



05 JUN, 2026

'Shift to renewable energy needs proper management'



The Sun, Malaysia

# 'Shift to renewable energy needs proper management'

➤ Green alternatives like large hydropower dams may cause ecological harm and displace communities, says academic

■ BY KIRTINEE RAMESH  
newsdesk@thesundaily.com

**PETALING JAYA:** The rapid transition to renewable energy in Southeast Asia may lead to new environmental and social issues if not properly managed and regulated, as "green" alternatives like large hydropower dams could cause substantial ecological harm and displace communities.

National University of Singapore Southeast Asian Studies Department lecturer Dr Serina Rahman said while renewable energy is widely being promoted as a cornerstone of climate response, the region's energy transition is often narrowly framed, overlooking its wider environmental and social costs.

She pointed out that a lot of effort is being made for the shift to renewable energy, mainly through hydropower.

"Big hydropower dams can cause more environmental damage in their construction than the renewable energy benefits they eventually provide."

She said impacts such as the displacement of local and indigenous communities, destruction of hills and waterways, loss of sacred sites and long-term disruption of local identities are frequently excluded from sustainability assessments.

Serina questioned the reliability and

practicality of renewable energy systems if they are not properly integrated into national grids, stressing that generation alone is insufficient without efficient distribution.

"In tropical countries like Malaysia, where sunlight and rainfall are abundant, solar energy presents strong potential but also comes with its own environmental trade-offs, particularly in battery production, material sourcing and end-of-life disposal of solar panels.

"There is more work being done to make solar and wind materials longer-lasting and recyclable. So, that may improve in time."

She also said land use remains one of the most pressing challenges in the transition to renewable energy.

"Large-scale solar farms and energy infrastructure often require significant land acquisition, raising concerns about deforestation, land sales and the displacement of rural communities.

"Are we depriving people of their land or clearing forests to build renewable energy projects?"

She said Malaysia's geographical conditions also limit the viability of certain technologies, including large wind turbines, which require consistent wind patterns found only in very limited areas.

Serina said a more effective strategy would

be a diversified energy mix, combining smaller-scale solutions such as micro-hydropower systems, rooftop solar installations and backup generators in remote areas, particularly in Sabah and Sarawak.

She added that instead of large solar farms requiring forest clearance, it would be better to have decentralised systems where solar panels are installed on homes, public buildings and infrastructure, and feed directly into local grids.

She also cited emerging international models where solar panels are installed above farmland or integrated into car parks, maximising land use while allowing agricultural activity to continue.

"Our biggest energy consumers are data centres, especially in places like Johor. There should be stronger requirements for them to adopt renewable energy sources like solar."

Serina stressed that deforestation and environmental degradation remain closely tied to governance and political decision-making rather than a lack of awareness.

She said overlapping state and federal laws could create loopholes that allow environmental harm despite existing protections.

"For environmental protection laws to work, there must be political will from the very top."

She said stronger enforcement and national commitment are essential for long-term environmental protection.

"There are many ground-up efforts but people also need to speak up when they see hillsides being cleared or forests being damaged."