

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

**This thesis is presented in partial fulfilment for the award of the  
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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.

# TABLE OF CONTENTS

<b>APPROVAL</b>	<b>I</b>
<b>DECLARATION</b>	<b>II</b>
<b>DEDICATION</b>	<b>III</b>
<b>ACKNOWLEDGEMENT</b>	<b>IV</b>
<b>ABSTRACT</b>	<b>V</b>
<b>LIST OF FIGURES</b>	<b>IX</b>
<b>LIST OF TABLES</b>	<b>X</b>
<b>LIST OF SYMBOLS</b>	<b>XI</b>
<b>LIST OF ABBREVIATIONS</b>	<b>XII</b>
<b>CHAPTER 1</b>	
<b>INTRODUCTION</b>	
1.1 BACKGROUND OF STUDY	1
1.2 PROBLEM STATEMENT	2
1.3 OBJECTIVES	3
1.3 SCOPE OF WORK	4
1.5 THESIS ORGANIZATION	5
<b>CHAPTER 2</b>	
<b>LITERATURE REVIEW</b>	
2.1 ENERGY EFFICIENCY	6
2.2 ENERGY AUDIT	7
2.2.1 Procedures of Energy Audit	8
2.2.1.1 Phase I –Preliminary Analysis	8
2.2.1.2 Phase II –Walk-through Energy Audit	9
2.2.1.3 Phase III –Detailed Energy Audit	9
2.3 ENVIRONMENTAL AUDIT	10
2.4 ILLUMINANCE	11
2.5 RELATIVE HUMIDITY	12
2.6 TEMPERATURE	13

2.7 CARBON DIOXIDE	13
2.8 STANDARD MEASUREMENT FOR ENVIRONMENTAL AUDIT	14

## CHAPTER 3

### METHODOLOGY

3.1 ENERGY AUDIT PROCESS	15
3.1.1 Phase I	15
3.1.2 Phase II	15
3.1.3 Phase III	15
3.2 ENVIRONMENTAL AUDIT	
3.2.1 Pre audit	16
3.2.2 On-site audit	16
3.2.2 Post audit	16
3.3 FLOWCHART	17
3.4 LIST OF EQUIPMENT	17
3.5 CASE STUDY	18
3.3.1 Bangunan Seri Wilayah, Putrajaya	18
3.3.1.1 Building description	18
3.3.1.2 Operating schedules of most active equipment	19
3.3.1.3 Type of lamp	20
3.3.2 Bangunan Kastam, Putrajaya	21
3.3.2.1 Building description	22
3.3.2.2 Operating schedules of most active equipment	23
3.3.2.3 Type of lamp	24
3.5.3 Building Layout	25