UNIVERSITI TEKNOLOGI MARA

DESIGN, ANALYSIS, AND FABRICATION OF WALK-GENERATED BIKE

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ABSTRACT

This project is presenting an implement of green technology in transportation to prevent greenhouse gasses emission. The design of the walk generated-bike is made and selected for its capability and advantages. As fabrication start for the walk generated-bike, it will be the proof for the concept of green technology in transportation. The use of treadmill in order to achieve the project objective as the power source will decrease greenhouse effect and provide a healthy lifestyle. As it is the first project it will targeting people under 90 kg. The rider will walk on the treadmill and the treadmill will drive the rear tire using bycycle chain. Thusk, the objective of green technology in transportation will be achieve as there will be no greenhouse gasses emission. In advance, it will provide a healthier lifestyle to the user.

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INTRODUCTION

1.1 Background of Study

The country of Malaysia is found in southeast Asia, made up of thirteen states and three federal territories. These are separated by the south china sea into two separate sections, with peninsular Malaysia being the region that is typically associated with the countries name, hosting the capital city of Kuala Lumpur. The other region is located in Borneo, which is known as the eastern portion of Malaysia respectively[1]. There are some noticeable discrepancies in the levels of pollution between the two regions. In 2019 Malaysia came in ranked 50th place amongst all the countries of the world, with a PM2.5 rating of 19.36 μg/m³, putting its yearly average into the 'moderately' polluted range[1].

Some of these are caused by an over-reliance on vehicles, a lack of highly efficient public transport systems as compared to other countries although this is changing rapidly with large amounts of investment going into public transport initiatives and projects, as well as comparatively lax rules regarding types of fuels used as well as heavy fuel subsidies, causing several pollutants such as nitrogen dioxide (NO2) and sulfur dioxide (SO2) to enter into the atmosphere, causing worse US AQI (Air Quality Index) readings as well as an increased level of PM2.5 found in the air, coming heavily from the automobile sector.

PM2.5 refers to fine particulate matter of 2.5 micrometers or less, with highly detrimental effects displayed in those who breathe it over long periods. With its 50th place ranking worldwide out of 98 countries ranked, it stands as a country that suffers from periods of extremely poor air quality where these PM2.5 levels will climb quickly to dangerous levels, however throughout the rest of the year when Malaysia is absent from these pollution spikes which when considered are sometimes out of its control due to transborder smoke issues[1]. The air quality sits at the lower end of the moderate rating, with some cities finding themselves in the 'good' rated bracket throughout the majority of the year, and others finding themselves sitting within the World Health Organization's target reading of 0 to 10 μg/m³ during a majority of the months of the year, as recorded in 2019[1] .