

**ECONOMIC STUDY ON ENERGY SAVING IN AIR HANDLING
UNIT (AHU) AT PTAR 2, UNIVERSITI TEKNOLOGI MARA
SHAH ALAM**

This thesis is presented in fulfilment for award of the

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ABSTRACT

The global warming arouse the awareness of the public in the energy saving. New energy saving technology is appearing and developing rapidly, at the same time energy regeneration or alternative technology is developing in large scale. Electricity consumption in Universiti Teknologi Mara (campus UiTM Shah Alam) is very high indeed where it has reached a high of bills per month. The consumption of electricity comes from PTAR, Bangunan Canseleri, hostels, Pusat Islam, Bangunan Sains & Teknologi, Bangunan Pendaftaran and street lighting. This paper presents the feasibility study of installing E-Clean Energy Saver indoor unit which is based on semiconductor chip at the Air Handling Unit (AHU). It uses certain wavelength of infrared light to stabilize the vibrating electrons and reduces the heat-emitting and power-robbing collisions which normally occur as the electric current moves from source to the desired load. The installation is to reduce energy consumption for AHU so as to reduce the overall electricity bill contributed in campus UiTM.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF STUDY

Energy audit is a process of examining an energy account, checking the way energy is used and identify areas where wastage can be minimized [1]. As Malaysia moves towards developed country status in 2020, our energy required will be very intensive. As it is, presently almost half of the energy consumption in the country is in the industrial, residential, and commercial sectors. The current population of Malaysia is expected to rise from 25.6 million to approximately 28 million by the year 2010, with an annual growth rate of 2.4% [2]. With this population growth rate the energy demand is also expected to increase, since energy consumption is an integral part and is proportional to the economic development and total population of a country. The commercial and residential building in Malaysia account for about 13% of total energy consumption and 48% of the country's electricity consumption [2].

The main purpose of this project is generally reducing energy consumption and increasing energy saving at the Air Handling Unit which uses a lot of electricity among the other place.

Energy saving is an important issue in reducing electricity bill and is of great concern today. UiTM Shah Alam spends about RM 2.5 million total electricity bills per month which come from PTAR, Bangunan Canseleri, hostels, Pusat Islam, Bangunan Sains & Teknologi, Bangunan Pendaftaran and street lighting. In campus UiTM Shah Alam, many of air-conditional are used in all facilities to give a good and comfortable environment for students and lecturers.