



# **AUTOMOBILE AIR-CONDITIONING USING SOLAR ENERGY**

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“May ALLAH Bless You”

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## **ABSTRACT**

Renewable energy has become important today, since the world is shortage of oil for the main source of energy. Government and Private organization seriously do many research and development activity towards the new energy sources from solar, biomass, hydro and wind energy. As solar energy is concern, it has many advantages. Some of the advantages are it has high reliability, low operating cost, environmental friendly, modularity and low construction cost. In this project report, the development of the application of solar energy systems using photovoltaic module for car air-conditioning systems was carried out. The vapor-compression cycle was linked to the solar system as an alternative way of energy to reduce fuel consumptions. In this project thesis, calculations on the sizing of the system were also carried out to determine the optimum design considerations.

## TABLE OF CONTENTS

<b>CONTENTS</b>		<b>PAGE</b>
	PAGE TITLE	i
	ACKNOWLEDGEMENT	ii
	ABSTRACT	iii
	TABLE OF CONTENTS	iv
	LIST OF TABLES	viii
	LIST OF FIGURES	ix
	LIST OF DIAGRAMS	x
<b>CHAPTER I</b>	<b>INTRODUCTION</b>	<b>1</b>
<b>CHAPTER II</b>	<b>PHOTOVOLTAIC (SOLAR CELL) SYSTEM</b>	
	2.0 Introduction	3
	2.1 Photovoltaic	4
	2.2 Photovoltaic Cells and Modules	6
	2.2.1 How PV Cells Are Made	8
	2.2.2 Type of Photovoltaic Cells	9
	2.2.3 How PV Cells Work	10
	2.2.4 How PV Modules Efficiencies Are Rated In the Factory	11
	2.3 PV Module Performance Rating	12
	2.3.1 PV Module Performance Systems	14
	2.4 PV Subsystem	15

# **CHAPTER I**

## **INTRODUCTION**

We are living at a time when there is a greater awareness of the energy problems facing the world than at any other period in history. It is now widely accepted that the growth in energy consumption which has been experienced for many years cannot continue indefinitely as there is a limit to our reserves of fossil fuel. Solar energy is by far the most attractive alternative energy source for the future, as apart from its non-polluting qualities, the amount of energy which is available for conversion is several orders of magnitude greater than all present world requirement.

The Direct conversion of daylight into electricity by photovoltaic solar cells is one of the most promising of the renewable energy options. Photovoltaic generation offers a way of helping to meet the increasing worldwide demand for electricity without accelerating the depletion of our finite resources of fossil fuels. Because the “fuel” for solar energy converter is free, the variable cost of power output is merely independent of the conversions efficiency. PV gives more benefit compared to limitation.

PV is highly reliable and just need little maintenance. PV also does not harmful to environment, strengthening our economy and reducing our trade deficit. The initial cost is quite expensive because the installation of the system is needed to be proper requirement like expensive PV modules, cost for site to place the panel, inverter, charge controller, and battery. We also must make sure our cabling and