Universiti Teknologi MARA
Cawangan Negeri Sembilan
Kampus Rembau

2024

RONA TINTA

e-BULETIN
EDISI
2024

FAKULTI PENGURUSAN & PERNIAGAAN
UNIVERSITI TEKNOLOGI MARA
CAWANGAN NEGERI SEMBILAN, KAMPUS REMBAU

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eISSN 2785-9126
9772785912007

SUSTAINING EV GROWTH FOR MALAYSIA'S LOW-CARBON FUTURE

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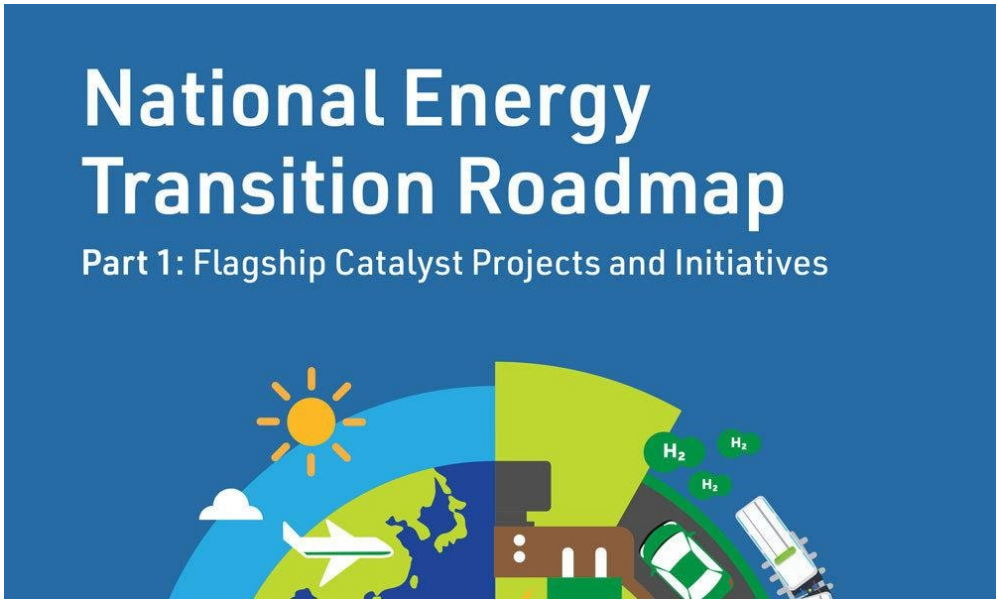
The hotter dry spell that we experienced earlier this year, followed by the recent floods that hit several northern states in Malaysia, might just be part of climate change manifestations. This global phenomenon, which also threatens food security and health, is now a key concern in many parts of the world. In response, many countries have now adopted the reduction of greenhouse gases (GHG) as the central theme of their national plans and policies.

Malaysia is no different. Besides the planned Climate Change bill that will be tabled soon, the Madani Government too has in August 2023 introduced a policy named National Energy Transition Roadmap (NETR) – primarily designed to reverse global warming and climate change through 50 initiatives. One of the initiatives aims to reduce carbon emissions from the transportation sector, which is Malaysia's second largest contributor to GHG, by shifting towards electrification.

Built on the existing targets outlined by Low Carbon Mobility Blueprint 2021-2030 (LCMB) and National Energy Policy 2022 – 2024 (NEP), the said initiative aims to achieve

at least 15% (equivalent to 100,000 units) of electric vehicles (EVs) out of the total industry volume (TIV) by 2030 and 38% by 2040.



Picture 1: National Energy Transition Roadmap (NETR)

Even though some experts initially argued against the ability of EVs to reduce nett GHG emissions in countries whose electricity generation relies heavily on fossil fuels, the argument was refuted by a 2020 study published in the prestigious Nature Sustainability Journal. Authored by researchers from universities of Exeter and Cambridge in the UK and Nijmegen in the Netherlands, the study concludes that the level of GHG produced at the power plants to fuel EVs is lower than the GHG emitted by conventional vehicles. Hence, the aspiration to increase the number of EVs in Malaysia befits the fight against climate change.

Until July this year, there were over 29,000 units of EVs on Malaysian roads, and almost one-third of them were registered in the first seven months of 2024. It is also important to emphasise that to date, the only new EVs available in the Malaysian market are the ones priced at RM100,000 or more following the restrictions set by the Investment, Trade and Industry Ministry (MITI) on imported new EVs. The growth would probably reach a new high when cheaper, locally assembled EVs enter the market at the at the end of this year once Proton launches its first EV, followed by the Rembau-assembled Dongfeng Nammi 01 in early 2025, and Perodua's EV end of next year.

While the figures have so far been encouraging, we should not be complacent as the growth might turn transient if we neglect the other factors (apart from price) that may inhibit consumers from purchasing EVs – as indicated by a team of University of Texas' researchers in their recently-published article. It is therefore wise to chart our way forward based on these factors to maintain the growth momentum.

After analysing 537 academic publications from more than 15 countries that discuss the barriers and motivators to the adoption of EVs, the aforementioned researchers concluded that limited driving range and lengthy charging time are the most critical factors that impede the acceptance of EVs. Reducing anxiety issues related to these problems is hence necessary to boost EV sales.

As a quick fix, several EV models come with detachable batteries to enable battery swapping. Instead of spending hours to charge the battery, the driver can just exchange the discharged battery for a fully charged one. This measure, however, does not resolve the underlying issues mentioned earlier.

Although many believe that the task of fixing these problems should be left to the EV manufacturers, the Malaysian government can play a proactive role by encouraging local scientists at local universities and institutions to collaborate with EV manufacturers to overcome these barriers. Not only could this move accelerate the improvement of EVs, but it could also enhance the capability of our local talents and the reputation of our universities. This in turn would entice investors to make Malaysia their centre of EV research & development and will subsequently create high-paying jobs.

The second vital determinant of EV adoption is the adequacy of charging infrastructure. While the availability of chargers in urban areas like Klang Valley and Penang is not currently a concern, the same could not be said for less developed areas. The obvious solution is, of course, to increase the number of chargers in these areas as outlined in LCMB, but the government must first remove the major obstacles standing in the way of pursuing this goal.

Picture 2: An EV at a charging station

At present, charging point installation proposals are often met with slow approval process by the local councils. Thus, there is a necessity for the federal government to intervene to make it more efficient. Aside from that, some incentives like lower interest rates or grants can be afforded to smaller private operators to deploy charging stations in rural areas as many find such task financially challenging.

Alternatively, charge point operators can also explore more innovative solutions, such as schedule-based mobile charge points that work like 'pasar malam' or 'pasar tani', or mobile charge points on-demand to cater to short-lived demand surges in certain areas.

In addition to sufficient charging facilities, the same research paper also states that government policies should make owning an EV economically comparable, if not better, than conventional vehicles. Issues such as charging cost per kilometre, resale value, and battery replacement cost are among the major cost-related concerns expressed by consumers. To tackle these issues, we can emulate the strategies used by a number of other countries, like the USA and China, that have successfully driven EV sales up along with our existing policies.

The final significant factor that warrants government intervention is the belief that electric vehicles (EVs) truly benefit the environment. To instill such belief, the government can fully exploit the media to present EVs from an environmental perspective. We can also use respected public figures to communicate how EVs can help reverse global warming and

eventually save people from the negative effects of climate change to increase the message's acceptance.

If our government works hand in hand with industry players and local researchers to address these factors, we can sustain the growth momentum and attain the goal of 38% EV usage of the country's TIV by 2040 or earlier, as these four factors exert the most significant impact on EV purchase decisions.