



## **2021-IP11: IEA Report – ‘Carbon Capture, Utilisation and Storage: The Opportunity in Southeast Asia’**

The International Energy Agency (IEA) launched a report on CCUS in Southeast Asia in June 2021 as a pertinent reminder of the expanding interest in CCUS worldwide and particularly in SE Asia. CCUS has huge potential to support clean energy transitions in SE Asia, can help to put the region on the path to net-zero emissions and can contribute to emissions reductions in many parts of the energy systems in the area.

Momentum for CCUS is clearly growing in the region in line with international trends and at least seven potential projects have been identified and are in early development here, including in Indonesia, Malaysia, Singapore and Timor-Leste. In addition to these initial projects, in June 2021 the Asia CCUS Network was established, aiming to facilitate collaboration and the deployment of CCUS. In order to follow the Paris Agreement’s temperature goals, CCUS would grow to capture at least 200 million tonnes of CO<sub>2</sub> by 2050; the seven projects and CCUS Network are a solid start to meeting this future goal in the region.

The IEA identified that regional co-operation and shared infrastructure can help to support faster deployment of CCUS: targeting industrial clusters will support economies of scale and kick-start project deployment (some of the largest industrial clusters in the region are in Indonesia, Malaysia, Thailand and Vietnam) and regional approaches to infrastructure can build on international experience for faster and more widespread uptake of CCUS.

Currently, estimates of storage capacity in the region are uncertain but do indicate that the theoretical capacity would exceed the region’s needs; most of which would be in deep saline formations but with significant opportunities also in depleted oil and gas reservoirs. It will be key to identify and develop these potential storage resources. Regulations to facilitate CCUS investment have yet to be developed in the region so appropriate legal and regulatory frameworks are needed as a priority. Indonesia have made significant progress on this area, with the official recognition of CCUS’ potential to help mitigate climate impacts of energy consumption / production, to mitigate emissions and to strengthen energy security. In 2015, the Ministry of Finance of Indonesia recommended pilot testing for CO<sub>2</sub> storage and called for improved understanding of the changes to the regulatory framework that will be required to promote large-scale CCUS. Indonesia have also established the Indonesian Centre of Excellence in 2017, promoting collaboration on research and development, and IEAGHG are in close contact with one of the Centre’s leaders, ITB. In March 2019 a draft presidential decree provided the first regulation covering CCUS in any developing country, building on existing regulations for the upstream sector in Indonesia – a significant step for the region.

Targeted policies and international financial support will be essential for CCUS deployment in SE Asia; for example, increased access to grants / loans from institutions specialised in development and climate finance (such as the ADB and Green Climate Fund) will be essential in securing the nearly USD 1 billion in average annual investment needed by 2030.

The IEA proposes four key high-level priorities for government and industry to enable acceleration of CCUS progress in SE Asia over the next ten years:

1. Increase regional co-operation and collaboration,
2. Identify and develop onshore and offshore CO<sub>2</sub> storage resources,
3. Encourage early investment in CCUS projects,



#### 4. Build international support and financing for CCUS in the region.

This report recognises the current increasing interest in CCUS in Southeast Asia but identifies that efforts to prepare for CCUS must be accelerated.

IEAGHG are proud to note that ITB (Indonesia) and Korea are members of the IEA Greenhouse Gas R&D Programme, and are currently running Virtual CCUS Courses in collaboration with ITB to help facilitate learning and international knowledge transfer in the region.

More information on this report from the IEA can be found at <https://www.iea.org/reports/carbon-capture-utilisation-and-storage-the-opportunity-in-southeast-asia>.

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