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Malaysia's energy transition on track as RE mix on the rise



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KUCHING: Malaysia's energy transition remains on track, supported by policy measures to improve energy efficiency and increase the share of renewable energy (RE) in the country's energy mix.

According to AmInvestment Bank Bhd (AmInvestment Bank), the National Energy Efficiency Policy and Action Plan (NEEAP 2.0), which runs from 2026 to 2035, aims to strengthen energy efficiency through regulation, demand management and financial support.

Under the National Energy Transition Roadmap, Malaysia aims to reduce its reliance on fossil fuels from 96 per cent in 2023 to 77 per cent by 2050, while increasing the share of RE in total primary energy supply from four per cent to 23 per cent over the same period.

However, RE had already accounted for 32 per cent of Malaysia's installed capacity mix at the end of 2025, the report noted.

"Solar was the largest contributor to the country's RE installed capacity mix, accounting for 50 per cent at the end of 2025, followed by large hydropower at 40 per cent, biomass at six per cent, small hydropower at three per cent and biogas at one per cent," it said in the report.

"Sarawak is home to the country's large hydropower plants, with the Bakun hydroelectric plant having an installed capacity of 2,520 megawatts (MW)."

The research house added other renewable energy sources, including small hydropower, biomass and wind, had also been studied, although their potential



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remained subject to cost and scalability constraints.

In Peninsular Malaysia, about 80 rivers could accommodate run-of-the-river hydropower plants, with an estimated energy potential of 150MW.

Biogas potential is limited by its reliance on palm oil mill effluent, while wind farms face challenges due to insufficient wind speeds.

The research house also highlighted the need to balance affordability, sustainability and reliability in managing the energy transition. It said poorly managed implementation could lead to grid constraints that affect electricity supply reliability or increase energy costs for households and businesses.

Wind farms, for example, may not be economically feasible due to their high costs.

On nuclear energy, the research house noted that it had been included in the 13th Malaysia Plan. Nuclear power could provide a stable, low-carbon baseload

energy supply, while fuel costs account for a small proportion of generation costs.

However, the high cost of building nuclear power plants compared with gas-fired facilities, alongside public acceptance and concerns over nuclear waste management and potential accidents, remained key issues.

Beyond domestic power generation, the report also identified cross-border electricity trading as another avenue for renewable energy development.

Enegem was established in 2024 to facilitate renewable energy exports to Singapore, with an export quota of 300MW.

In December 2024, the country's largest utility signed an agreement to export 50MW of renewable energy to Sembcorp Power. There had been limited subsequent progress in renewable energy exports, which it attributed to rising domestic electricity demand driven by data centres said the research house.