

March 1, 2024

JX Nippon Oil & Gas Exploration Corporation

ENEOS Corporation

Mitsubishi Corporation

PETRONAS CCS Solutions Sdn Bhd

JX Nippon, ENEOS, Mitsubishi Corporation and PETRONAS to Evaluate and Establish CCS Value Chains from Tokyo-Bay to Malaysia

JX Nippon Oil & Gas Exploration Corporation (hereinafter "JX Nippon"), ENEOS Corporation (hereinafter "ENEOS"), Mitsubishi Corporation, and PETRONAS CCS Solutions Sdn Bhd (hereinafter "PCCSS"), an affiliate of Petroliaam Nasional Berhad (hereinafter "PETRONAS"), the Malaysian national oil company, have signed a Memorandum of Understanding (hereinafter, the "Memorandum"), on March 1st, 2024 to jointly study carbon capture and storage (hereinafter "CCS") and the establishment of potential CCS value chains from carbon dioxide (CO₂) capture and accumulation in Tokyo Bay, shipping, and CO₂ storage in Malaysia.

Based on the Memorandum, the four companies will conduct research on the capture of CO₂ emissions from multiple industries in Tokyo-Bay (Keihin and Keiyo areas), necessary equipment, CO₂ transport, CO₂ storage sites, CCS business feasibility and CCS related legislation in Japan and Malaysia.

The amount of CO₂ to be captured and accumulated in the region is expected to be around 3 million tonnes per year. This will be one of the largest scale of the currently planned CCS projects by Japan, with the aim of starting operation by FY2030. Potentially, we explore to capture approximately 6 million tonnes of CO₂ per year in the region.

Japanese government declared to achieve carbon-neutral, decarbonized society by 2050 and they plan to start CCS projects in 2030. They also set the quantitative target of 120 million to 240 million tonnes per year CCS in 2050. CO₂ storage at overseas in addition to domestic storage are highly expected in Japan, as a large amount of CO₂ reduction is necessary.

The roles of the 4 companies are as follows.

ENEOS	Separation and capture of CO ₂ emitted from refineries, CO ₂ accumulation, liquefied CO ₂ transport, value chain construction, government engagement
JX Nippon	Development and evaluation of CCS storage sites in Malaysia (including securing storage sites and cost adequacy)
Mitsubishi Corporation	CO ₂ accumulation, liquefied CO ₂ transport, value chain construction, government engagement
PCCSS	CO ₂ storage at CCS storage sites in Malaysia, liquefied CO ₂ transport, Malaysian government engagement

[Message from all four companies]

The four companies have jointly started the evaluation of the overseas CCS value chain creation from Tokyo-Bay (Keihin and Keiyo) to Malaysia. Taking advantage of our knowledge of oil and gas development and experience in establishment of energy value chains, the four companies will work together with the Japanese government, the Malaysian government, local governments, CO₂ emitters and engineering companies to study the feasibility of accumulating one of the largest amount of emissions in Japan and storage in Malaysia.

[Company Overview]

Company Name	JX Nippon Oil & Gas Exploration Corporation
Head Office	1-2, Otemachi 1-chome, Chiyoda-ku, Tokyo
Representative	Toshiya Nakahara, President and CEO
Business Profile	Exploration and development of petroleum, natural gas and other mineral resources Extraction, processing, storage, sale and transportation of petroleum, natural gas and other mineral resources and their by-products
Decarbonization Initiatives	Under the philosophy established in May 2023, the CCS business is regarded as an important initiative in the company-wide strategy, and we have formulated a roadmap to implement CCS by 2030 and to achieve more than 50 million tonnes of CO ₂ underground storage per year by 2050. In addition, Japan Organization for Metals and Energy Security (JOGMEC) adopted us as one of the contractors of the "Survey on the Implementation of Advanced CCS Projects in fiscal 2023 (CCS off northern Kyushu and off western Kyushu)" in August 2023, and we are accelerating the study of development of CCS value chains.

<https://www.nex.jx-group.co.jp/english/>

Company Name	ENEOS Corporation
Head Office	1-2, Otemachi 1-chome, Chiyoda-ku, Tokyo
Representative	Tomohide Miyata, Representative Director
Business Profile	Refining and sales of petroleum products (gasoline, kerosene, lubricants, etc.) Import and sales of gas Manufacture and sales of petrochemical products Supply of electricity and hydrogen
Decarbonization initiatives	In the Carbon Neutrality Plan announced in May 2023, we aim to start a CCS business by fiscal 2030 in order to achieve our CO ₂ emission reduction target, and aim to commercialize 20 million tonnes of CCS per year by fiscal 2040 as a means to reduce CO ₂ emissions by ourselves and other companies. In addition, Japan Organization for Metals and Energy Security (JOGMEC) adopted us as one of the contractors of the "Survey on the Implementation of Advanced CCS Projects in fiscal 2023 (CCS off northern Kyushu and off western Kyushu)" in August 2023, and we are accelerating the study of development of CCS value chains.

<https://www.eneos.co.jp/english/>

Company Name	Mitsubishi Corporation
Head Office	2-3-1 Marunouchi, Chiyoda-ku, Tokyo
Representative	Katsuya Nakanishi, President and CEO
Business Profile	10 groups of natural gas, integrated materials, chemical solutions, metal resources, industrial infrastructure, automotive and mobility, food industry, consumer industry, electric power solutions, and complex urban development, plus industrial DX and next-generation energy divisions.
Decarbonization Initiatives	<p>Energy Transformation (EX) is positioned as an important initiative in the Roadmap for a Carbon-Neutral Society formulated in October 2021 and the Medium-Term Management Strategy 2024 announced in May 2022. In CCS, we conduct extensive business verification of decarbonization of existing natural gas businesses, CO₂ storage for blue products, and CCS for industry.</p> <p>In addition, Japan Organization for Metals and Energy Security (JOGMEC) adopted us as one of the contractors of the "Survey on the Implementation of Advanced CCS Projects in fiscal 2023 (Ise-bay to Oceania CCS)" in August 2023, and we are accelerating the study of development of CCS value chains.</p>

<https://www.mitsubishicorp.com/jp/en/>

Company Name	PETRONAS CCS Solutions Sdn Bhd ("PCCSS")
Head Office	Tower 1, PETRONAS Twin Towers, Kuala Lumpur City Centre, 50088, Kuala Lumpur.
Representative	Chief Executive Officer, Nora'in Binti Md Salleh
Business Profile	Management and conduct of Carbon Capture and Storage (CCS) business activities for PETRONAS.
Decarbonization Initiatives	Its responsibility is to streamline the management of CCS for the whole of PETRONAS, and is expected to bring greater focus on driving decarbonisation at pace in pursuit of PETRONAS' Net Zero Carbon Emission by 2050 (NZCE).

<https://www.petronas.com/>