposal made, to reduce the energy usage. Opportunities for improving the energy consumption were identified and evaluated. The economic analysis was carried out to determine the payback period. Good energy management should result in a reduction of usage by eliminating wastes and increasing efficiency.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

An industrial country will consume all sorts of energy sources to groom their economy. Electrical energy is the most commonly used. In the development country like Malaysia, efficiency energy usage is called to promote economic growth. Recently, Tenaga Nasional Berhad (TNB) has started to promote energy efficiency technologies in the country. The body encourages consumer to invest their money wisely on energy efficiency appliances and equipment.

The shift from the supply side to demand side by utilities has been implemented to save energy. Demand Side Management (DSM) programs are developed to improve the efficiency of electricity usage. Recent advancement and technology in electrical product have increased the opportunities to cut the energy cost.

UiTM consume a considerable amount of energy, with a total energy expenditure of RM6 000 000 yearly in Shah Alam campus. With some energy efficiency measure taken on energy saving of 10% - 20% could be archived. This simply wears a saving of RM100 000 per month on electricity bills.

The comprehensive method in checking energy usage and wastage in a building is the "Energy Audit". This project focuses on the auditing of Fakulti Sains Gunaan (FSG) and Pejabat pembangunan Penyelenggaraan (PPP) in UiTM.

A utility's residential energy auditors analyze and inspect all of energy consuming appliances in the building. Light levels are measured and the types of lamp used are