

Carbon neutrality can fight global warming



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THE ocean is the greatest active carbon pool in the world as it can store up to 30 per cent of the carbon dioxide released annually by human activities and this carbon storage period can extend up to thousands of years.

Dr Waseem Razzaq Khan, head of the carbon programme at the Faculty of Agriculture and Forestry Sciences, Universiti Putra Malaysia Bintulu Campus, said blue carbon refers to the carbon dioxide that is taken up and held by marine life as well as ocean activities.

He said tidal marshes, mangroves and seagrass ecosystems come under the umbrella of blue carbon.

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DR Waseem

"To combat climate change, numerous nations have developed and put into effect regulations aimed at safeguarding blue carbon resources," he said.

Waseem, who is also a research associate at the Institute of Tropical Forestry and Forest Products (INTROP), said a widely accepted objective for the international response to the climate change challenge is carbon neutrality.

He pointed out that numerous activities have been made in support of this common objective by governments, multinational corporations, non-profit organisations and other organisations.

"All nations are committed to keeping the rise in Earth's temperature to less than 2 degrees Celsius, starting with the Kyoto Protocol 1997 and ending with the Paris Agreement 2016. The European Green New Deal announced by the European Union in December 2019, aimed to achieve net zero emissions of greenhouse gases by the year 2050.

"In addition to the United States, other nations that have committed to net zero emissions include Japan, South Korea, and Malaysia. It is evident that the main international organisations and countries have committed themselves to achieving carbon neutrality as well as have come to certain understandings and conclusions," he explained.

Waseem said the concept of carbon neutrality encompasses not just government involvement but also the involvement of manufacturers, carbon sink providers, individual consumers and the public.

He said the objective of carbon neutrality can be effectively realised in practice by combining these factors using market trading mechanisms.

"Green carbon (the carbon

sink on land) and blue carbon (the carbon sink in the ocean) are the two main mechanisms involved in the generation of carbon sinks. Governments, academics and allied organisations have acknowledged green carbon, which has grown quickly.

"Regional carbon sink trading markets (VCM) have been developed by certain nations. Owing to its belated discovery, blue carbon has not received the attention it deserves, and its carbon sink mechanism and measuring techniques are incomplete.

"As such, the blue carbon sink trading market has thus not yet reached its full potential," he said.

Waseem highlighted that blue carbon ecosystems offer an advantage over other ecosystems as they can store or sequester five times more carbon than another ecosystem.

He said they complete over 55 per cent of the Earth's carbon sink and store 93 per cent of the planet's carbon dioxide emissions, adding that they should be included as soon as possible in the carbon sink trading market system since they form the biggest carbon pool in the world.

"The Global Blue Carbon Market plan was suggested in the Blueprint for Sustainable

BLUE CARBON
MANGROVES & SALT MARSHES
at 10x greater rate than tropical forests
Seagrasses - 0.1% of world's
11% of ocean's buried carbon
The environmental and economic possibilities are endless!

Development of Ocean and Coastal Areas 2011 which was published by the five main United Nations agencies. Including blue carbon activities in voluntary carbon markets and other carbon financial mechanisms aimed at mitigating climate change is one of the five policy goals outlined in the policy's outline.

"The development of the blue carbon market (BCM) has drawn increased attention since then. By valuing blue carbon and integrating it into the carbon market, the blue carbon market can be established," he said.

At the same time, Waseem pointed out that it is necessary to consider issues such as unclear accounting practices, unclear ownership of blue carbon and insufficient financial resources for oversight and leadership.

On the benefits of the Blue Carbon Market, he said it will help countries to achieve their net zero targets among others.

"The BCM will provide more clarity in the accounting methods for blue carbon, and it will raise awareness in the community about the high quality of blue carbon credits compared to other carbon credits. The BCM will also give confidence to investors in this nature-based solution (NBS) carbon business for mitigating climate change considering the stable price for blue carbon credits," he said.

Waseem said mangroves are the primary focus of blue carbon research in Malaysia and the country has an estimated total



arming

Remove carbon from forests
Seafloor, but store
ic possibilities are endless!

mangrove area of 629,038 hectares as of 2017.

He said Sabah accounts for 60 per cent, Sarawak (22 per cent), and Peninsular Malaysia (18 per cent) of mangrove areas.

"The average mangrove carbon stock in Malaysia, including above and below-ground biomass, is estimated to be approximately 181 MgC/ha. Between 1990 and 2017, Malaysia's mangrove areas decreased by 3.3 per cent. These represented roughly 14 million Mg of carbon dioxide emissions. By looking at Malaysia's Blue Ecosystems Carbon Sequestration Potential (BECSPP), this ecosystem can be a leading contributor to the carbon business.

"Recently, Prime Minister Datuk Seri Anwar Ibrahim invested RM10 million in the VCM to boost this business, while Bursa Malaysia has published a VCM handbook to guide investors in this carbon business," he said.

Touching on how Sarawak amended its Forest Ordinance in 2022, Waseem said this added important sections to supporting carbon trading, thus making it one of the leading states in carbon business and activities.

"It is now time for Sarawak again to take steps to raise the BCM concept at the federal level, given that it has one of the largest mangrove areas in Malaysia. As an academician and carbon awareness campaigner, I believe that BCM will be a worthwhile and profitable step for Malaysia to take to reap economic benefits," he added.