Towards carbon neutral Malaysia by 2050

UNDER the 12th Malaysia Plan that runs from 2021 to 2025, "Advancing Green Growth" has become the battle cry for the energy sector, which accounts for about 80% of the country's greenhouse gas emissions according to the Energy Commission's Report on *Peninsular Malaysia Generation Development Plan 2020 (2021-2039)*.

One of the strategic shifts announced by then prime minister Datuk Seri Ismail Sabri Yaakob when tabling the 12th Malaysia Plan was that the country will no longer build coal-fired power plants.

"Cleaner electricity generation will be implemented through the operation of several gas power plants in Peninsular Malaysia, to replace coal-fired ones," he said.

He also announced that an energy efficiency and conservation legislation will be introduced to regulate electricity consumption by high intensity consumers in the industrial and commercial sectors.

Also, economic instruments such as carbon pricing and carbon tax are to be implemented to lead the nation forward towards net zero emissions.

Other initiatives include the Green City Action Plan that targets 120 resilient green cities; intensifying producer responsibility to increase the implementation of sustainable production and consumption; as well as creating an eco-system for green investments.

Malaysia has been pursuing the decarbonisation pathway for decades, since the term "sustainable development" in the Brundtland Report hit the global climate agenda in 1994.

After the first Earth Summit held in Rio de Janeiro in 1992, it pledged that the country would have 50% green cover to act as carbon sinks. Since then, various policies have been introduced to reduce emissions.

An important milestone was the Renewable Energy Act 2011 that saw the formation of the Sustainable Energy Development Authority (Seda).

One of Seda's first tasks was to catalyse renewable energy production with the implementation of the Feed-in-Tariff (FiT) mechanism.

FiT aimed for biofuel generation by palm oil producers, using waste products.

At the same time, a spate of other initiatives was introduced including an Amendment to the Electricity Regulations 1994 to promote energy efficient domestic appliances based on a star-rating system called Malaysia Energy Performance Standards (MEPS) devised by the Energy Commission.

The Energy Commission was also appointed to be the implementing authority for the Building Energy Intensity (BEI), a benchmarking tool to measure the energy performance of government buildings. BEI measures the intensity of energy used per square metre.

Another landmark initiative prior to the 2015 Paris Agreement was the Green Technology Financing Scheme (GTFS). GTFS is an outcome of the National Green Technology Policy launched in 2009. It led to the formation of the Malaysian Green Technology and Climate Change Corporation (GreenTech) that was entrusted to administer GTFS, which was introduced in 2010.

In 2019, GreenTech was rebranded as Malaysian Green Technology and Climate Change Corporation and its portfolio expanded to include green advisory and capacity building, and green investment and promotion. It has since unveiled the third iteration of the successful GTFS (GTFS 3.0) to support Sustainable and Responsible Investment as well as drive green and sustainable standards in Malaysia.

Since then, several catalyst projects took off. Among them was the Large-Scale Solar Project, which saw the Energy Commission being appointed as the implementation authority.

This project is in accordance with the government's intention to ensure that investments in renewable energy will boost the national economy and benefit the community. Solar energy was identified as the renewable energy of choice to take Malaysia to the next level; other renewable energy sources in the country are hydropower and biofuels. Initially, the government's target was to have 25% renewable energy in the installed generation capacity by 2025. The target was raised to 31% at the end of 2021.

A Domestic Emissions Trading Scheme (DETS) is being developed by then Ministry of Environment and Water to serve as a catalyst for the carbon trading sector, according to a 2021 Bernama report.

DETS is designed to prepare industry players for the implementation of international trade carbon control mechanisms such as the Carbon Border Adjustment Mechanism by the European Union last year.

DETS will be implemented in phases. As a first step, a domestic carbon market platform has been developed for the implementation of a Voluntary Carbon Market, before the transition to the full-fledged DETS.

The implementation of the DETS is based on the principles of an open market, as well as market supply and demand. This will facilitate access to the domestic carbon market by potential entities such as state governments and private entities.

In his analysis of Malaysia's Carbon Neutral 2050 goal, Accenture director of energy transition and sustainability Southeast Asia Deven Chhaya points out that there are several challenges that Malaysia needs to tackle.

"Perhaps the biggest issue is the gap in renewable electricity generation. A growing and urbanising population has seen demand for electricity rising substantially over the past decade, which is a trend that will continue."

KPMG Malaysia's executive director of sustainability advisory Phang Oy Cheng said: "The challenge is to decarbonise the energy-centric economy in the face of population growth and poverty outside of urban areas. The transition will require not only political will but also structural and legislative reforms on a national scale."

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