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Idemitsu Tanker Co., Ltd.

Idemitsu Tanker Co., Ltd. Decided to build two environmentally friendly VLCCs (very large crude carriers), as its first case

- Equipped with methanol dual-fuel main engines, shaft generators, and wind-powered auxiliary propulsion systems to reduce CO_2 emissions -

Idemitsu Tanker Co., Ltd. (Headquarters: Chiyoda-ku, Tokyo; President and CEO: Tomio Inagaki; hereinafter referred to as "the ITC") has decided to construct two environmentally friendly VLCCs (very large crude carriers; hereinafter referred to as "the vessels"). Delivery is scheduled for 2028 and 2029. The vessels are designed as dual-fueled vessels capable of using methanol and heavy oil as fuel, and the design concept developed by a consortium of four companies: Iino Kaiun Kaisha, Ltd., Nippon Yusen Kaisha, Ltd., Nippon Shipyard Co., Ltd., and the ITC *1, will be adopted.

In addition to a dual-fuel main engine, the vessels are equipped with a shaft generator that generates electricity using the rotation of their main engine propeller shaft *2 and two wind propulsion auxiliary systems named "Rotor Sail" *3 which is a world first for VLCCs *4.
With these specifications, the two vessels to be built this time will achieve a reduction of 40% or more compared to the reduction of 30% specified in CO_2 emission standards required by the international regulations "EEDI (Energy Efficiency Design Index) *5 Phase 3" for vessels contracted after 2025.

Methanol is used in a variety of applications as a basic chemical, but it is also attracted as an effective energy source for reducing CO_2 emissions. Currently, heavy fuel oil is mainly used as fuel for vessels, but by using methanol, it is possible to reduce emissions by up to approximately 80% for nitrogen oxides (NOx), up to approximately 99% for sulfur oxides (SOx), and up to approximately 15% for carbon dioxide (CO_2) compared to heavy fuel oil.

Furthermore, the use of green methanol, such as bio-methanol produced from biomass and synthetic methanol (e-methanol) produced using hydrogen derived from renewable energy and recovered CO_2, is expected to further reduce CO_2 emissions.

The ITC has been leading the shipping industry with the building and operation of VLCCs, including the “Nissho Maru,” the world's largest (at the time) 130,000-ton tanker built in 1962, and the “Idemitsu Maru,” the world's first (at the time) large tanker (VLCC) exceeding 200,000 tons built in 1966. In addition to the vessels, we plan to replace a total of six vessels with environmentally friendly vessels, including four vessels to be chartered on a regular basis starting in 2026.

We will continue to contribute to the decarbonization of the shipping industry as a pioneer in large tankers.

■ Overview of two environmentally friendly VLCCs

Length Overall	Maximum 339.5 m
Moulded Breadth	60.0m
Moulded Depth	28.6m
Full Load Draft	21.0m
Deadweight tonnage	Approximate 309,400 tons
Fuel	Methanol and heavy oil
Others	Equipped with large shaft generator Equipped with two wind propulsion auxiliary systems, “Rotor Sail”

Image of VLCC fueled by methanol dual fuel

*1 News release: “Four-company consortium decided on design concept for environmentally friendly large crude oil tanker” (October 15, 2024)

*2 Shaft generator: A device that supplies power by utilizing the rotation of the propeller shaft during navigation. It reduces fuel consumption by generators used inside vessels and enables reduction of CO_2 emissions.

*3 Rotor Sail: A wind propulsion system used to assist the propulsion of vessels. It reduces fuel consumption through wind propulsion, reduces greenhouse gas emissions such as CO_2 caused by fuel consumption, as well as reduces engine load and improves energy efficiency by utilizing wind power.

*4 Researched by Idemitsu Tanker (as of April 2025)

*5 EEDI: An international treaty established by the International Maritime Organization (IMO) regarding CO_2 emissions reduction for newly built vessels.

～Contact～

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