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CCS, CCUS differ in reducing emissions

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Employees work on pipes carrying liquid carbon dioxide at a power station near Berlin, Germany. (AFP)

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David Thien

CCS (Carbon Capture and Storage) and CCUS (Carbon Capture, Utilisation, and Storage) are both technologies focused on reducing greenhouse gas emissions, but differ in their approach to capturing carbon dioxide.

CCS primarily focuses on capturing CO₂ from industrial sources and storing it underground, while CCUS also utilizes the captured CO₂ for various applications before or instead of storage.

The idea is that instead of storing CO₂, it could be re-used in industrial processes by converting it into, for example, plastics, concrete or synthetic fuels.

French engineering and technology company Technip Energies plays a key role on the journey towards a low-carbon society and is strategically positioned as a leader in CCUS.

"We offer a broad portfolio of CCUS solutions across industries to help our clients cost-effectively decarbonise their operations, utilise low-carbon energy, valorise carbon into products and achieve net-zero goals. Now, Anywhere in the world," its Chairman Amran Ahmad said.

He said Rely, the joint-venture created by Technip Energies and John Cockerill, addresses market needs by offering an ecosystem of products and solutions designed to scale up Green Hydrogen and Power-to-X production more quickly, safely, and reliably.

Clearfoot, a productised yet configurable green hydrogen plant, brings to life Rely's expertise in technology integration.

Technip Energies BlueH₂ by T. EN™ helps its clients to efficiently and affordably achieve their hydrogen decarbonisation goals. Low-carbon hydrogen is key to the energy transition.

Technip Energies designs and delivers some of the energy world's largest and most complex engineering and

construction projects as a leading engineering and technology powerhouse for energy infrastructure and decarbonization and as a global leader in low-carbon LNG plants.

"By leveraging our innovation and global leadership in LNG infrastructure design and delivery, we help clients decarbonise the LNG value chain and power its production with clean energy, providing electrification and carbon reduction solutions."

Technip Energies supports Petronas' 2050 zero-carbon emission target to bring Malaysia forward into the future of energy transition.

The multi-national company built one of the most impressive big booths to highlight its vital regional presence as well as in the world at the IEW event themed "From Sarawak to the World: Journey to Clean Energy Leadership," held at the Borneo Convention Centre Kuching (BCCCK) from July 15 to 17, 2025 dubbed "Borneo's Biggest International Energy Expo & Summit".

Technip Energies Malaysia's business includes Provision of Engineering and Management Services, Procurement of Equipment and Construction of Plant for companies in the energy industry.

Through the years, Technip Energies has been on hand to build Malaysia's growth and economic ambitions driven by the country's energy reserves and skilled energy industry talent pool.

With leadership positions in LNG, hydrogen, ethylene, sustainable chemistry, and CO₂ management, the company is contributing to the development of critical markets such as energy, energy derivatives, decarbonization, and circularity.

Having been a part of Malaysia's energy industry for 40 years, Technip Energies has delivered many firsts for the nation, region and the world.