



## The Second Asia CCUS Network Forum



## The Second Asia CCUS Network Forum

30 September 2022

“Carbon capture, utilisation, and storage (CCUS) towards carbon neutrality efforts beyond 2050”

**Tokyo, 30 September 2022:** The Second Asia CCUS Network Forum was held in a hybrid format at the Tokyo Prince Hotel, Japan. It was co-hosted by Minister of Economy, Trade, and Industry of Japan (METI) and Economic Research Institute of ASEAN and East Asia (ERIA). The meeting featured messages from Prof Hidetoshi Nishimura, President of Economic Research Institute for ASEAN and East Asia jointly with Mr Nishimura Yasutoshi, Minister of Economy, Trade and Industry. VIP members of ACN Network members, from Brunei Darussalam, H.E. The Honorable Pehin Datu Lailaraja Major General (Retired) Dato Paduka Seri Haji Awang Halbi bin Haji Mohd Yussof, Minister at the Prime Minister’s Office, H.E. Suy Sem, Minister of Mines and Energy, Cambodia, H.E. Arifin Tasrif, Minister of Energy and Mineral Resource, Indonesia, H.E. Dr. Daovong Phonekeo, Minister of Energy and Mines, Lao PDR, H.E. Raphael Perpetuo Mercado Lotilla, Secretary of Department of Energy, Philippines, H.E. Kulit Sombatsiri, Permanent Secretary of Energy of Thailand, and H.E. Brad Crabtree, Assistant Secretary for Fossil Energy and Carbon Management, Department of Energy, United States delivered ministerial video remarks in the Forum. As a future vision for the Asian CCUS Network, it announced that they will build an Asia-wide CCUS network by 2030 and create a CCS pilot project in ASEAN by 2025. [Read more....](#)

## A. Summary of the Past Events

### Messages from keynote speakers of the 2<sup>nd</sup> ACN Forum



#### **Global CCS Institute (GCCSI)**

Alex Zapantis (General Manager, Commercial at the GCCSI) pointed out the importance of CCS to reach net-zero and drive the low-carbon economy. “Reducing emission in Asia is critical to achieve global climate change goals”, therefore he announced the launch of ‘Southeast Asia CCS Accelerator’ of SEACA that will be structured under three pillars: (1) CCS regulation, (2) Enabling Policy, and (3) Geological Storage. SEACA will collaborated closely with ACN and contribute to the progress of ACN

#### **Japan Oil, Gas and Metals National Corporation (JOGMEC)**

Yamamoto Koji, Ph.D., Vice President, Oil & Gas Upstream unit emphasised that energy and mineral resource security, and carbon neutrality are top priorities for Asia. “JOGMEC has strengthened its functions and now able to invest in CCS projects including its overseas projects”. JOGMEC will contribute to the progress of ACN, which is an important platform for industry, academia, and the governments



#### **CCS+ Initiative**

Patrick Buergi, Director of Innovation, South Pole / Co-Founder of the CCS+ Initiative introduced the initiatives to unlock CCUS investment through carbon markets and carbon pricing schemes. “One objectives of CCS+ Initiatives is to deliver a high-integrity, integrated methodological framework for generating carbon credits from the full suite of CCS+ and CCU+ activities”. CCS could play a critical role in reducing emissions from fossil sources as well as supporting circular economy efforts through CCU.

## Site Visit to JCCS Tomakomai CCS Project

28 September 2022



JCCS Tomakomai CCS Demonstration Project in Hokkaido, Japan

**Hokkaido, 28 September 2022:** The series of Asia CCUS Network (ACN) event on 28–30 September 2022 in Japan including the site visit to JCCS Tomakomai CCS Project in Hokkaido, Advisory Group Meeting, and the 2nd ACN Forum in Tokyo. Members of ACN, ERIA, and IEEJ, visited the first large-scale CCS demonstration in Japan intended for demonstration at practical size, undertaken by the Ministry of Economy, Trade, and Industry (METI), the New Energy and Industrial Technology Development Organization (NEDO), and the Japan CCS Co., Ltd. (JCCS). From FY2012 to FY2015, demonstration facilities were built, injections at a scale of 100,000 tonnes per year commenced in April 2016, and the initial target of 300,000 tonnes cumulative injections was reached on November 22, 2019.





## B. Publications (Report, Journal & Article)

### [CCUS Development in Malaysia](#)

By **Zaharin Zulkifli**, Deputy Director, Energy Data and Research Unit, Strategic Planning and Communication Department, Energy Commission of Malaysia – ACN Advisory Member

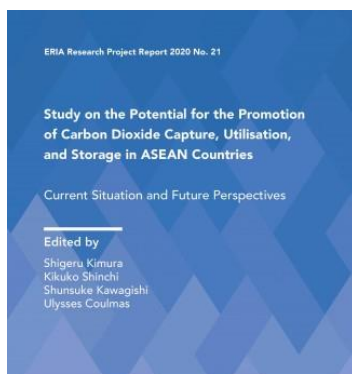
On 19 September 2022, the National Energy Policy 2022–2040 was launched by the Prime Minister of Malaysia. This new energy policy will help the country achieve net zero greenhouse gas emissions (GHG) in 2050, as it faces the challenges of energy transition and climate change. The aspiration has nine targets to be achieved by 2040, among them being shared were the mode of public transport of 50%, the use of electric vehicles (EVs) of 38%; the use of the B30 mixed fuel for heavy vehicles as an alternative fuel, as well as energy savings of 11% for industry and commercial use and 10% for residential use. For the first time in Malaysia's energy policy document, Under Chapter 2.4: Capitalising Emerging Technologies, CCUS was mentioned as one of the technologies to drive efficiency in operations, especially in the oil and gas sector. This indicates that Malaysia Government fully supports implementing this CCUS technology in our country.

Driven by the government initiative on CCUS technology under the new energy policy, the national oil and gas company, PETRONAS is employing CCS technology in their high CO<sub>2</sub> fields. They aim to further capture and store CO<sub>2</sub> emissions while maturing technologies for onshore processing plants to utilise and convert CO<sub>2</sub> into valuable products. The Kasawari Integrated Offshore High Contaminant project, a CCS project off the coast of Sarawak, is a strategic project, which is part of the PETRONAS Carbon Commitment and GHG emissions reduction efforts. The first injection of CO<sub>2</sub> is planned for COD by the end of 2025. Once in operation, the project is expected to reduce CO<sub>2</sub> volume emitted via flaring by 76 million metric tonnes with an annual average of 3.7 million metric tonnes per annum (mtpa), making it one of the largest CCS projects in the world.

[Read more...](#)

### [Study on the Potential for the Promotion of Carbon Dioxide Capture, Utilisation, and Storage in ASEAN Countries: Current Situation and Future Perspectives](#)

Edited by Shigeru Kimura (ERIA), Kikuko Shinchi (Mitsubishi Research Institute, MRI), Shunsuke Kawagishi (MRI), and Ulysses Coulmas (MRI)



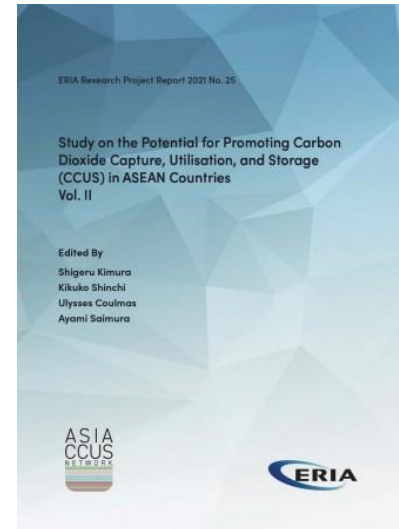
This 'Study on the Potential for the Promotion of Carbon Dioxide Capture, Utilisation, and Storage in ASEAN', uses a multi-aspect survey approach. The study covers findings on recent trends in policies, technologies, and business development from countries with experience in Carbon Dioxide Capture, Utilisation, and Storage (CCUS). It also looks into the potential for CCUS development in the Association of Southeast Asian Nations (ASEAN) and the East Asia Region. Based on discussions held at the 3rd East Asia Energy Forum, the report reiterates the important role CCUS can play in the region to achieve both energy transition and decarbonisation objectives. It also explores the potential and benefits of a regional collaborative approach, which is proposed as the Asia CCUS Network to create an enabling environment for business cases of CCUS.

[DOWNLOAD PDF OF FULL REPORT](#)

## [Study on the Potential for Promoting Carbon Dioxide Capture, Utilisation, and Storage \(CCUS\) in ASEAN Countries Vol. II](#)

Edited by Shigeru Kimura (ERIA), Kikuko Shinchi (Mitsubishi Research Institute, MRI), Ulysses Coulmas (MRI), and Ayami Saimura (MRI)

This report was prepared under the Asia CCUS Network umbrella and focuses on the cost of Carbon Capture and Storage (CCS) and the legal framework of CCUS. To analyse the cost of CCS, we use a model case in central Java, Indonesia with the following assumptions: a) capture of CO<sub>2</sub> emitted from a 500MW coal power plant (ultra- supercritical) applying chemical absorption using amine, b) transport of CO<sub>2</sub> to the storage site through a 50km long pipeline, and c) storage of CO<sub>2</sub> in sandstone formation of about 1000m. Costs of capture, transport, and storage – both capital and operation costs – are surveyed referring to existing publicly available literature. The cost of this model case is estimated at US\$60–US\$70 per CO<sub>2</sub> ton and 70% of the cost results from the capture of CO<sub>2</sub>. The legal framework emphasises that deployment of CCUS will be implemented under appropriate regulations. Hence, surveys of the existing CCS regulations of European countries, Australia, and the United States are undertaken to come up with appropriate CCUS regulations for the Asia region. Finally, as an important regional policy framework, this report suggests an Asia Collective CCUS Initiative to start design of a business model of the CCUS value chain in the Asia region.



[DOWNLOAD PDF OF FULL REPORT](#)

## C. List of Registered Members (as of October 2022)

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### Advisory Members

- Department of Industry, Science, Energy and Resources, Australia
- Ministry of Economy, Trade, and Industry, Japan
- Department of Energy, Philippines
- Ministry of Industry and Trade, Viet Nam
- Ministry of Mines and Energy, Cambodia
- Ministry of Energy and Mines, Lao PDR
- Energy Market Authority, Singapore
- Ministry of Energy and Mineral Resources, Indonesia
- Energy Commission of Malaysia, Malaysia
- Ministry of Energy, Thailand
- Ministry of Science and Technology, India
- Oil and Gas Planning Department, Ministry of Electricity and Energy, Myanmar
- Department of Energy, United States of America

### Supporting Members

#### Academia/ Research Institute (41 members)

- Universitas Indonesia
- PARTIDO STATE UNIVERSITY
- Energy Studies Institute
- Pandit Deendayal Energy University
- Kyushu University
- Environmental Law Centre of Meiji University
- R & D Institute, Hokkaido Electric Power Co., Inc.
- [Read more.](#)

#### Finance – Banking (13 members)

- Sumitomo Mitsui Banking Corporation
- Japan Bank for International Cooperation (JBIC)
- Citigroup Global Markets Japan Inc.
- MUFG Bank, Ltd.
- SPARX Group Co., Ltd.

[Read more.](#)

#### Private – Public (175 members)

- Toyota Tsusho Corporation
- Eni
- Osaka gas

- Toyota Tsusho Corporation
- IHI Corporation
- IHS Markit
- JOGMEC
- PT. PERTAMINA (PERSERO)

[Read more.](#)

### Regional/ International Organizations (19 members)

- International Finance Corporation
- International Association for Hydrogen Energy (IAHE)
- Oil and Gas Climate Initiative (OGCI)
- Clean Energy Ministerial (CEM) CCUS Initiative

[Read more.](#)

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### D. Recommended Links

1. IEA's Report on CCUS in Southeast Asia:  
<https://www.iea.org/reports/carbon-capture-utilisation-and-storage-the-opportunity-in-southeast-asia>
2. JOGMEC's New Website 'CLEAN FUTURE ENERGY': <https://mirai.jogmec.go.jp/en/>
3. National Energy Technology Laboratory Training Resources:  
<https://www.netl.doe.gov/LCA/co2u/Training>


## **E. Upcoming Events** (Knowledge Sharing Conference, CCUS Workshop and Capacity Building)


*Date & time will be announced later*

- **ACN-JOGMEC Knowledge Sharing Conference** organized by ACN Secretariat in collaboration with JOGMEC (Japan Oil, Gas and Metals National Corporation), February 2023
- **ACN-Shell Knowledge Sharing Conference** organized by ACN Secretariat in collaboration with Shell
- **ACN capacity building trainings:**
  - **USGS's training on CO2 storage in ASEAN region**
  - **Financing low carbon technologies including CCUS, carbon credit/market**

## **Asia CCUS Network Secretariat**

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