



# Report on Asia CCUS Network Activities 2021-2022

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## Report on ACN Activities 2021 (Launch of ACN & Knowledge Sharing)

- **Launching Asia CCUS Network on 22–23 June 2021:** Prof Hidetoshi Nishimura, President of ERIA and Mr Hiroshi Kajiyama, former Japan's METI minister, announced the launch of ACN attended by Ministers and deputy Ministers from EAS and IEA, OGCI, and GCCSI.
- **1<sup>st</sup> KS conference on 26 July 2021:** ACN invited experts from IEA to share recent publication on "CCUS: The Opportunity in Southeast Asia".
- **2<sup>nd</sup> KS conference on 28 July 2021:** ACN invited experts from the US Department of Energy to share their insights and experiences on CCUS development in terms of project development, regulatory framework, and other policy environment under President Biden's administration.
- **3<sup>rd</sup> KS conference on 14 October 2021:** ACN invited experts from OGCI to provide introduction of OGCI's efforts on climate initiatives and the work on CO2 storage.
- **4<sup>th</sup> KS conference on 17 November 2021:** In collaboration with CEM (Clean Energy Ministerial) CCUS Initiative, ACN invited experts from CEM to provide introduction of CEM's activities.
- **5<sup>th</sup> KS conference 17 November 2021:** In collaboration with Department of Industry, Science, Energy, and Resource, Australia, ACN invited experts to share insight on CCUS policy and carbon recycling.

# Capacity Building Workshops

## Three Days CCUS Technical Workshop

5 – 7 October 2021

### Technical Workshop Day 1: Technical Aspect of Carbon Capture Technology

### Technical Workshop Day 2: Technical Aspect of Carbon Transportation & Storage Technology

### Technical Workshop 3: Utilization of CO<sub>2</sub>

#### Speakers

- Mrs. Kikuko Shinchi, Senior Researcher of MRI
- Dr. David Kearns, Principal Consultant-CCS technology, GCCSI
- Mr. Takashi Kamijo, Chief Engineering Manager/ Project Director Decarbonization Business Dept Mitsubishi Heavy Industries Engineering

#### Speakers

- Mrs. Kikuko Shinchi, Senior Researcher of MRI
- Mr. Ulysses Coulmas, Researcher, MRI
- Dr. Ziqiu Xue, Chief researcher, CO<sub>2</sub> Storage Technology Group, Research Institute for Innovative Technologies for the Earth (RITE)

#### Speakers

- Mrs. Kikuko Shinchi, Senior Researcher of MRI
- Ms. Dewi Mersitarini, Advisor CCUS, Pertamina RTC, Indonesia
- Prof. Ning Yan, Dean's Chair Associate Professor, Head of Green Catalysis Lab, National University of Singapore

## Capacity Building Workshop (2)

### Cost Structure of CCUS and the Legal Framework Workshop

18 January 2022

Hosted by the Mitsubishi Research Institute (MRI), this workshop brought together stakeholders from the Asia region to discuss the cost structure of an ASEAN-wide CCUS deployment and the legal framework to support the initiative. It featured the speakers:

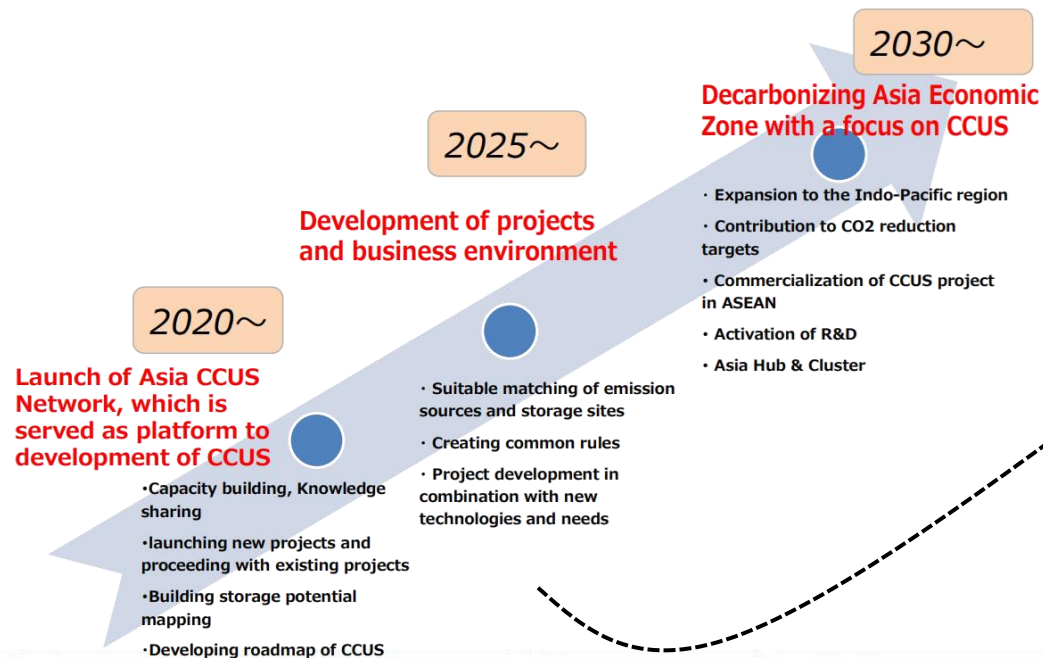
- **Mr Yoshihiro Sawada**, Corporate Adviser, General Manager of International Affairs Department, Japan CCS Co., Ltd.
- **Dr Mohammad Rachmat Sule**, Lecturer, Faculty of Mining and Petroleum Engineering, Institute of Technology Bandung (ITB)
- **Ms Yukimi Shimura**, Director, Planning & Development Department, Sustainable Business Division, MUFG Bank, Ltd.
- **Mr Ulysses Coulmas**, Researcher, Mitsubishi Research Institute

# Vision and Mission

- Through collaboration and cooperation on development and deployment of CCUS in the Asia region, the Network will contribute to the decarbonization of the region
- "**Asia CCUS Network**" aims at **(1) knowledge and experiences sharing** regarding CCUS, conducting potential survey, **(2) creating common rules** and developing projects, and **(3) realizing storage network** throughout Asia.

Facilitate deployment of CCUS in the EAS region through the following activities:

- Promote knowledge sharing** through holding an annual forum, conferences, workshops, and meetings.
- Conduct research studies** on technical, economical, and legal standards of CCUS in the EAS region.
- Hold **capacity building** training workshops.



【FY2030】

- **Establishing an Asia-wide CCUS network and will contribute decarbonization in Asian area.**

【FY2025】

- **Start a CCS pilot project in ASEAN region**

【FY2022~】

- **Study on appropriate site for a CCS project, CO2 storage potential, legal and policy framework, financial framework and etc**

## Planned Research Studies 2022-23

- **1<sup>st</sup> study on CO<sub>2</sub> storage potential in Asia region**– Review of existing publications of CO<sub>2</sub> storage potential in Asia region; Checking stratum maps of ASEAN and India; Rough estimation of CO<sub>2</sub> storage potential in ASEAN and India based on the maps; and Rough estimation of CO<sub>2</sub> storage potential of dry holes of oil and gas as well as EOR/EGR.
- **2<sup>nd</sup> study on basic design of Asia CCUS value chain as a collective framework**–Application of hub and spoke concept for Asia CCUS value chain; Necessary regional legal and institutional framework to support the value chain; and Basic concept of Asia CCUS value chain center.
- **3<sup>rd</sup> Study on legal and policy framework to deploy CCUS business**– Existing legal framework in ASEAN and India; Environment, safety operation of CCUS; Existing policy framework in ASEAN and India; Energy, environmental and economic policies; Financial incentive and carbon price market; and Proposed legal and policy framework in ASEAN and India.
- **4<sup>th</sup> Study on financial framework to deploy CCUS business**– Necessary investment cost of CCUS; Shifting from public to private finance; Identify financial risks of private capital to invest CCUS business; Complimentary relation between public and private sector; and Impact by carbon price market.
- **5<sup>th</sup> Study on seeking candidate CCS pilot projects in ASEAN region**– List up candidate sites of CCS pilot project in ASEAN region especially Indonesia and Malaysia; and Overall assessment to select one site among the candidate sites
- **All these 5 studies will lead to the CCUS project demonstrations by 2025.**

## Report on ACN Activities 2022

- **G20 side event:** ERIA cohosted with G20 Secretariat on G20 Side Event on, “Making CCS/CCUS Affordable,” on 13rd April 2022.
- **1<sup>st</sup> ETWG:** ERIA presented the important role of CCUS at 1<sup>st</sup> Energy Transition Working Group (1<sup>st</sup> ETWG) at Yogyakarta on 23 March 2022.
- **2<sup>nd</sup> ETWG:** ERIA presented the key actions/recommendation on CCUS and natural gas at the 2<sup>st</sup> Energy Transition Working Group (2<sup>st</sup> ETWG) at Labuan Bajo on 23 June 2022.
- **Capacity building:** ERIA organized USGS-ACN Capacity Building Workshop on Carbon Dioxide Storage Resource Assessments in the ASEAN region on 23 June 2022.
- **Knowledge sharing and capacity building conferences/workshops:** ERIA will continue to hold the knowledge sharing and capacity building conference in 2022-23; for at least 5-6 times until March 2023 focusing on:
  - a. Introduction of expertise and experience of CCUS business being implemented by private companies;
  - b. 1<sup>st</sup> candidate: Northern lights project; 2<sup>nd</sup> candidate: CO2 transport by a shipping company
  - c. CCUS financing with OECD and selected Financial Institutions.
  - d. Joint workshops with other potential organizations such as IEA, OGCT and GCCSI.
  - e. Technical and study visit to some CCUS demonstration projects in EAS regions.
  - f. Hold regular advisory group meetings.

## Continued Capacity Building/ Training/Knowledge Sharing on CCUS

01

Legal and regulation w.r.t to CCUS (common rules)

02

Asia CCUS value chain

03

Financial scheme/ sharing best practice on CCUS

04

Policy research and business model on carbon price/carbon credit/trading, Joint Credit Mechanism

05

Others to be included based on the recommendation from Advisory Group

## 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'

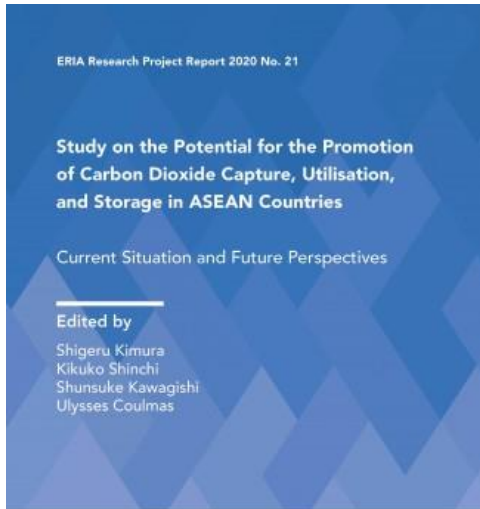
<https://mirai.jogmec.go.jp/en/>

### 3. National Energy Technology Laboratory Training Resources

<https://www.netl.doe.gov/LCA/co2u/Training>



# Study on the Potential for the Promotion of Carbon Dioxide Capture, Utilisation, and Storage in ASEAN Countries: Vol. I and Vol. II

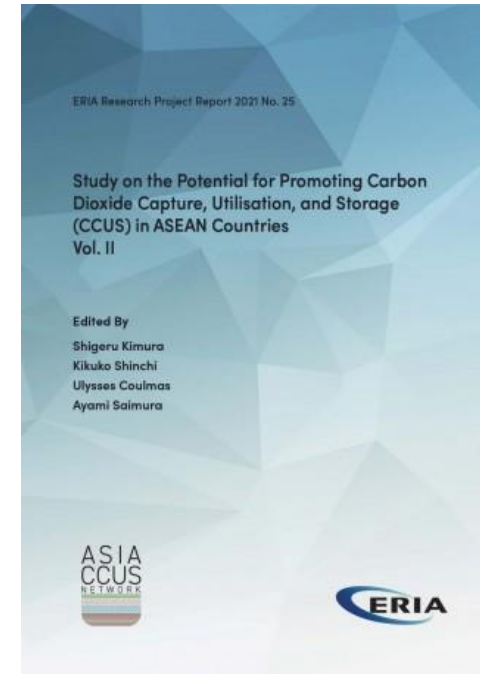


Vol I. covers findings on recent trends in policies, technologies, and business development from countries with experience in Carbon Dioxide Capture, Utilisation, and Storage (CCUS). It also looks into the potential for CCUS development in the Association of Southeast Asian Nations (ASEAN) and the East Asia Region.

[Full report](#)



Edited by Shigeru Kimura, Kikuko Shinchi, Shunsuke Kawagishi, and Ulysses Coulmas



Vol. II 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.

[Full report](#)

Edited by Shigeru Kimura, Kikuko Shinchi, Ulysses Coulmas, and Ayami Saimura

## More Information

# Asia CCUS Network Secretariat

Economic Research Institute for ASEAN and East Asia (ERIA)



energy@eria.org



(+62-21) 57974460

Sentral Senayan II, 6<sup>th</sup> Floor, Jl Asia Afrika No. 8, Gelora Bung Karno, Jakarta Pusat,  
10270 Indonesia



<https://www.asiaccusnetwork-eria.org/>