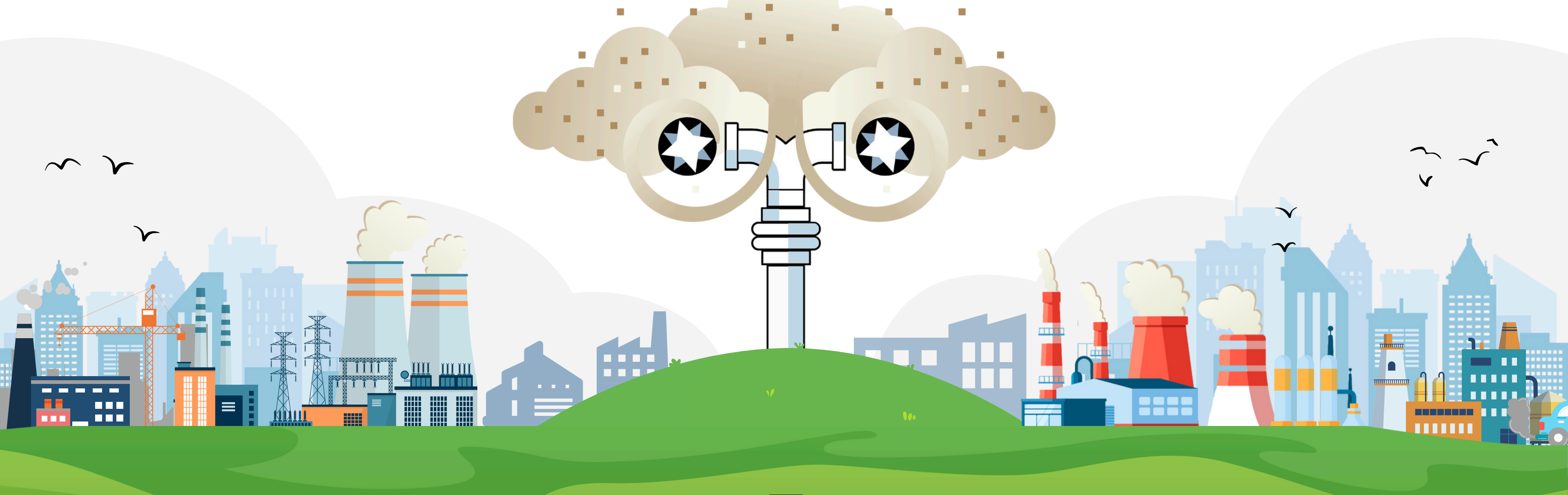


ASEAN CCS UPDATES

2024



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CCS Highlights – Indonesia

CCS Presidential Decree Officially Ratified, Regulates Implementation Scheme, Domestic Allocation to Cross-Border Carbon Transportation. [\[ENG\]](#) [\[ID\]](#)

 21/02/2024

Summary

This **Presidential Regulation** governs **CCS** activities, including capturing, transporting, injecting, and storing carbon in designated geological formations safely and permanently.



Supporting International Carbon Capture Standards, BSN Holds 18th Plenary Meeting ISO/TC 265. [\[ENG\]](#) [\[ID\]](#)


 06/06/2024

Summary

The **National Standardisation Agency of Indonesia (BSN)** has adopted four ISO standards related to **CCS** into Indonesian National Standards (**SNI**), with eight draft international standards from **ISO/TC 265** discussed during the 18th Plenary Meeting.

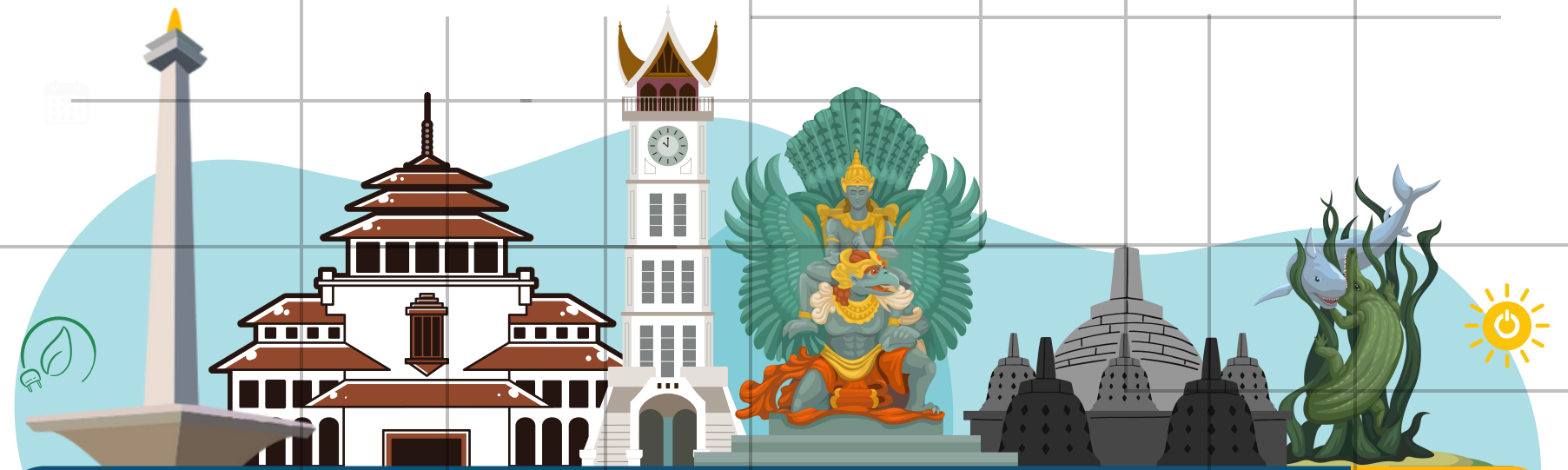


SKK Migas Sets Measuring Instrument Standardisation to Support CCS/CCUS Program in Indonesia. [\[ENG\]](#) [\[ID\]](#)

 20/06/2024


Summary

SKK Migas has issued a technical regulation applicable to upstream oil & gas contractors undertaking **CCS/CCUS** (Carbon Capture, Utilization, and Storage) activities in their designated work areas.



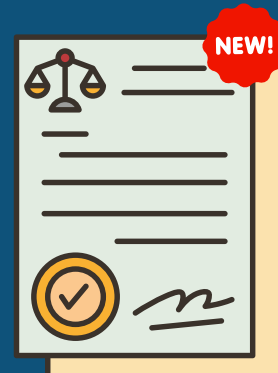
Malaysia Advances Carbon Capture With New Legal Framework. [\[ENG\]](#)



 21/05/2024

Summary

A comprehensive legal framework for **CCUS** is being established through a memorandum tabled to the **Cabinet**, involving the collective efforts of relevant ministries, agencies, and state governments.



CCS Highlights – Singapore

Singapore, Indonesia Sign LOI On Cross-Border CCS. [\[ENG\]](#)

16/02/2024

Summary

Singapore and Indonesia signed a **Letter of Intent (LOI)** for cooperation in cross-border CCS, aiming for net-zero emissions by 2050.



Appointment of S-Hub to Develop Cross-Border CCS Project. [\[ENG\]](#)

01/03/2024

Summary

The **Government** will work with a **CCS Lead Developer** to study the viability of developing a cross-border **CCS** project from **Singapore**.

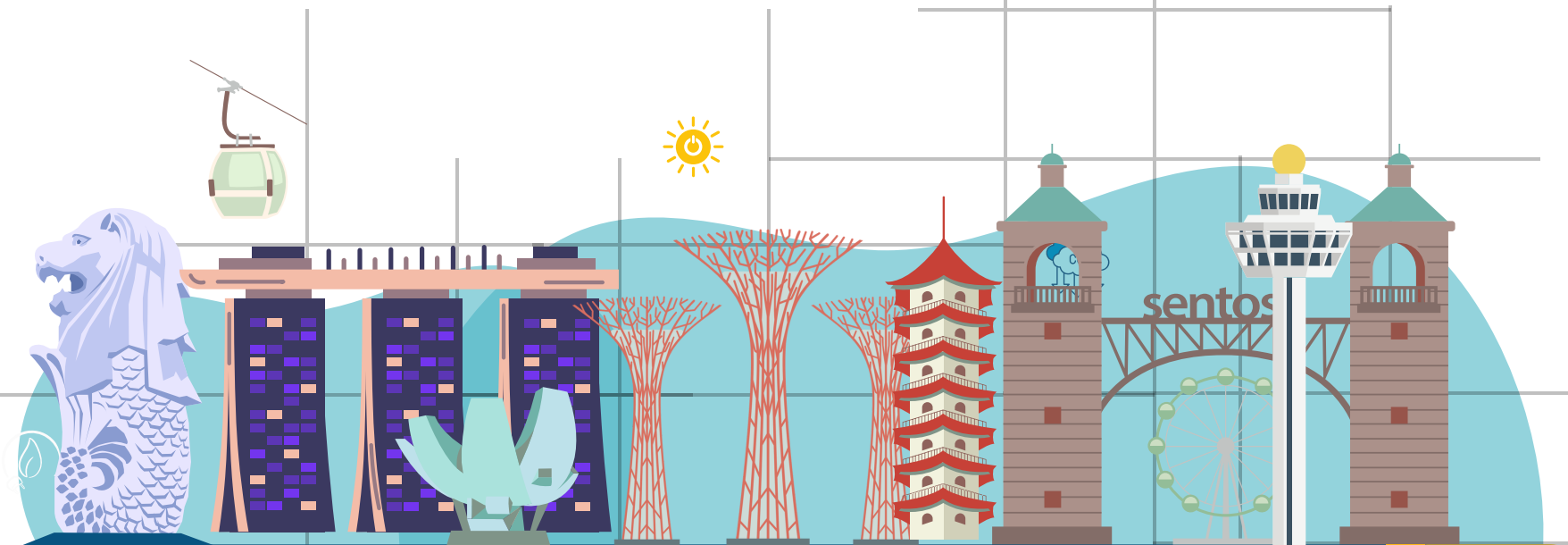


Singapore and Japan Signed a Memorandum of Cooperation (MOC) to Pursue Collaboration on CCS. [\[ENG\]](#)

21/08/2024

Summary

Singapore and Japan signed a **Memorandum of Cooperation (MOC)** to pursue collaboration on CCS on the sidelines of the 2nd Asia Zero Emissions Community (AZEC) Ministerial Meeting in Jakarta, Indonesia.





Thailand Drafts Framework for Regulating CCS. [ENG]

22/02/2024

Summary


The *Department of Mineral Fuels (DMF)* has developed a regulatory framework for CCS through amendments to the *Petroleum Act B.E. 2514 (1971)*.



CCS Highlights – Viet Nam



Decision No. 215/QĐ-TTg of 2024 Approving the Viet Nam National Energy Development Strategy to 2030, with a Vision to 2045, Issued by the Prime Minister. [\[ENG\]](#) [\[VIET\]](#)


 01/03/2024

Summary

The appendix of **Decision No. 215/QĐ-TTg** emphasizes the 12th focus area, which is the promotion of research and application of **CCS**.



Decision No. 854/QĐ-BCT of 2024 on the Implementation Plan of the Viet Nam National Energy Development Strategy to 2030, with a Vision to 2045, Issued by the Minister of Industry and Trade. [\[ENG\]](#) [\[VIET\]](#)

 12/04/2024

Summary

The decisions include transitioning from fossil fuels to **renewable energy**, increasing the scale of **absorption basins**, and promoting the application of **carbon capture technology**.



Indonesia's CCS Legal Framework



On **February 21, 2024**, Indonesia officially **ratified Presidential Regulation (PR) No. 14 of 2024**, further solidifying the national regulatory framework for CCS. This regulation provides a comprehensive framework for CCS activities across the country.

On **June 20, 2024**, Indonesia's Special Task Force for Upstream Oil and Gas Business Activities (*Satuan Kerja Khusus Pelaksana Kegiatan Usaha Hulu Minyak dan Gas Bumi - SKK Migas*) introduced **PTK-070/SKKIA0000/2024/S9** to support CCS/CCUS activities in designated work areas in the oil and gas sector.

PR No. 14/2024

Issued by the President of Indonesia, **centres on implementing CCS activities.**

Establishing **general** legal, environmental and operational guidelines. It also sets out the overarching policy and incentives for CCS, including cross-border cooperation.

The regulation defines **essential term for CCS** such as, **Carbon Capture, Transport, Injection, and Storage, Carbon Dioxide, and Injection Target Zones (ZTI).**

PTK-070/SKKIA0000/2024/S9

Outlines **guidelines** for conducting **CCS and CCUS** in cooperation contract areas.

It provides a **framework** covering legal, technical, economic, environmental, and safety aspects to ensure effective **CCS/CCUS project management** in the **oil and gas sector.**

PTK-07042 advances sectoral compliance with global **best practices.**

Key Insights

- Indonesia is **at the forefront of CCS regulation in ASEAN**, having established a **comprehensive legal framework** through Presidential Regulation No. 14 of 2024.
- Additionally, CCS/CCUS activities in the **upstream oil and gas sector** are regulated by **Ministry of Energy & Mineral Resources (MEMR) Regulation No. 2 of 2023.**
- This SKK Migas Working Guideline **align** with the MEMR Regulation and **provides detailed procedures and standards** for implementing CCS/CCUS projects, ensuring consistency and compliance across all designated work areas.

Indonesia's Technical Standards for CCS Operations

On **June 6, 2024**, National Standardisation Agency of Indonesia (BSN) and the Indonesia Carbon Capture and Storage Centre (ICCS) held the **18th Plenary Meeting** to discuss **8 out of 13 ISO/TC 265 standards** related to CCS.

Additionally, **4 other standards**, which fall under the scope of Carbon Economic Value (*Nilai Ekonomi Karbon - NEK*), have been adopted by BSN as Indonesian National Standards (*Standar Nasional Indonesia - SNI*) through the meeting of the Technical Committee 13-15.

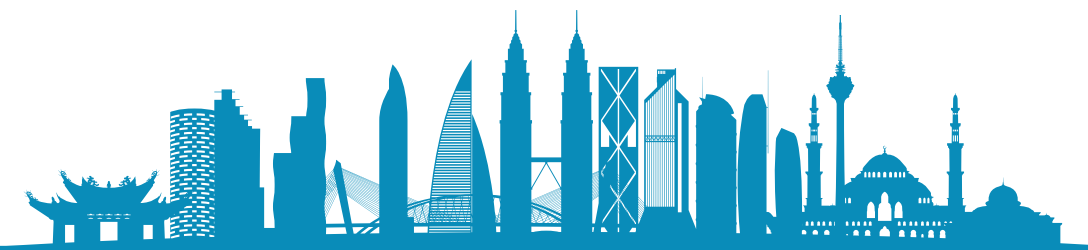
8 ISO/TC 265 Draft Standards Discussed in the 18th Plenary Meeting

Standard	Focus
ISO/FDIS 27913	Pipeline transportation systems.
ISO/CD 27914	Geological storage.
ISO/AWI 27916	Carbon dioxide storage using enhanced oil recovery (CO ₂ -EOR).
ISO/AWI 27917	Vocabulary – Cross cutting terms.
ISO/DTR 27926	Carbon dioxide enhanced oil recovery (CO ₂ -EOR) – Transitioning from EOR to storage.
ISO/DIS 27927	Key performance parameters and characterisation methods of absorption liquids for post-combustion CO ₂ capture.
ISO/CD 27928	Performance evaluation methods for CO ₂ capture plants connected with CO ₂ intensive plants.
ISO/DTR 27929	Transportation of CO ₂ by ship.

4 ISO/TC 265 Standards Adopted as SNI

Standard	Description
SNI ISO 27914:2017 [SNI-id] [ISO-eng]	Specifies requirements for safe and effective geological storage of CO₂ , covering site selection, risk management, monitoring, and site closure.
SNI ISO/TR 27915:2017 [SNI-id] [ISO-eng]	Provides guidelines for quantifying and verifying CO ₂ captured, transported, and stored, including methodologies for measurement, reporting, and verification.
SNI ISO/TR 27918:2018 [SNI-id] [ISO-eng]	Offers a code of practice for CO ₂ storage, detailing best practices for the design, operation, and monitoring of storage projects to ensure safety and integrity.
SNI ISO/TR 27923:2022 [SNI-id] [ISO-eng]	Provides guidelines for quantifying and verifying CO ₂ captured, transported, and stored, including methodologies for measurement, reporting, and verification.

Malaysia's CCUS Legal Framework



On **May 21, 2024**, Malaysia's **Ministry of Economy** presented a memorandum for a **standalone CCUS Bill** to the Cabinet.

This initiative aims to establish a **comprehensive legal framework for CCUS**, ensuring cohesive implementation, attracting high-impact investments, and effectively managing risks and liabilities.

Press Statement by Malaysia's Ministry of Economy

Standalone CCUS Bill will govern all aspects of the CCUS value chain, including carbon capture, transportation, utilisation, and storage. It is expected to be tabled by the end of 2024.

The **Standalone CCUS Bill** will be administered by a **federal governance body** alongside a technically competent entity to ensure effective management and oversight.

Initial CO₂ Storage Activities will focus on offshore areas, with feasibility studies for onshore storage to be conducted later.

Meanwhile, Malaysia is pushing on **Bilateral Agreements** with aim to position Malaysia as a **regional CCS hub**, providing integrated CCUS solutions for industries in the Asia Pacific region.

Key Insights

- CCUS technology is mentioned in Malaysia's **National Energy Transition Roadmap (NETR)** which aims to establish three CCUS hubs by 2030 and expand the capacity up to 80 Mtpa in 2050. This plan aligned with the **New Industrial Master Plan (NIMP) 2030** to promote green manufacturing and achieve net-zero emissions.
- Currently, Malaysia has not yet established a national regulation on CCUS. However, state-level initiative have been implemented, such as the **Land Code (Carbon Storage) Rules, 2022**, as the first regulation governing carbon storage, applicable only in the **State of Sarawak**.
- The **standalone CCUS Bill** will provide a **unified regulatory framework across Malaysia**, facilitating the development of CCUS projects nationwide and ensuring consistent standards and practices.

Singapore's CCS Collaboration Commitment



On **February 16, 2024**, Singapore and Indonesia signed an LOI to cooperate on CCS projects, and on **March 1, 2024**, the Government appointed S-Hub to develop a cross-border CCS project.

Additionally, **7 projects at the National University of Singapore (NUS)** have received funding under Phase 2 of the Low Carbon Energy Research (LCER) program.



Singapore and Indonesia Collaboration

Singapore and Indonesia signed an LOI to cooperate on **CCS projects**, aiming for net-zero emissions by 2050.

The agreement includes **reserving CO₂ storage capacity** for imported carbon and establishing a **joint working group** to develop a binding bilateral agreement for **CO₂ transportation and storage**.

This collaboration highlights the importance of **regional efforts** in **achieving environmental sustainability and economic opportunities** through CCS technology.

S-Hub Consortium (Shell and ExxonMobil)

The **S-Hub consortium**, comprising Shell and ExxonMobil, has been appointed to develop a **cross-border CCS project** from Singapore and will assess the feasibility of aggregating CO₂ emissions.

In December 2023, **S-Hub** and the **Singapore Economic Development Board (EDB)**, a government agency under the Ministry of Trade and Industry, signed an **MoU** to plan a CCS project that aims to capture and store at least **2.5 million tons of CO₂ annually by 2030**, significantly supporting Singapore's decarbonisation efforts.

Key Insights

- Singapore's **Long-Term Low-Emissions Development Strategy (LEDS)**, submitted in 2022, aims to reduce emissions to around **60 MtCO₂e** by 2030 and **achieve net-zero** emissions by 2050. One of the four key thrusts is investing in low-carbon technologies such as **CCUS**.
- The **S-Hub Consortium** is assessing the feasibility of **capturing** CO₂ emissions through aggregation.
- Meanwhile, the **LOI with Indonesia** is potentially facilitating **cross-border carbon transportation** to be stored in Indonesia.

Singapore and Japan collaboration on CCS

On **August 21, 2024**, Singapore and Japan signed a Memorandum of Cooperation (MOC) to pursue collaboration on CCS, on the sidelines of the 2nd Asia Zero Emissions Community (AZEC) Ministerial Meeting in Jakarta, Indonesia.

The AZEC is a multilateral platform that aims to accelerate Asia's decarbonisation transition, through working with regional partners to pursue energy transition pathways.

Press Statement by Ministry of Trade and Industry

This collaboration is part of broader efforts within the Asia Zero Emissions Community (AZEC) to promote **regional decarbonisation**.

The MOC will facilitate knowledge exchange on best practices for **cross-border CCS** and the sharing of insights on **CCS technologies**.

It will also pool together **expertise and resources** from Singapore and Japan to accelerate the adoption of CCS in the region.

The initiative underscores the importance of international **cooperation** in achieving net-zero emissions goals by mid-century.

Key Insights

- AZEC partner countries **reaffirm their commitment** to accelerate **decarbonisation** efforts in line with global climate goals.
- The statement emphasises the need to **address climate change**, promote **inclusive economic growth**, and ensure **energy security** simultaneously.
- The meeting launched **several sectoral initiatives** to promote **zero-emission power, sustainable fuel markets, and next-generation industries**.
- The importance of **cooperation** across Asia and beyond for successful energy transitions was highlighted.

Thailand's CCS Regulatory Framework



On **February 22, 2024**, Thailand's Department of Mineral Fuels (DMF) developed a regulatory framework for CCS by amending the **Petroleum Act B.E. 2514 (1971)**. The revised Petroleum in Thailand will establish a **regulatory framework** for CCS activities in Thailand.

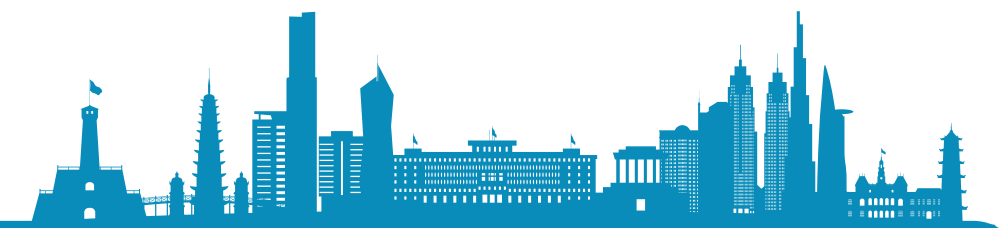
The framework introduces the concept of “**carbon business**,” defined as the exploration for carbon storage purposes or the compression of carbon into storage. It regulates the **licensing of carbon businesses** and outlines the **responsibilities of carbon business operators**. Future sub regulations will address details like applicant qualifications, bidding processes for carbon business operators, and royalty fees for carbon concessionaires.

Aspects	Description
Applicants	Product-sharing contractors or service contract holders can apply for a carbon business license from the Director-General of the DMF, with Petroleum Committee approval.
Eligibility and Bidding	The Minister of Energy will announce procedures for competitive bidding for licenses available to other eligible parties.
Evaluation Criteria	License applications will be assessed based on geological suitability, storage systems, environmental impacts, carbon leakage risk, and applicant's financial and environmental management capabilities.
Regulatory Framework	Carbon business operators are mandated to regularly monitor and inspect their installations and storage for potential leaks and environmental impacts.

Key Insights

- Thailand aims for carbon neutrality by 2050 and net-zero emissions in the energy sector, relying significantly on CCUS technologies as outlined in the **National Energy Plan (NEP) 2022**.
- The **Long-Term Low Greenhouse Gas Emission Development Strategy (LT-LEDS)** highlights CCUS potential and aligns with **the 13th National Economic and Social Development Plan (NESDP) 2023-2027**, focusing on Eco-Friendly Living and Circular Economy.
- The **Petroleum Act amendment** will establish a legal framework for regulating and integrating CCS activities in Thailand's strategy for reducing greenhouse gas emissions.

Viet Nam's CCS Regulatory Framework



Decision No. 854/QĐ-BCT, issued on **April 12, 2024**, by the **Minister of Industry and Trade**, outlines the Implementation Plan for **Viet Nam's National Energy Development Strategy** to 2030, with a vision to 2045.

Based on **Decision No. 215/QĐ-TTg** dated **March 1, 2024**, by the **Prime Minister**, the strategy aims to ensure **energy security**, promote **renewable energy**, and support **sustainable energy practices** in Viet Nam.

Decision No. 854/QĐ-BCT

Decision No. 215/QĐ-TTg

Key Insights

Issuer

Ministry of Industry and Trade of Viet Nam

Prime Minister of Viet Nam

Scope

Implementation plan for National Energy Development Strategy up to 2030, vision to 2045

National Energy Development Strategy until 2030, vision to 2045

Goals

Ensure energy security, promote renewable energy, support sustainable energy practices

Ensure energy security, promote renewable energy, foster sustainable energy practices

CCS Focus

- Develop and implement CCS technologies to reduce carbon emissions
- Increase renewable energy share, complemented by CCS
- Balance renewable energy growth with CCS deployment

- Emphasise development and implementation of CCS technologies
- Develop robust energy infrastructure, including smart grids and CCS facilities
- Establish legal frameworks to support CCS activities and ensure compliance with environmental standards

- Viet Nam has issued specific decisions and directives that establish a **regulatory framework for CCS**, reflecting a strong governmental commitment to these technologies.
- **Major state-owned enterprises** like Petrovietnam and PVEP are key players in the CCS landscape, driving forward significant projects and initiatives.

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