Completion Report

Affiliation: Manipal International Universiti

Name: Mohammed Reyasudin Bin Basir Khan

Title: Electric Vehicle Adoption for Islands in Malaysia: Lessons from Japan's Islands of the Future

Introduction:

The transition to electric vehicles (EVs) and renewable energy solutions is vital for achieving sustainable transportation and reducing carbon emissions. This report delves into the challenges that Malaysia's islands encounter in adopting EV mobility and proposes the implementation of Japan's Islands of the Future initiative. Through field visits to various Malaysian islands, including Langkawi Island, Tioman Island, Penang Island, and Borneo Island in Sabah, along with a study trip to Koshiki Island in Kagoshima Prefecture, Japan, we assessed the existing conditions and identified potential strategies for promoting EV adoption in Malaysia's island communities.

Methodology:

The research methodology involved conducting site surveys and interviews with technical personnel on the visited Malaysian islands. These interactions allowed us to gather valuable insights into the current state of EV mobility, renewable energy generation, and EV charging infrastructure. Additionally, the visit to Koshiki Island provided an opportunity to study Japan's successful implementation of renewable energy technologies and EV charging networks. Interviews were conducted with technical personnel from the Industrial Strategy Division of Satsumasendai City, who provided valuable information on Koshiki Island's EV network, as well as personnel from the local tourist information center. Due to COVID-19 restrictions, the site visits were delayed, which impacted the timeline of the study.

Results:

The study identified several challenges hindering the adoption of EV mobility in Malaysia's islands. Insufficient charging infrastructure emerged as a primary concern, limiting the range of EVs and impeding widespread adoption. Range anxiety among potential EV users, caused by limited driving range and a scarcity of charging stations, further exacerbated the issue. Moreover, the high upfront costs associated with EV purchases and the lack of public awareness about the benefits of EV adoption posed significant barriers. However, by drawing insights from Japan's Islands of the Future initiative, Malaysia can overcome these challenges and advance EV adoption in its islands.

Conclusion:

In conclusion, the adoption of EV mobility and renewable energy solutions is crucial for sustainable transportation in Malaysia's islands. By emulating Japan's Islands of the Future initiative, Malaysia can navigate the challenges and establish a sustainable transportation ecosystem. The key strategies include prioritizing renewable energy generation, establishing a robust EV charging network, fostering public-private partnerships,

offering incentives and subsidies, and launching comprehensive education and awareness campaigns. These measures will not only reduce carbon emissions but also enhance energy independence and foster sustainable tourism on Malaysia's islands.

The findings of this study provide essential insights for policymakers, industry stakeholders, and local communities involved in promoting EV adoption and renewable energy integration in Malaysia. By focusing on the development of charging infrastructure, encouraging collaborations between the government and private sector, providing financial incentives to reduce upfront costs, and raising public awareness about the benefits of EVs, Malaysia can successfully transition to a sustainable transportation system. This transition will contribute to mitigating climate change, improving air quality, and positioning Malaysia's islands as eco-friendly tourist destinations.

Publication of the Results of Research Project:

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