



March 21, 2024

JX Nippon Oil & Gas Exploration Corporation

Nippon Yusen Kabushiki Kaisha (NYK)

Knutsen NYK Carbon Carriers AS

JX, NYK, and KNCC Jointly Study Optimization of CO₂ Liquefaction and Storage Process

JX Nippon Oil & Gas Exploration Corporation (“JX”), Nippon Yusen Kabushiki Kaisha (“NYK”) and its affiliate Knutsen NYK Carbon Carriers AS (“KNCC”) are pleased to announce that we have signed a Memorandum of Understanding (“MoU”) on March 15 for a joint study on the optimization of carbon dioxide (CO₂) liquefaction and storage processes using KNCC's proprietary technology Cargo Tank Cylinders (“CTC”).

This study aims to optimize the CO₂ transportation system using CTC by utilizing the characteristics of the EP (elevated pressure) method, which stores and transports liquefied CO₂ at higher temperatures and pressures than the LP (low pressure) and MP (medium pressure) methods. This study is expected to solve the problems in the CCUS value chain, such as capital investment, energy consumption, and environmental impact. The three companies will conduct optimization verification by the latter half of 2024 using CTC's demonstration facility "test rig" owned by KNCC in Norway and, based on the verification results, will study the possibility of social implementation in concrete terms.

End of document



KNCC's demonstration facility (CTC test rig)

Scope of each company

Company	Scope
JX	Provision of knowledge and process validation related to CCUS projects
NYK	Formulation of overall policy and evaluation of feasibility and appropriateness of the project
KNCC	Providing technical and legal expertise on liquefied CO ₂ carriers Implementation of liquefaction process verification of EP method

Company Overviews

JX Nippon Oil & Gas Exploration Corporation

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Nippon Yusen Kabushiki Kaisha (NYK)

Head office: Chiyoda-ku, Tokyo, Japan

Representative: Takaya Soga, President

Website: <https://www.nyk.com/english/>

Knutsen NYK Carbon Carriers AS

Head Office: Haugesund, Norway

Representative: Anders Lepsøe, CEO

Website: <https://www.kn-cc.com>

*Overview of CCUS value chain

