



PRESS RELEASE

November 20, 2023

JGC HD, JAPEX and “K” LINE Sign a Key Principles Agreement with PETRONAS for the maturation and development of the CCS Project in Malaysia

JGC Holdings Corporation
Japan Petroleum Exploration Co., Ltd.
Kawasaki Kisen Kaisha, Ltd.

JGC Holdings Corporation (JGC HD), Japan Petroleum Exploration Co., Ltd. (JAPEX) and Kawasaki Kisen Kaisha, Ltd. (“K” LINE) (hereinafter referred collectively as the “Japan Consortium(JC)”) have agreed and signed the Key Principles Agreement (“KPA”) with PETRONAS CCS Ventures Sdn. Bhd. (PCCSV) on 22nd September 2023, to jointly mature and develop the CCS (Carbon Capture and Storage) project plan and structure (hereinafter the “CCS Project Development”) aiming the commercialization of the CCS project by the end of 2028 at offshore Malaysia.

The signing ceremony took place in Japan, attended by PETRONAS President & Group CEO, YM Tan Sri Tengku M Taufik, JGC HD Senior Executive Officer, Technology Commercialization Officer (TCO), Masahiro Aika, JAPEX Representative Director and President, Masahiro Fujita Representative and “K” LINE Managing Executive Officer, Satoshi Kanamori in the presence of Mr. Saeki, Director of Ministry of Economy, Trade and Industry (METI). The announcement was made today after receiving consent from relevant stakeholders.

The CCS joint collaboration study (hereinafter the “Joint Study”) was commenced by PETRONAS and JAPEX in January 2022 and JGC Corporation, a subsidiary of JGC HD. and “K” LINE joined in July of the same year^(*), has successfully assessed the underground storage capacity of CO₂, marine transportation from CO₂ emission sources, and the most effective CO₂ storage scheme for the purpose of permanent storage at offshore Malaysia. Based on the conclusion of Joint Study, that targeting the depleted oil and gas fields and the associated aquifers, identified offshore Malaysia, will maximize practicality of CO₂ storage and feasibility of the earliest commercialization, we have agreed to execute the CCS Project Development jointly.

The KPA will commence the specific preparatory works with a view of beginning the front-

end engineering design in 2024 and the subsequent construction works, aiming to inject and store CO₂ from Malaysia and Japan in the end of 2028. We will proceed with the detailed engineering of the specifications, estimated costs, and business scheme, including infrastructure network of CO₂ pipelines from onshore gathering, receiving facilities for liquefied CO₂ transported by ships and offshore injection facilities. PCCSV and JC will work closely with other Malaysian stakeholders for the development of the CCS hub in Malaysia.

PCCSV and JC will execute the CCS Project Development aiming for the final investment decision on the commercialization in the mid-2020s and the operation commencement by the end of 2028. The target amount of CO₂ injection is to be at least about 2 million tons per year at the beginning of the project, including that from Malaysia and Japan, and 5 million tons per year by 2030, with a view to increasing the amount to more than 10 million tons per year in the early 2030s.

In addition, the JC will continue the joint evaluation (hereinafter the "Joint Evaluation") aiming to establish the CCS value chain originated from Japan with JFE Steel Corporation^{(*)2} since this June and will manage to collaborate between the Joint Evaluation and the CCS Project Development.

By executing the KPA for the early commercialization of the CCS project, JGC HD, JAPEX and "K" LINE aim to contribute for the realization of de-carbonized society in Asia targeted by the "Asia Energy Transition Initiative (AETI)"^{(*)3}.

Notes)

*1: Please refer a joint press release ["JGC CORPORATION and Kawasaki Kisen Kaisha, Ltd. Joins CCS Study in Malaysia"](#) on July 29, 2022.

*2: Please refer a joint press release ["Agreed on Joint Evaluation with JFE Steel Corporation to Establish CCS Value Chain Originated from Japan Aligned with CCS Study in Malaysia"](#) on June 19, 2023.

*3: The Japanese Government's initiative announced in May 2021, which aims to achieve sustainable economic growth and carbon neutrality simultaneously in Asia.

(Reference Photo)



KPA Signing Ceremony

(Reference: Signers related in the above photo, from left side)

Mr. Shamsairi M Ibrahim - VP LNG Marketing & Trading Gas Business

Mr. Ezran Mahadzir - Chief Executive Officer Petronas LNG Ltd.

Mr. Kenichi Suzuki - General Manager of Carbon Neutral Business Dept., Overseas Business Div. II, JAPEX

Ms. Nora'in Bt Md Salleh - General Manager CCS

Mr. Adnan Zainal Abidin - COO, EVP & CEO Gas Business

Mr. Masahiro Aika - Senior Executive Officer & TCO, JGC HDG

Datuk Adif bin Zulkifli - EVP Upstream

Dr. Tomomi Yamada - Executive Management Officer, President of Overseas Business Div. II, JAPEX

Mr. Masahiro Fujita - Representative Director and President & CEO, JAPEX

Mr. Emry Hisham bin Yusoff - Senior GM Carbon Management Div.

YM Tan Sri Tengku M Taufik - President & Group CEO

Mr. Norihiko Saeki - Director of Ministry of Economy, Trade and Industry (METI).

Mr. Osamu Watanabe - Director and Chairman, JAPEX

Mr. Ezhar Yazid Jaafar - Senior GM Petronas Representative Office Japan

Mr. Satoshi Kanamori - Managing Executive Officer, "K" LINE

Mr. Abang Yusuf Abang Puteh - SVP LNG Assets, Gas Business

Mr. Nazil Ghazali - Executive Asst. President & Group CEO, PETRONAS