

**THE FEASIBILITY STUDY ON THE POTENTIAL OF SOLAR  
ENERGY TO POWER SMALL CRAFT AUXILIARIES SYSTEM**

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POWER A SMALL CRAFT AUXILIARIES SYSTEM**

**By**

**FAIQ FAWWAZ BIN JAMALUDIN**

**A thesis submitted in partial fulfilment of  
the requirement for the award of degree of  
Bachelor of Applied Science (Maritime Technology)**

**DEPARTMENT OF MARITIME TECHNOLOGY  
FACULTY OF MARITIME STUDIES AND MARINE SCIENCES  
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**DEPARTMENT OF MARITIME TECHNOLOGY  
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE  
UNIVERSITI MALAYSIA TERENGGANU**

**DECLARATION AND VERIFICATION REPORT**

**FINAL YEAR RESEARCH PROJECT**

It is hereby declared and verified that this research report entitled:  
**The Feasibility Study On The Potential Of Solar Energy To Power A Small Craft  
Auxiliaries System by Faiq Fawwaz Bin Jamaludin, Matric No. UK 20682** have  
been examined and all errors identified have been corrected. This report is submitted  
to the Department of Maritime Technology as partial fulfillment towards obtaining the  
**Bachelor Degree of Applied Science (Maritime Technology)**, Faculty of Maritime  
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## DECLARATION

I hereby declare that this thesis entitled “The Feasibility Study On The Potential Of Solar Energy To Power A Small Craft Auxiliaries System” is my own researched except as cited in the reference.

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## **THE FEASIBILITY STUDY ON THE POTENTIAL OF SOLAR ENERGY TO POWER A SMALL CRAFT AUXILIARIES SYSTEM**

### **ABSTRACT**

This thesis describe on the feasibility study on the potential of solar energy to power a small craft auxiliaries system based from prototype development and data collection of solar voltage obtained and solar system ability. Current issue is fossil fuel is beginning to deplete. This is bad due to the fact that maritime industry is fully dependent to it. Fossil fuel is very much needed in maritime industry, but it brings lots of negative impact towards environment. The final product of emission has polluted air and polluted water for many years. This brings to an alternative energy source. Nowadays, technology has developed and ready to be tested to its full potential. The birth of solar panel, wind turbine and few other technologies is the key to a better future. This thesis is offering a source of knowledge on the study on the potential of solar and wind energy to power a small craft. The basic idea is to harness natural energy using solar panel and wind turbine and supply the energy towards the craft auxiliary system. The research will analyze the feasibility of this natural energy based on few points of view so that it will be determine whether this idea is suitable in maritime industry in the future. Thus this research will also be executed in a proper design and organize plan to optimize the result of the project.

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### **ABSTRAK**

Tesis ini menerangkan mengenai kajian pada potensi tenaga solar untuk menjana kuasa peralatan elektrik kapal kecil berdasarkan dari pembangunan prototaip dan pengumpulan nilai voltan kuasa solar diperolehi dan juga keupayaan sistem solar. Keadaan semasa pengeluaran bahan api petroleum mula berkurangan. Ini amat buruk kerana situasi semasa menunjukkan bahawa industri maritim adalah sepenuhnya bergantung kepada bahan petroleum. petroleum adalah amat diperlukan dalam industri maritim, tetapi ia membawa banyak kesan negatif terhadap alam sekitar. Produk akhir pelepasan membawa kepada udara yang tercemar dan air tercemar selama dan in telah berlaku bertahun-tahun. Dengan fakta diatas membawa kita kepada sumber tenaga alternatif. Kini, teknologi telah maju dan bersedia untuk diuji kepada potensi sepenuhnya. Kelahiran panel solar, turbin angin dan beberapa teknologi lain adalah kunci kepada masa depan yang lebih baik. Tesis ini menawarkan pengetahuan mengenai kajian tentang potensi tenaga solar untuk menjana kuasa peralatan elektrik bot kecil. Idea asas adalah untuk memanfaatkan tenaga semulajadi dengan menggunakan panel solar dengan cara membekalkan tenaga ke sistem tambahan bot kecil. Penyelidikan akan menganalisis kemungkinan tenaga semulajadi ini berdasarkan nilai kuasa elektrik dari beberapa ujian supaya dapat menentukan sama ada idea ini adalah sesuai dalam industri maritim pada masa hadapan.