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TACKLING CLIMATE CHANGE

Marine renewable energy key to ecological sustainability

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THE shipping sector is often referred to as the lifeblood of the global economy and a determinant of economic growth.

It is estimated that shipping accounts for over eight per cent of global trade, which is handled by ports all over the world. However, the shipping sector is also seen as a major contributor to air pollution.

The fossil fuels used have a significant carbon dioxide (CO₂) content, which contributes to global warming and climate change.

The International Renewable Energy Agency (Irena) has published a report on the impact of shipping activities on CO₂ emissions. The shipping sector contributes four to five per cent of all CO₂ emissions caused.

Furthermore, the sector is responsible for three per cent of world greenhouse gas (GHG) emissions and 90 per cent of global emissions attributable to transportation. This is alarming since the figure is expected to rise

in tandem with the development of global trade activity.

According to the International Maritime Organisation (IMO), if no precautionary measures are taken, CO₂ emissions will increase by 50 to 250 per cent by 2050.

Hence, the sector must utilise clean, ecologically favourable energy sources.

The International Conference for the Prevention of Pollution from Ships (Marpol) has outlined regulations for the prevention of air pollution by ships under Annex VI.

Since 2010, Malaysia has adopted and implemented Annex VI of Marpol to reduce pollution from merchant ships at sea.

The subsection under Annex VI, which governs energy efficiency for ships, further mandates ship owners to better CO₂ emissions by improving design, planning, operation, and monitoring of the ships.

Merchant ships with a gross tonnage of 400 or more are subject to the rules to limit CO₂ emissions that degrade the environment.

As an IMO member, Malaysia is doing the best it can to address the issue of CO₂ emissions from its maritime sector.

Malaysia has also set a goal of reducing CO₂ emissions prior to IMO initial strategy for reducing GHG emissions in 2018.

The strategy sets a goal of reducing international shipping's GHG emissions by 2050, while cutting CO₂ emissions intensity by at least 40 per cent by 2030 and 70 per cent by 2050.

This also aligns with 12th Malaysia Plan tabled last year, which states that the country aspires to achieve carbon neutrality by 2050.

To achieve this, Malaysia must generate energy from renewable sources to address long-term demand for energy consumption whilst still realising the zero-carbon target.

Renewable energy (RE) sources can be seen to have tremendous potential to transform the shipping sector's landscape.

Malaysia's geographical location near the equator can also contribute to boosting marine RE production to meet the nation's

growing energy needs.

The oceans and marines have renewable energy sources that can be exploited as an alternative to fuels, such as sun, wave, and wind energy. So, we should consider the utilisation of such marine RE resources in the shipping sector.

Furthermore, due to the fluctuating nature of global fuel prices, marine RE is the best alternative.

In addition to energy security, the use of RE is an initiative toward national transformation in terms of maintaining ecological sustainability.

The lowering of CO₂ in the atmosphere is expected to halt the phenomenon of global warming caused by the constant rise in the temperature of the earth's atmosphere.

To reach global and national aspirations, governments and their stakeholders should focus primarily on technological innovation in order to achieve high-efficiency, low-emission shipping.

Perhaps, it is critical to invest in technology to boost energy gen-

eration and productivity.

The shift to RE is also a milestone towards Malaysia achieving its United Nations Sustainable Development Goal (SDG) 7, which is to ensure access to affordable, reliable, sustainable and modern energy for all.

The RE's (including solar, wind, geothermal, hydropower, bioenergy, and marine sources) share of total final energy consumption is measured by indicator 7.2.1.

To meet SDG7 by 2030, upgrade technologies and build infrastructure to deliver cleaner and more efficient energy sources.

With the introduction of marine RE, the shipping sector is no longer completely reliant on non-renewable fossil fuel supplies. This can indirectly secure our position as a global supply chain shipping hub.

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