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CCUS initiatives may worsen carbon emissions, RimbaWatch warns

The Malaysian Reserve, Malaysia

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by AUFA MARDHIAH

CARBON capture, utilisation and storage (CCUS) projects in Malaysia could contribute to increased fossil fuel extraction rather than reducing carbon emissions, according to a new analysis by RimbaWatch.

The environmental watchdog's findings suggest that despite being marketed as a key tool for decarbonisation, CCUS initiatives are largely being used to justify further oil and gas (O&G) expansion.

The report said of the 10 CCUS projects identified in Malaysia, nine are linked to unlocking previously inaccessible fossil fuel reserves.

If fully exploited, these reserves could release over 1.3 billion tonnes of CO2 — far exceeding the carbon removals promised by CCUS, which in a best-case scenario would only offset 10% of these emissions.

Moreover, RimbaWatch argues that CCUS is not the climate solution it claims to be, citing global trends where many similar projects have failed or underperformed.

Citing the Institute for Energy Economics and Financial Analysis (IEEFA), the organisation said the majority of CCUS projects worldwide have either failed or failed to meet their targets, with some achieving as little as 50% of their promised capture rates — well below the 95% efficiency often advertised.

CCUS Bill 2025 Raises Concerns Over Greenwashing

On top of that, RimbaWatch warns that the CCUS Bill 2025, passed on March 6, contains loopholes that could promote fossil fuel expansion instead of real emissions reduction.

Initially, the bill is expected to shape the future of CCUS implementation in Malaysia.

One of the key concerns is that while the bill prohibits using imported CO2 for enhanced oil recovery (EOR) — a process where CO2 is injected into oil fields to extract more crude — it does not restrict the use of locally captured CO2 for the same purpose.

This loophole could encourage more fossil fuel production instead of emissions reduction.

The bill also lacks penalties for CCUS projects that underperform or leak CO2 back into the atmosphere, raising doubts about accountability and transparency.

RimbaWatch added that the bill gives sweeping control to the government, requiring the Attorney General's (AG) approval for prosecution of CCUS-related offences, mirroring restrictive laws such as the Official Secrets Act and the Sedition Act.

Solar Power a More Effective Alternative

Rather than relying on CCUS, RimbaWatch suggests Malaysia to prioritise large-scale renewable energy (RE) investments, particularly solar power.

The report finds that if the same RM30 billion earmarked for CCUS in the National Energy Transition Roadmap (NETR) were instead invested in solar power, it could avoid 14.5 million tonnes of CO2 emissions per year, which is 2.1 million tonnes more than CCUS in a best-case scenario.

Additionally, this solar investment would generate 15.1% of Malaysia's current electricity demand, further reducing reliance on fossil fuels and ensuring a more sustainable long-term energy strategy.

Nonetheless, despite being positioned as a key decarbonisation tool, CCUS in Malaysia appears to be a vehicle for further fossil fuel extraction rather than meaningful emissions reductions, the report added.

Without stricter regulations and clearer commitments to genuine carbon reduction, CCUS risks becoming a tool for greenwashing, misleading the public into believing it is a viable climate solution.

Given the high failure rates, cost inefficiencies and potential for fossil fuel expansion, RimbaWatch calls on policymakers to reconsider the role of CCUS and focus on proven, cost-effective RE alternatives instead.

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