



Opinion

## Generate energy from renewable sources

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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 80% of global trade, which is handled by ports all over the world. According to a report from the United Nations Conference on Trade and Development, sea transport services have expanded at a good rate time after time.

However, the shipping sector is seen as a major contributor to air pollution, particularly in ports and coastal areas. The fossil fuels used have a significant carbon dioxide (CO<sub>2</sub>) content, which contributes to global warming and climate change.

The International Renewable Energy Agency has published a report on the impact of shipping activities on CO<sub>2</sub> emissions. According to statistics, the shipping sector contributes 4% to 5% of all CO<sub>2</sub> emissions caused by human activity.

Furthermore, the sector is responsible for 3% of world greenhouse gas (GHG) emissions and 9% of global emissions attributable to transport. 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, CO<sub>2</sub> emissions will increase by 50% to 250% 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.

Malaysia, through the ratification of Marpol Annex VI, is a signatory to the function and instrument of Annex VI – Regulations for the Prevention of Air Pollution from Ships. Annex VI includes the Survey, Certification, and Means of Control for Ships. The subsection under Annex VI which governs energy efficiency for ships further mandates ship owners to better CO<sub>2</sub> 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. This regulation's goal is to limit CO<sub>2</sub> emissions that degrade the environment. As an IMO member state, Malaysia is doing the best it can to address the issue of CO<sub>2</sub> emissions from its maritime sector in order to prevent air pollution. Malaysia has also set a goal of reducing CO<sub>2</sub> 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 CO<sub>2</sub> emissions intensity by at least 40% by 2030 and aiming for 70% by 2050, relative to a 2008 baseline. This also aligns with 12th Malaysia Plan tabled by Prime Minister Datuk Seri Ismail Sabri Yaakob in Parliament last year, which states that the country aspires to achieve carbon neutrality by 2050.

To achieve this goal, Malaysia must take proactive actions to generate energy from renewable sources. This measure is intended to address the 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 is a unique country due to its geographical location surrounded by the ocean, as well as its wide-ranging wind patterns influenced by both sea and land breezes. Malaysia's geographical location near the equator can also contribute to boosting marine RE production in order 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. As a basis, the government and stakeholders 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 towards national transformation in terms of maintaining ecological sustainability. The lowering of CO<sub>2</sub> 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.

Thus, the key focus should be on strategic planning for the development of marine RE, which will result in a more positive outlook for the shipping sector. 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 generation 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, actions must be taken to upgrade existing 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 Malaysia's position as a global supply chain shipping hub.

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