

## **SINGAPORE AND INDONESIA SIGN LETTER OF INTENT TO COLLABORATE ON CARBON CAPTURE AND STORAGE (CCS)**

1. Singapore and Indonesia have signed a Letter of Intent (LOI) to collaborate on cross-border carbon capture and storage (CCS). The agreement was signed by Deputy Secretary (Industry) of the Ministry of Trade and Industry Singapore Keith Tan and Indonesia Deputy Coordinating Minister for Maritime Sovereignty and Energy Jodi Mahardi. This follows Indonesia's presidential regulation on CCS issued on 30 January 2024, which will allow CCS operators to set aside storage capacity for international carbon dioxide.
2. CCS is the process of capturing, transporting and storing the carbon dioxide that is produced as a byproduct from other activities, such as power generation. The carbon dioxide that is captured will therefore not be released into the atmosphere. CCS provides a pathway to decarbonise emissions from hard-to-abate sectors such as energy and chemicals, and power. Internationally, CCS is regarded as a key decarbonisation pathway to achieve global climate mitigation. Both the Intergovernmental Panel on Climate Change<sup>1</sup> (IPCC) and International Energy Agency<sup>2</sup> recognise the role of CCS to achieve net zero emissions by mid-century and mitigate the effects of global warming.
3. With the LOI, Singapore and Indonesia affirmed the importance of CCS as a decarbonisation pathway, and the potential of CCS to enable sustainable industrial activities and generate new economic opportunities. A working group comprising Singapore and Indonesia government officials will work towards a legally binding bilateral agreement that will enable the cross-border transport and storage of carbon dioxide between Singapore and Indonesia.
4. Mr Keith Tan said, "Cross-border carbon capture and storage is an emerging solution in Asia, and supports Singapore's transition towards a low-carbon future. Singapore is the first country to sign an LOI with Indonesia after its presidential regulation to allow cross-border CCS was announced. With this LOI, Singapore and Indonesia can become the pathfinders to catalyse deployment of cross-border CCS projects in Southeast Asia."
5. Mr Jodi Mahardi said, "This collaboration with Singapore not only amplifies Indonesia's commitment to leading environmental stewardship in the region but also showcases our proactive approach in harnessing innovative technologies for

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<sup>1</sup> The IPCC 6th Assessment Report by Working Group III: Mitigation of Climate Change (2022) highlighted that actively removing carbon from the atmosphere through carbon capture, utilisation and storage (CCUS) is a key decarbonisation pathway to keeping global warming to within 1.5 and 2°C.

<sup>2</sup> The International Energy Agency (IEA) has affirmed the role of CCS in limiting future temperature increases, as "no other technology solution is capable of delivering the deep emissions reductions needed across industrial processes", and "no other technology solution can significantly reduce emissions from the coal and gas power generation capacity".

sustainable growth. The initiative positions Indonesia as a key player in the Southeast Asian CCS landscape, offering a model for cross-border environmental cooperation.

**Annex A: Photo of the LOI signing**

**Annex B: Factsheet on Carbon Capture and Storage**

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Photo of the LOI signing



Caption: Deputy Secretary (Industry) of the Ministry of Trade and Industry, Singapore Keith Tan and Indonesia Deputy Coordinating Minister for Maritime Sovereignty and Energy Jodi Mahardi signed a Letter of Intent (LOI) to collaborate on carbon capture and storage.

## Annex B

### Factsheet on Carbon Capture and Storage

#### Background on CCS

- CCS is a key pathway to decarbonise hard-to-abate sectors, such as energy and chemicals (E&C), and power sectors. An estimate of ~40 million tonnes CO<sub>2</sub> was captured and stored in 2022. IEA World Energy Outlook 2023 notes that under a net zero emissions by 2050 scenario, global carbon capture utilisation and storage (CCUS) facilities will have to increase their capacity to around 1 gigatonne per annum (gtpa) by 2030, and 6 gtpa by 2050<sup>3</sup>.
- Plans for cross-border CCS projects have been announced in Europe. For instance, Denmark and Belgium signed an MOU in 2022 to explore shipping CO<sub>2</sub> across borders.
- While there are currently no cross-border CCS projects in Asia, countries such as South Korea and Japan have announced plans to implement cross-border CCS projects.

#### Role of CCS to Singapore

- Singapore is committed to achieving our net zero by 2050 goal, and doing our part for global climate mitigation. To achieve our net zero commitment, we are exploring low-carbon technological pathways such as hydrogen and CCS as part of a suite of mitigation measures.
- As part of the Sustainable Jurong Island plans announced in Nov 2021, Singapore aims to achieve 2mtpa of carbon capture by 2030 and 6mtpa by 2050.
- Regional collaboration is key to enabling commercial cross-border CCS projects to take off and contribute to regional decarbonisation.

#### Role of CCS to Indonesia

- To decarbonise its economy and achieve net zero by 2060, Indonesia aims to develop CCS technologies and establish itself as a CCS hub.
- Indonesia is well-positioned to be a regional CCS hub, with an estimated carbon storage potential of up to 600 gigatonnes (Gt).

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<sup>3</sup> World Energy Outlook 2023. Source: IEA



- Indonesia also has an established industrial base with demand for CCS, and networks to support regional and international carbon removal initiatives.
- Cross-border collaboration is important to contributing to collective regional decarbonisation outcomes.