UNIVERSITI TEKNOLOGI MARA

ENERGY PERFORMANCE EVALUATION OF A TYPICAL SINGLE-STORY HOME IN MALAYSIA

AHMAD BASYIR ASYRAF BIN MUSTAFA
2021812192

Diploma

January 2024

ABSTRACT

Energy performance evaluation is important in Malaysia for assessing the energy efficiency and sustainability of residential buildings among rapid population growth and urbanization. It helps to contribute cost savings for homeowners. There are several challenges concerning energy efficiency. Firstly, there is a lack of knowledge and the lack of comprehensive energy performance evaluation in typical single-story homes hinders the understanding of their energy efficiency. Secondly, the absence of recommendations for energy-saving measures limits the potential for reducing energy consumption and lowering costs, leading to inefficient energy usage and higher utility bills for homeowners and also insufficient awareness and knowledge regarding energy efficiency and conservation practices among homeowners of typical single- story home. This study aims to identify areas where energy is being wasted in the home, and recommend energy-saving measures to reduce consumption and costs including to increase awareness of energy efficiency and conservation. The main objectives are to assess energy efficiency and propose solutions to enhance sustainability in residential buildings. The proposed methodology involves determining the study area, selecting data collection methods, employing data analysis approaches, and developing a research framework. This may also include Excel as well to help us analyse the collected data and answer the research questions. Based on the evaluation findings, a comprehensive set of recommendations to enhance the energy performance of the single-story home would be proposed by the project. Also, this project would determine and measure the amount of energy that can be saved. To conclude, this project would finally provide actionable steps to enhance energy efficiency, promoting a more sustainable living environment in Malaysia.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor, Puan Siti Nur Amalina binti Aznam.

Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulillah's.

TABLE OF CONTENTS