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Sabah has the biggest acreage under oil palm in Malaysia. Sadly successive State Governments consciously allowed peninsula-based companies to own them and reap hundreds of millions of ringgit yearly, leaving Sabahans virtually nothing.

The benefits of going solar

DR Rulia Akhtar

ENERGY is of utmost importance in most economic and social undertakings. The correlation between energy consumption and economic progress is well established.

In Malaysia, energy has emerged as a pivotal factor in the nation's growth, particularly in enhancing industrial and service efficiency. According to the World Energy Markets Observatory report, Malaysia is projected to experience a 4.8pc increase in energy demand by 2030.

Furthermore, the annual growth rate of electricity demand surpasses that of primary energy production. Over the period of 2009 to 2035, energy demand in Malaysia is expected to see a significant rise, escalating from 96.3 terawatt-hours to 206 terawatt-hours (TWh). Consequently, Malaysia must explore alternative energy sources, such as solar power.

Malaysia possesses ideal weather for both solar water heating and solar electricity production. The country enjoys substantial solar energy radiation potential, with an average of six to eight hours of daily sunshine. The abundant solar energy available allows solar panels to efficiently generate electricity with minimal input. As a result, numerous households in Malaysia can effortlessly heat their water and power their homes with solar energy, avoiding the burden of soaring energy expenses. This has positioned Malaysia as a highly attractive nation in terms of its remarkable potential for solar energy systems.

The importance of clean energy remains a significant focal point within the Sustainable Development Goals (SDG) framework. Goal 7 specifically emphasises the promotion of affordable and clean energy, striving to ensure accessible, dependable, sustainable and modern energy for everyone.

Solar power, being a sustainable energy source, has a pivotal role in mitigating CO_2 emissions and addressing the challenge of climate change (Goal 13). This is critical for protecting human health, preserving nature and ecologies. Additionally, solar energy aids in improving air quality and reducing water usage in energy generation.

In the context of Malaysia, the country currently boasts a total installed solar capacity of 2,165 MW, as indicated by data from Apricum. Malaysia has outlined plans to increase its capacity by an additional 1,098 MW by 2025, followed by an additional 2,414 MW by 2035. Additionally, the country has raised its renewable energy goals, targeting a 31pc share of renewable energy by 2025, equivalent to 8.53 GW in total renewable energy generation capacity. It aims for an even more ambitious target of 40pc by 2035, translating to 10.94 GW.

As per the Malaysia Renewable Energy Roadmap (MyRER), the government has set its sights on renewable energy contributing to 31pc (equivalent to 13 GW) of the country's energy requirements by 2025. Their target extends to 40pc (18 GW) by 2035. In the long run, there is an overarching objective of achieving a substantial 70pc renewable energy share by 2050.

This aligns with the national aspiration of attaining net zero CO_2 emissions by 2050. According to the International Renewable Energy Agency, the shift towards renewable energy is projected to yield substantial benefits for Malaysia. It is expected to result in annual savings ranging between US$9 billion and US$13 billion (RM41.3 billion and RM59.6 billion) by 2050, primarily due to the avoidance of energy-related, climate, and health costs. Now, the question arises: why should we harness solar energy, and what advantages does it offer?

There are multiple compelling rationales for adopting solar energy in Malaysia. Be it driven by economic considerations or environmental concerns; homeowners stand to gain from utilising solar power.

● To begin with, solar power harnesses energy from an almost boundless source. Since solar energy is produced through solar panels capturing sunlight, the potential electricity generation is immense. Given Malaysia's favourable climate for solar panels, solar energy is readily available for everyday consumption.

● Solar energy offers versatility in its applications. While the most widespread use of solar energy is for supplying power to household electrical devices, its utility extends beyond that. Solar energy can generate electricity through photovoltaic systems or provide heat through solar thermal methods. Solar energy harnesses the sun's thermal energy to warm water using solar hot water systems.

Another noteworthy use of solar energy is in regions lacking a conventional power grid. This capability has been particularly beneficial to rural areas in Malaysia that lack access to the electricity grid.

● Solar energy stands out as an environmentally friendly option due to its independence from any fuel source for electricity generation. Fossil fuels, in contrast, release carbon dioxide, a greenhouse gas that contributes to the growing concentration of carbon dioxide in the atmosphere.

Solar panels, which capture energy from the sun to generate electricity, operate without emitting carbon dioxide or causing air pollution. This leads to a reduction in both air and water pollution and contributes to the preservation of Malaysia's ecosystems and water resources. Moreover, it is worth noting that the materials used in solar panels are environmentally safe and pose no harm to the planet.

● Incorporating solar energy is a cost-effective method for cutting down on energy expenses. When we opt for solar energy over dependence on a utility provider, we can potentially slash our monthly utility bills by as much as 50pc. With the presence of sunlight, we can continually generate electricity to operate our household's electrical devices. Importantly, solar energy is a freely available resource, which further contributes to cost savings.

● The expansion of the solar energy sector can have the potential to increase both employment and economic growth. This encompasses jobs in manufacturing, installation, maintenance, and research and development. Malaysia can use this to strengthen its economy.

● Solar energy investments encourage innovation and technical breakthroughs in the renewable energy industry. Malaysia has the potential to establish itself as a frontrunner in solar technology and provide its knowledge to other nations.

● Malaysia may improve its energy independence and lessen its reliance on energy imports by increasing the amount of electricity it produces from solar energy.

● Finally, solar energy is a vital component of Malaysia's sustainable development strategy since it provides a technologically sophisticated, economically feasible, and ecologically benign energy alternative.

In addition to supporting energy security, generating employment opportunities, and lowering greenhouse gas emissions, it also helps Malaysia meet its commitment to the Sustainable Development Goals of the UN.

■ **This article is contributed by Dr Rulia Akhtar, research fellow at the Ungku Aziz Centre for Development Studies, Universiti Malaya.**