

July 25, 2022

Kawasaki Kisen Kaisha, Ltd.

The World's First CO2 Capture Plant on Vessel "CC-OCEAN" Project  
Wins Marine Engineering of the Year 2021

Kawasaki Kisen Kaisha, Ltd. ("K" LINE) has recently received an award "Marine Engineering of the Year 2021" from the Japan Institute of Marine Engineering for the "CC-OCEAN" project, jointly conducted with Mitsubishi Shipbuilding Co., Ltd. (Mitsubishi Shipbuilding) and Nippon Kaiji Kyokai ("ClassNK") for the verification of CO2 capture plant onboard as part of the "Research and Development for advancing marine resources technologies" (Note 1).

The award ceremony was held on 22<sup>nd</sup> July at the "KAIUN CLUB" in Chiyoda ward, Tokyo in recognition of the world's first CO2 capture plant on vessel that successfully separated and captured CO2 from exhaust gas emitted from a ship and achieved the captured CO2 purity of more than 99.9%, which is in line with the planned performance.

Marine Engineering of the Year 2021 Award Ceremony



From left:

Mr. Toyohisa Nakano (Executive Officer, "K" LINE)

Dr. Toshiyuki Shigemi (Senior Executive Vice President, Class NK)

Mr. Michitomo Iwashita (Managing Executive Officer, "K" LINE)

Mr. Toru Kitamura (President & CEO, Mitsubishi Shipbuilding Co., Ltd.)

Mr. Manabu Kawakado (Executive Director & CTO, Mitsubishi Shipbuilding Co., Ltd.)

Mr. Tetsuya Kinoshita (President of Japan Institute of Marine Engineering)

This award is presented to outstanding technologies in the fields of marine engines and equipment, and related marine engineering, with the aim of publicizing the advanced and important nature of these technologies both domestically and internationally, and of further developing related academic and industrial technologies.

The “CC-OCEAN” project, which was selected for the award, is based on the CO2 capture plant for on-shore converted for off-shore use, and installed on board a coal carrier “CORONA UTILITY”, operated by “K” LINE for Tohoku Electric Power Co., Inc., and conducted a demonstration test at sea for 6 months.

As a result, both the CO2 capture rate, quantity, and purity were as planned, and demonstrated that CO2 can be captured from the exhaust gas from marine engines, where environmental conditions are different from those on-shore.



\* The design of the logo is from initials of Carbon Capture on the Ocean and represents capturing molecular of carbon dioxide inside.

In order to strengthen the initiatives toward global climate change countermeasures, based on the “K” LINE Environmental Vision 2050 (Note 2), we will put its full effort into decarbonization of the “K” LINE and supporting decarbonization of society with the aim of achieving a sustainable society and enhance corporate value.

(Note 1)

Announced on 31-Aug 2020: “CC-Ocean” (Carbon Capture on the Ocean) project

<https://www.kline.co.jp/en/news/csr/csr-5587043701830807195/main/0/link/200831EN%20.pdf>

Announced on 5-Aug 2021: Launch of the “CC-OCEAN” project demonstration

<https://www.kline.co.jp/en/news/csr/csr7601431474845700352/main/0/link/210805EN.pdf>

Announced on 20-Oct 2021: Successfully separated and captured CO2 from exhaust gas in World’s First CO2 Capture Plant on Vessel

<https://www.kline.co.jp/en/news/csr/csr818532238088767329/main/0/link/211020EN.pdf>

(Note 2) ) Released on November 4<sup>th</sup>, 2021 :

“K” LINE has revised our environmental target in our long-term environmental guideline “K” LINE Environmental Vision 2050 -Blue Seas for the Future-, which we had released the revised version in November 2021, in order to strengthen the initiatives toward global climate change countermeasures and has set our new target for 2050 as “The Challenge of Achieving Net -Zero GHG Emissions”.

<https://www.kline.co.jp/en/csr/environment/management.html#002>