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Energy transition accelerates

The Malaysian Reserve, Malaysia



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ENERGY transition efforts worldwide continue to gain momentum, despite an increasingly complex geopolitical landscape, with investment estimated to have reached US\$3.3 trillion (RM15.51 trillion) last year.

"Clean energy growth is being propelled by a stronger focus on energy security and affordability, reinforcing its role as a practical and resilient pillar of national development," said Energy Watch.

It said the case for the transition is no longer anchored solely in long-term climate ambition, but also in the need to operate confidently within a more fragmented and competitive energy environment, as the portal noted in an article titled *Global Outlook: A New Energy Reality Takes Shape in 2026*. "Rather than focusing primarily on distant climate targets, governments are placing greater emphasis on building critical industries, strengthening domestic capabilities and securing future jobs, all while managing a growing set of interconnected risks," it said.

Energy Watch said that taken together, these dynamics signal a more execution-focused phase of the energy transition in 2026, one that is defined by delivery, readiness and the ability to compete in a fast-evolving landscape.

It highlighted that the leap's contours are clearer, driven by key

2026 trends such as artificial intelligence (AI), grid resilience, and intensifying green energy competition, which are shaping investment, policy and competitiveness.

The Energy, AI Balance

AI has become a key trend in the energy sector, alongside rising electricity demand driven by expanding data centres, cloud services and digital infrastructure.

Estimates indicate that electricity demand from data centres could more than double by 2030 to about 945 terawatt hours (TWh), with the US and China accounting for the most demand, followed by Asian countries, including those in South-East Asia.

While energy is crucial for AI, the latter is also vital in transforming how energy systems are managed by enhancing efficiency, predictability and overall system performance.

As the largest electricity utility company in Malaysia, Tenaga Nasional Bhd (TNB) has been at the forefront of this transformation. In a recent interview, president and CEO Datuk Shamsul Ahmad, announced that AI is already being deployed across its operations, including predictive maintenance, load balancing and weather forecasting.

"The synergy is further emphasised in TNB's upcoming Energy

Transition Conference 2026 (ETCon26), themed Energy & AI: The Synergy for Energy Transition," he said.

ETCon26 is anchored on three content pillars, namely, Energy for AI, AI for Energy and Energy Transition (ET) for People, reflecting the growing interdependence between energy systems and digital technologies.

Greater Investments in Resilient Networks

Energy Watch also highlighted the importance of AI in the energy sector and vice versa, placing unprecedented pressure on generation capacity and grid infrastructure that are often outpacing traditional planning cycles.

Traditional power grids designed for centralised and one-directional energy flows are no longer adequate for modern energy systems that must handle variable renewable sources and multi-directional flows.

As a result, Energy Watch said investments are increasingly directed toward grid upgrades, digitalisation and energy storage solutions.

The need for resilient and flexible infrastructure is becoming critical as systems face rising exposure to extreme weather, geopolitical risks and cyber security threats.

As such, energy investments will continue to prioritise transmission

upgrades, grid digitalisation and storage solutions in 2026.

"About US\$21 trillion in grid upgrades will be needed by 2050 to build more flexible, resilient networks.

"While this figure is substantial, it must be weighed against the far greater cost of inaction, estimated at around US\$38 trillion annually," it said.

Pursuit Towards Decarbonisation

In parallel, competition across clean energy supply chains is also intensifying, according to Energy Watch.

Countries across the board are vying for investment, critical minerals and manufacturing capacity, transforming the energy transition into a core economic and industrial strategy rather than solely an environmental initiative.

"Governments are deploying industrial policies such as tax incentives, subsidies and trade measures to strengthen domestic industries and secure supply chains," said the portal.

This reflects a broader shift toward building national competitiveness in clean energy technologies, with governments recalibrating their strategies to ensure reliable and cost-effective energy supply while continuing to pursue decarbonisation goals.

Besides these, Energy Watch said rising electricity demand and market volatility are also driving governments to prioritise energy security and affordability alongside decarbonisation.

It said that rather than following a unified global transition, countries are recalibrating their strategies to balance emissions goals with cost stability, reliable supply and public acceptance.

"Fuel mix decisions in 2026 reflect a more pragmatic approach, combining renewables with firm capacity, storage and transitional energy sources, while affordability concerns influence the pace of transition, especially in emerging and developing economies," it said.

Navigating Energy Transition

Countries are also tailoring strategies based on their resource positions. In South-East Asia, countries are increasingly focusing on cross-border interconnection through the ASEAN Power Grid (APG), alongside efforts to harmonise regulatory frameworks and enable large-scale electricity trade, said Energy Watch.

A notable development came in January 2026, when TNB signed a tripartite agreement with utilities in Laos and Thailand to facilitate the supply of renewable energy to Singapore. — Bernama