

## A. Summary of Past Events

### The 3<sup>rd</sup> Asia CCUS Network Forum

27 September 2023



**Hiroshima, 27 September 2023:** The 3rd Asia CCUS Network (ACN) Forum was held at Hilton Hiroshima Hotel, Japan applying hybrid format on 27 September 2023. The event was co-hosted by the Economic Research Institute for ASEAN and East Asia (ERIA) as the ACN Secretariat and the Ministry of Economy, Trade, and Industry (METI) Japan. The Forum was opened by addresses from HE Mr Yasutoshi Nishimura, Minister of Economy, Trade, and Industry, Japan and Prof Tetsuya Watanabe, President of ERIA. Distinguished ministers and delegates of ACN member countries also delivered their remarks. The event was attended by more than 100 participants joining in-person and 350 participants joining online.

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## Site Visit to Seifu-Shinto Biomass Power Plant & Osaki Coolgen Project



BECCS Success Story: Site Visit to Seifu-Shinto  
Biomass Power Plant

**27 September 2023:** Members of ACN Advisory Group, ERIA, and IEEJ conducted a site visit to Seifu-Shinto Biomass Power Plant located in Hiroshima city on 27 September 2023. Initially constructed to promote job creation in the local community of Hiroshima, Seifu-Shinto has become one of the success stories of commercially operating Bioenergy with Carbon Capture and Storage (BECCS) in Japan. Seifu-Shinto Biomass Power Plant has multiple sections within its facility: chip manufacturing building, chip warehouse, turbine building, biomass boiler, CO<sub>2</sub> capture equipment, biotope, agricultural greenhouse, and solar power plant.

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A Demonstration of Carbon Neutral Technologies  
in Osaki CoolGen Project

**28 September 2023:** Members of ACN Advisory Group, ERIA, and IEEJ conducted a site visit to Osaki Coolgen Corporation located in Osakikamijima, near Hiroshima city, Japan on 28 September 2023. The plant is founded by Chugoku Power Grid on 29 July 2009, which was initially named Osaki Power Plant, but changed later on since the facility's line of business is focused more on achieving 'innovative low carbon coal fired thermal power generation'. The plant demonstrates the combination of Integrated Coal Gasification Combined Cycle (IGCC), Integrated Coal Gasification Fuel Cell Combined Cycle (IGFC), and Carbon Capture and Storage (CCS).

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## [ASEAN Chairmanship side event](#) **Advancing CCUS Implementation for Energy Security in ASEAN**

23 August 2023



**Bali, 23 August 2023:** The Economic Research Institute for ASEAN and East Asia (ERIA) is delighted to announce the coordination of two essential side events during the ASEAN Energy Business Forum (AEBF) 2023 on August 23, 2023.

Supported by the ASEAN Centre for Energy (ACE) and hosted by the Ministry of Energy and Mineral Resources of Indonesia, the first event is centred on 'Sustainable Energy Financing and Mobilization of Energy Investments,' and the second event is on 'Advancing CCUS Implementation for Energy Security in ASEAN.'

One of the key message from the CCUS event is that ASEAN has great potential for successful deployment of CCUS. The low hanging fruit of CCUS projects in ASEAN are CCUS for Enhanced Oil Recovery (EOR) and Enhanced Gas Recovery (EGR). Most ASEAN member countries, except Singapore, have potential storage capacity for CCUS and CCS either in depleted oil and gas reservoirs or in saline aquifers.

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## **Capacity Building Training on CO2 Storage Assessment in ASEAN region co-organized with USGS**

11-15 September 2023



**Jakarta, 11-15 September 2023:** The Asia CCUS Network Secretariat held a Capacity Building Training on CO2 Storage Assessment in ASEAN region co-organized with the United States Geological Survey (USGS). The workshop was held on 11-15 September 2023, at the Economic Research Institute for ASEAN and East Asia (ERIA) office, applying hybrid setting. The invited trainers are Peter D. Warwick, Ph.D., Supervisory Research Geologist, and Sean T. Brennan, Research Geologist, both affiliated with USGS. The invited participants are geological experts, petroleum engineers, and other experts interested in CCUS from companies, governments, and research bodies from ASEAN. The workshop was held in hybrid setting, where participants from Indonesia is joining offline, and other participants from other ASEAN countries are joining online.

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## The 10th ACN Knowledge Sharing Conference

12 September 2023



**'Stakeholders in Asia Enrich Understanding of CCS Technology and Lessons from Shell and the Quest CCS Project'**

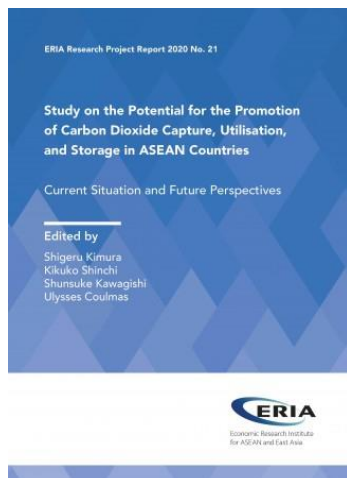
**Virtual Conference, 12 September 2023:** Energy company Shell is actively engaged in supporting the global need for cleaner energy solutions and in achieving net zero by 2050. Shell is actively developing carbon-reducing technologies including Carbon Capture and Storage (CCS), as evident in its Canada-based Quest CCS project. Quest is the first commercial-scale CCS project in the world and can store over one million tonnes (MT) of carbon dioxide (CO<sub>2</sub>) annually - equivalent to the emissions released from nearly 250,000 cars. Since 2015, Quest has successfully captured and safely stored over 8MT of CO<sub>2</sub>. Through this experience, the company has garnered a wealth of valuable knowledge and insights to share with key stakeholders in Asia to develop, deploy, and operate CCS facilities. The 10th ACN Knowledge Sharing Conference focused on the prerequisites, challenges, and opportunities of investing in CCS technologies. The event was hosted by the Economic Research Institute for ASEAN and East Asia (ERIA) which serves as the secretariat of the Asia CCUS Network (ACN).

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## B. Publications (Report, Journal & Article)<sup>1</sup>

### [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)



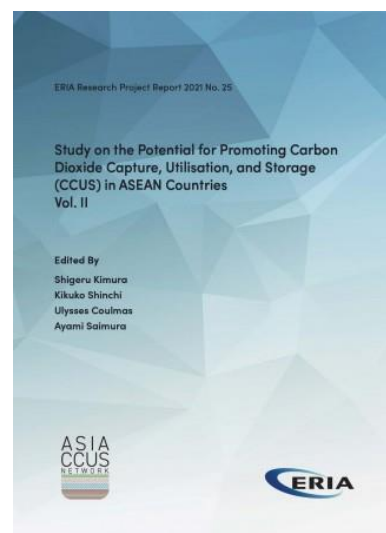
This 'Study on the Potential for the Promotion of Carbon Dioxide Capture, Utilisation, and Storage in ASEAN', uses a multi-aspect survey approach. The study covers findings on recent trends in policies, technologies, and business development from countries with experience in Carbon Dioxide Capture, Utilisation, 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.



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<sup>1</sup> 'We invite ACN Members and Supporting Members to write news, article, or op-ed to be published in the ACN website'.

## C. List of Registered Members (as of October 2023)

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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 (49 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 (17 members)

- Sumitomo Mitsui Banking Corporation

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

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#### Private – Public (223 members)

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

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#### Regional/ International Organizations (29 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>

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

*Further details will be announced later.*


- **The 11<sup>th</sup> ACN Knowledge Sharing Conference**, November 2023
- **The 12<sup>th</sup> ACN Knowledge Sharing Conference**, January 2024
- **The 13<sup>th</sup> ACN Knowledge Sharing Conference**, March 2024

*'We invite ACN Members and Supporting Members to be a speaker to share your expertise and knowledge in our next ACN Knowledge Sharing Conferences'.*

### **Asia CCUS Network Secretariat**

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