

Chapter 4

Regional Cooperation Concept

March 2022

This chapter should be cited as

ERIA (2022), 'Regional Cooperation Concept', in Kimura, S., Shinci, K., Coulmas, U., and Saimura, A. (eds.), *Study on the Potential for Promoting Carbon Dioxide Capture, Utilisation, and Storage (CCUS) in ASEAN Countries Vol. II*. ERIA Research Project Report FY2021 No. 25, Jakarta: ERIA, pp.36-40.

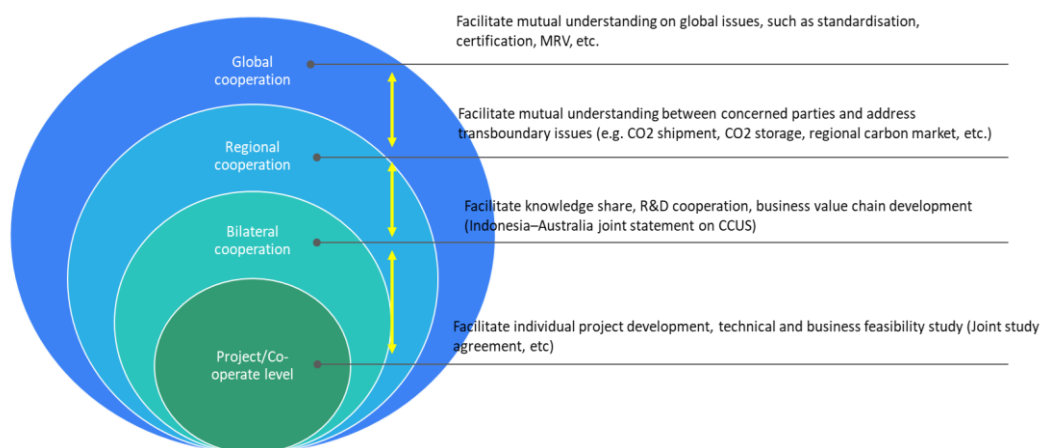
Chapter 4

Regional Cooperation Concept

1. The Concept

As explained in chapter 2, CCUS requires large-scale investment. As such, wide-ranging technical and transboundary policy issues can be addressed through a multilayered cooperation framework encompassing national borders. A large-scale CCUS project can greatly benefit from business or project-level cooperation, country-to-country cooperation that can lead to regional, and eventually to global cooperation (Figure 4.1). Further details of this multilayered cooperation concept is described in the subsequent subsections.

Figure 4.1: Further Actions for a Regional Cooperation Concept



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2. Project and/or Corporate Level Cooperation

Table 4.1 describes issues that can be addressed, potential players, and actual examples of project and/or corporate-level cooperation. Such cooperation can contribute to individual project development. Examples include the implementation of technical and business feasibility studies through joint agreements.

Table 4.1: Project and/or Corporate-level Cooperation

Issues that can be addressed	<ul style="list-style-type: none"> • Storage potential survey • Site survey • Technical feasibility • Economic feasibility • Business model development • Estimation of GHG emissions reduction
Players	<ul style="list-style-type: none"> • National oil companies • International oil majors • Off-takers • Technology suppliers • Research institutes
Examples	<ul style="list-style-type: none"> • Memorandum of understanding (MOU) between Pertamina and ExxonMobile on CCUS potential study • MOU between Petronas and ExxonMobile on CCUS potential study • Joint Study Agreement between Japan Petroleum Exploration Col, Ltd., LEMIGAS, and Pertamina for Sukowati CCUS project (Indonesia) • Joint Study Agreement between JGC Corp, Japan NUS, J-Power, Institut Teknologi Bandung, and Pertamina for Gundhi CCUS project (Indonesia)

GHG = greenhouse gas.

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3. Bilateral Cooperation

Table 4.2 describes issues that can be addressed, potential players, and actual examples of bilateral cooperation. Bilateral cooperation can facilitate knowledge sharing, research and development cooperation, and the creation of a business value chain. Examples include the Joint Statement on CCUS between Indonesia and Australia and the Joint Crediting Mechanism between Japan and key Southeast Asian countries – Cambodia, Indonesia, the Lao PDR, Myanmar, the Philippines, Thailand, and Viet Nam – that aim to put an economic value on CO₂ reduction through the introduction of advanced low-carbon technologies.

Table 4.2: Bilateral Cooperation

Issues that can be addressed	<ul style="list-style-type: none">• Government commitment through shared objectives• Comprehensive cooperation (R&D to global business value chain development)• Financial support• Paris Agreement, Article 6 on Collaboration (e.g. Joint Crediting Mechanism)
Players	<ul style="list-style-type: none">• Governments• National research institutions
Examples	<ul style="list-style-type: none">• Australia–Indonesia Joint Statement on Cooperation on the Green Economy and Energy Transition• Include reference to supporting CCS/CCU projects through green finance, carbon offset project collaboration, etc.)• Japan–Saudi Vision 2030• Include CO₂-free ammonia production with CCUS• Japan–Indonesia bilateral agreement on Joint Crediting Mechanism

Source: Created by author (2021).

4. Regional Cooperation

Table 4.3 describes issues that can be addressed, potential players, and actual examples of regional cooperation. Regional cooperation can facilitate mutual understanding between concerned parties and address transboundary issues, such as CO₂ shipment and CO₂ storage that cross borders and the regional carbon market. Such cooperation can lead to raising larger funds and creating larger businesses that benefit various players of value chain encompassing multiple countries, such as high CO₂-emitting industries, countries with depleted oil and gas fields, shipping companies, and construction companies, amongst others.

Table 4.3: Regional Cooperation

Issues that can be addressed	<ul style="list-style-type: none"> • Regional policy development • Knowledge share, capacity development • Financial support • Transboundary issues
Players	<ul style="list-style-type: none"> • Governments • Regional organisations (ERIA, ASEAN Centre for Energy, ADB, Coordinating Committee for Geoscience Programmes in East and Southeast Asia, etc.)
Examples	<ul style="list-style-type: none"> • ASEAN Petroleum Service Agreement (introduced as a joint effort to tackle energy shortage) • Asia CCUS Network (capacity development, storage mapping, enabling environment discussion) • EU CCS Directive (regulation for permitting and enabling CCS) • ERA-NET (EU regional funding and networking support for research activities) <ul style="list-style-type: none"> *ACT Acorn received funding from the UK Government Department for Business, Energy and Industrial Strategy, the Research Council of Norway, and The Netherlands Enterprise Agency and is co-funded by the European Commission under the ERA-NET instrument of the Horizon 2020 programme.

Source: Created by author (2021).

5. Global Cooperation

Table 4.4 describes issues that can be addressed, potential players, and actual examples of global cooperation. Global cooperation can facilitate mutual understanding on global or international issues, such as standardisation; certification; and methods for measurement, reporting, and verification (MRV) of CO₂ emissions reduction. The work towards gaining international recognition will lead to increased confidence in CCUS business in the Asian region, facilitating further project development and investment.

Table 4.4: Global Cooperation

Issues that can be addressed	<ul style="list-style-type: none">• Regional policy development• Knowledge share, capacity development• Financial support• Transboundary issues
Players	<ul style="list-style-type: none">• Governments• Regional organisation (ERIA, ASEAN Centre for Energy, ADB, Coordinating Committee for Geoscience Programmes in East and Southeast Asia, etc.)
Examples	<ul style="list-style-type: none">• Communiqué G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth 2019 (taking note of work on ‘Carbon Recycling’ and ‘Emissions to Value’)• Clean Energy Ministerial (high-level policy network)• Oil and Gas Climate Initiative (industry-led platform)• Global CCS Institute (international think-tank)

Source: Created by the author (2021).