

February 2, 2022  
Engineering Advancement Association of Japan  
Kawasaki Kisen Kaisha, Ltd.  
Nippon Gas Line Co., Ltd.  
Ochanomizu University

NEDO Demonstration Project: The World's First Demonstration Test Ship  
for Liquefied CO2 Transportation to be Built

~Demonstration test ship for Liquefied CO2 transportation to CCUS  
Bareboat charter contract and tank system purchase contract is signed~

Engineering Advancement Association of Japan (ENAA) and Sanyu Kisen Co., Ltd (Sanyu Kisen) have signed the bareboat charter contract of a demonstration test ship for Liquefied CO2 (LCO2) transportation and tank system purchase contract.

ENAA has been leading the development of a demonstration test ship and been developing LCO2 tank system specifications. Sanyu Kisen has ordered manufacture the tank system based on the R&D by ENAA and construction of a demonstration test ship equipped with its tank system to Mitsubishi Shipbuilding Co, Ltd., a member of the Mitsubishi Heavy Industries Group (MHI). The vessel will be built at the Enoura Plant at MHI's Shimonoseki Shipyard & Machinery Works.

Upon building completion and the delivery, ENAA will charter the demonstration test ship from Sanyu Kisen to carry out research and development and demonstration tests for establishing LCO2 ship transportation technology.

The vessel is the demonstration test ship to transport LCO2 for Carbon Capture, Utilization and Storage (CCUS) project expected to be the first of its kind in the world.

ENAA will operate the vessel from the second half of FY2023 for "CCUS R&D and Demonstration Related Project / Large-scale CCUS Demonstration in Tomakomai / Demonstration Project on CO2 Transportation / R&D and Demonstration Project for CO2 Marine Transportation" (the demonstration projects), which have been conducted by New Energy and Industrial Technology Development Organization (NEDO) since June 2021.

ENAA, Kawasaki Kisen Kaisha, Ltd. ("K" LINE), Nippon Gas Line Co., Ltd. (NGL), and Ochanomizu University will accelerate R&D of the LCO2 transportation technology and contribute to cost reduction of CCUS technology and LCO2 safety, long-distance and large-scale transportation. In the demonstration project, we plan to use the vessel to collect operational data under various loading conditions and in various weather and sea conditions.

ENAA takes charge of planning, evaluation, analysis and coordination of R&D and demonstration project of LCO2 ship transport technology and tank systems

"K" LINE promotes R&D on the safety and environmental evaluation of the demonstration LCO2 carrier, backed by extensive experience in operating and managing of its ocean-going

liquefied gas vessels.

NGL takes charge of operating and managing the demonstration test ship based on 60-year experience of pressurized liquefied gas carriers.

Ochanomizu University conducts fundamental research on the control of carbon dioxide state (phase change) and provide the information necessary for safe transportation studies.

ENAA, "K" LINE, NGL, and Ochanomizu University will contribute to realizing the carbon neutral society through this demonstration project.

< Image of the demonstration test ship for LCO<sub>2</sub> transportation >



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**【General Particular】**

Cargo tank capacity	: 1,450 m <sup>3</sup>
Length overall	: 72.0m
Breadth	: 12.5m
Draft	: 4.55m

<Demonstration structure and roles of each company>

