



**UNIVERSITI TEKNOLOGI MARA**

**A STUDY ON OCCUPANTS'  
AWARENESS TOWARDS ENERGY  
EFFICIENCY: PETRONAS EAST  
COAST REGIONAL OFFICE**

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## **ABSTRACT**

In Malaysia, development of green building become increase from time to time with the development is involve the types of commercial building such as green office. The green building is implemented for the purpose of increase the sustainability of building and environment which based on the assessment criteria with major criteria area is energy efficiency. However, from several previous study has been recorded that there is issue related with awareness of occupants on consumption energy in green office building. The aim is to determine awareness of occupants on energy efficiency criteria in PETRONAS East Coast Regional office. Therefore, to achieve the aim of this study, the researcher has been stated the objectives of this study which are to identify the energy efficiency criteria and to determine the awareness of occupants on energy efficiency criteria in office building. This study has been collected data through primary and secondary data which the secondary data is support by the online sources such as journal, article and other online sources for literature write up while the primary data is on quantitative method by distribution of online questionnaire survey towards the occupants of PETRONAS East Coast Regional Office which consist of 66 respondents. The result of questionnaire survey is involving the energy efficiency criteria such as design criteria, commissioning criteria, and verification and maintenance criteria. Moreover, the awareness of this occupants towards the energy efficiency has been determined with implementation of energy efficiency, knowledge of occupants, method of energy efficiency in office building and factors affecting energy efficiency. As the result and findings of study, the highest awareness of occupants is on factors affecting the energy efficiency which proven the occupants could think realistically on the inefficiency of energy in this building and they are fully aware with method of energy efficiency in office building and implementation of energy efficiency. However, the awareness on the occupants' knowledge with details related on energy efficiency is moderate. The recommendation on further study is carry out other specific building study such as in industrial area.

**Keywords:** Awareness; Green Building; Energy Efficiency; Energy Efficiency Criteria; Office Building

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

Environment is circumstances or condition surround and it is more classified as natural surroundings. The types of environmental is a natural environment and built environment which these two principles need one and another. The natural environment is the environment without the interference of human while the built environment is a form of structure construct by human.

The parts of environment from natural and resources will develop the built environment. Therefore, the form of structure and building has been developed. Between the built environment and the natural environment, they give the benefit each other. Besides, there are connection between natural and built environment that have to be implemented by the human.

The connection is basically related to the weather and phenomena surrounding. As the example, hot dry climates will contribute towards high lighting, so the human will construct the building with roof overhang for shade and the environment with warm humid climates will proposed the structure with lightweight materials.

Nevertheless, the built environment also brings an impact towards natural environment. This is depending on the usage and performance of the building. Therefore, the green technology has introduced the implementation of assessment on energy efficiency for each built environment to control the effect towards the natural environment.