

Industry Analysis

The Progress of Carbon Footprint in Malaysia

Mohd Raziff Jamaluddin

Institute of Business Excellence, Universiti Teknologi MARA, Selangor, Malaysia

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In light of the reality of the tourism industry in Malaysia, efforts to increase tourist arrivals may be detrimental to the environment due to the high energy consumption of various tourism industry sectors. As Malaysia's primary energy source for transportation (land, air, and sea), fuel has contributed significantly to greenhouse gas (GHG) emissions, with airlines and automobiles being the most significant contributors per passenger. Before the pandemic, Malaysia recorded 266214.74 KT gas emissions, among the highest in ASEAN. According to Amheka *et al.* (2022), Indonesia, Malaysia, the Philippines, Thailand, and Vietnam account for more than 90 percent of the total GHG emissions in the ASEAN region. As a result, Indonesia and the Philippines have implemented budget allocations to combat climate change, where the budget must be allocated to expenditures for sustainability efforts. The Central Bank of Malaysia and the Malaysia Stock Exchange have been instrumental in reducing carbon emissions in Malaysia.

Bursa Malaysia, or The Malaysia Stock Exchange, has launched the Bursa Carbon Exchange (BCX) in response to growing awareness of climate action. Voluntary carbon markets will be crucial in supporting financing for projects and solutions that reduce, remove, or avoid GHG emissions. Bursa will launch a voluntary carbon market (VCM) exchange at the end of 2022 to improve transparency and allow organizations to purchase carbon credits to offset their emissions (Carboncredits.com, 2022, August 15). Participation in the voluntary carbon market will enable businesses to offset their carbon footprint and achieve their voluntary climate objectives

Correspondence: Mohd Raziff Jamaluddin; Email: raziff@uitm.edu.my

(Bursa Malaysia, 2023). The BCX will also support Malaysia’s goal of achieving net zero greenhouse gas (GHG) emissions by 2050 while accelerating corporate Malaysia’s transition to a green economy and meeting global demand for a sustainable supply chain (The Star, 2022). In addition, Malaysia will explore BCX carbon trading to make its ecosystem more inclusive, allowing more market participants to engage with clients seeking ESG and Shariah-compliant solutions.

On the other hand, the Central Bank of Malaysia has initiated GHG accounting as the key enabler for the transition to a low-carbon economy (Bank Negara Malaysia, 2022). Carbon accounting provides a framework for measuring the effects of GHG emissions on the climate. Like other ASEAN countries’ efforts, carbon accounting will allow setting goals to limit and reduce emissions and identify new growth areas. It is important to note that carbon accounting must consider the direct and indirect emissions looking into the corporation and individuals’ consumption. Three major scopes for carbon accounting encompass:

Scope 1	Scope 2	Scope 3
Company Facilities Company Vehicles	Purchase electricity, steam, heating & cooling for own use	Purchased goods & services Capital goods Fuel & energy-related Transportation & distribution Waste from operations Travel & commute Leased assets Investments

Figure 1: Carbon Accounting (Method to count, inventory, calculate and report GHG emissions (GHG accounting)
 Source: Bank Negara Malaysia (2022)

As observed in Figure 1, it is crucial to create an ecosystem of regulations, reporting, and enforcement to ensure the carbon accounting framework’s success, as shown in Figure 2.

Legislation	Regulatory Framework	Centralized online MRV system	Capacity Building
Mandate carbon accounting and reporting of emissions in line with international framework	Clear guidelines and procedures detailing requirements for monitoring, reporting and verification	Facilitate data submission/ collection, verification, monitoring and analysis	Knowledge and technical assistance for carbon accounting, measurement and reporting

Figure 2: Pre-conditions to implement a national carbon accounting framework
 Source: Bank Negara Malaysia (2022)

The pre-conditions set by Bank Negara Malaysia (2022) is a mammoth task where the most important thing is creating a “healthy” transportation industry. Malaysia’s transportation-related CO2 emissions totaled 55 metric tons, increasing at a 5.67 percent annual rate from 4 metric tons in 1972 to 55 in 2021. In ASEAN, Malaysia is the second largest per capita GHG emitter among the group of ASEAN countries and already surpassed many developed countries in terms of GHG emission (Ghadimzadeh, 2015). How Malaysia, with a population of only 31 million, can emit such a large amount of GHG remained unclear. Is this due to the massive development of Malaysia’s tourism industry, where 26 million tourists arrived, bringing the ratio to nearly one foreign tourist for every Malaysian? There is no definitive answer to this question, but GHG statistics have paved the way for various carbon footprint calculator mobile applications that are freely available online.

The Environmental Protection Agency developed one such application, “Personal GHG Calculator,” which uses various multipliers to calculate GHS for household vehicles, home energy, and waste. By replacing conventional energy home appliances with “energy star” equipment, total GHG emissions can be reduced. This application may pave the way for future applications that are tailored to the local situation, such as the geographical element, cost per unit, recycling programs, and local government policies and regulations. For the transportation industry, various variables such as vehicle age, frequency of usage per day, frequency of maintenance, and depreciation policy should be incorporated into the formula to explain the GHG contribution for transportation systems better. So far, no specific application developed for tourism transportation (i.e., taxi, e-hailing, tour bus, MPV) has been able to explain the current state of GHG in Malaysia by taking actual usage from the sample. The EPA suggests replacing the old vehicle with an electric one as the immediate solution. As seen in the urban public space, many electric-car chargers have been installed in hot spots to encourage the conversion from fuel to electric vehicles.

Finally, there is an urgent need for the industry to devise a practical solution to ensure that the tourism industry contributes to lower gas emissions. Aggressive tourism policies to attract foreign tourists must be carefully evaluated because they will jeopardize the initiative to achieve net zero greenhouse gas (GHG) emissions by 2050. As it stands now, Malaysia has no large pool of domestic carbon buyers and sellers and no supporting regulatory framework, such as a carbon tax. While the government has hinted at introducing a carbon tax for several years, it continues to subsidize carbon emissions through its petrol subsidies.

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