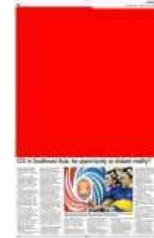


Finding the sweet spot for CCUS' economic viability

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FOR CCUS to be viable, financial mechanisms must support its implementation. Various financial models exist to support CCUS projects, with different countries adopting different tailored approaches.

William Acworth, Executive Director of Pollination highlighted the UK's 'carbon contracts for difference' policy mechanism, where the government guarantees a stable carbon price to incentivise low-carbon industrial projects.

If the market price falls below a predetermined reference price, the government covers the shortfall to ensure CCUS projects remain bankable.

"The key advantage of the Contract for Difference is that it provides a stable framework, giving the industry confidence that carbon dioxide will become increasingly scarce and valuable in the future."

"The government also assumes a significant liability. If they weaken the system by lowering the emissions cap, causing the carbon price to fall, they must compensate with taxpayer funds."

"Conversely, if they tighten restrictions and the carbon price meets the strike price, no government expenditure is needed," he said during CONNECT Energy Borneo 2025 conference.

This model acts as both a commitment mechanism and a revenue-sharing tool, guaranteeing a certain internal rate of return (IRR) for projects. Once in place, risk-sharing arrangements, such as insurance, further enable private sector investment, including debt financing.

Other countries, such as the US and Canada, rely on tax incentives linked to emission reductions.

Malaysia is also considering a similar approach. Economy Minister Datuk Seri Rafizi Ramli has stated that while the government will not fund CCUS facilities, it is still exploring the introduction of a carbon tax for heavy industries such as steel.

"When a carbon tax is in place, companies or individuals will have to pay for carbon storage."

The key advantage of the Contract for Difference is that it provides a stable framework, giving the industry confidence that carbon dioxide will become increasingly scarce and valuable in the future.

— William Acworth, Executive Director of Pollination

For example, if the carbon tax is set at US\$50 per tonne, they will have the option to either pay the tax or invest the same amount in carbon storage.

"This creates a strong business case for CCUS and attracts investors to develop the necessary infrastructure," he said during the recent tabling of the bill.

Meanwhile, carbon credit

markets provide another revenue stream, allowing companies to sell credits to entities looking to offset their emissions.

"We have not seen much of that yet, but that is what the CCS Plus (an initiative to create carbon credit pathways for CCS) aims to unlock. It could become a viable business model moving forward," Acworth noted.

A key question remains: should revenue come from private sector spending to avoid post-taxation, or should the environmental attribute be integrated into the product itself? As a global manufacturing hub, Asia could explore exporting lower-carbon products by embedding CCUS credits into supply chains.

While carbon credits hold

potential, their effectiveness depends on market structures.

"If a company sells its carbon credits, the carbon intensity of its product remains high. However, if it retains the credits and integrates them into its supply chain, it can market a lower-carbon product, providing a competitive advantage in global markets."

"That strategy could help businesses compete while generating revenue through upstream abatement," Acworth said.

He further pointed out that carbon credits will likely carry a significant cost, making it crucial for companies to determine how best to use them.

"If you sell the credits, someone else benefits, but your product remains high in carbon intensity. On the other hand, keeping those credits within your supply chain allows you to market a lower-carbon product."

"The same principle applies to participation in emissions trading schemes (ETS), where companies that fail to invest in CCUS will face higher costs, making their products less competitive," he explained.

For information, ETS is a market-based mechanism that sets a cap on total greenhouse gas emissions and allows companies to buy or sell allowances based on their emissions levels.

Firms that reduce emissions below their allocated cap can sell excess allowances, while those

exceeding limits must purchase additional allowances or pay penalties.

This system incentivises businesses to adopt cleaner technologies like CCUS to remain cost-competitive.

To get high-capital CCUS projects off the ground, instruments like contracts for difference or guaranteed revenue for carbon sequestration and storage must be considered.

These mechanisms have enabled successful projects elsewhere and should be part of Malaysia's strategic approach, Acworth noted.

Another challenge is risk, particularly liability risks around leaks or operational failures. It is essential to acknowledge these risks and implement frameworks that identify, understand, transfer, and price them effectively within project designs and financing structures.

International cooperation will also be key. While Malaysia has the potential to become a CCUS storage hub and import carbon dioxide from other countries, it will require robust regulatory frameworks to address import tariffs, pricing structures, and emission reduction claims under the Paris Agreement.

Ultimately, balancing regulatory frameworks with market-driven incentives will be critical to ensuring the long-term viability of CCUS as a key component of Malaysia's low-carbon future.



-p4 Acworth (right) and Ash (centre) during the panel discussion at the CONNECT Energy Borneo 2025 conference in Kuching earlier this year.



(From right) ExonMobil head of low carbon solutions in Malaysia Adelina Awaluddin and British High Commission in Singapore Southeast Asia Regional Lead for Green Energy and Industrial Decarbonisation Ivana Dimitrova at the panel discussion at the CONNECT Energy Borneo 2025 conference.