



**UNIVERSITI TEKNOLOGI MARA  
CAWANGAN BUKIT BESI**

**MEC 299**

**STRUCTURAL DESIGN AND ANALYSIS OF SOLAR  
BOAT**

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## **ABSTRACT**

This projects objective is to design and analyses the frame of structure of the solar boat. Solar boat Is a boat that used renewable energy as a main source to run an engine. In this project, the material used in this project is pvc(polyvinyl chloride).since the solar boat will be used in water only, there are several problems to find a hull design based on the ABS Rule and classification as requirement for safeguard and safety

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# Chapter 1

## INTRODUCTION

### 1.1 Background of study

In the early 1800s, the fossil fuels become the main sources of energy until a 19 year old French physicist discovered the photovoltaic that created an electric current. Mostly the un renewable energy its used for spaced heating, electric power generation and transportation. Now in our generation, its used 40% for main purpose used in our globalization. And the other 29 percent has used renewable sources.

The main problem with the fossil fuels are the main driver of global warming, when they are burned, they release vast amounts of harmful byproducts called greenhouse gases into the atmosphere. CO<sub>2</sub> traps an unnatural amount of heat into the atmosphere which leads to changing weather patterns, such as hotter temperatures, more drought, more erratic rainfall, and an overall less hospitable planet

So that's why it came with a solution with solar. Solar-powered vessels have reduced carbon emission, reduce noise levels and eliminate the cost of fuel altogether. Furthermore, with the inventing of solar boat, we could reduce global warming and reduce pollution.

The boats itself needs to build in ABS rules. The reason because its applicable to reinforced-plastic vessels under 61 meter in length that are intended to be classed for unrestricted ocean service