



IINO LINES



NORSEPOWER

July 6th 2023

J-POWER / Electric Power Development Co., Ltd.

IINO Kaiun Kaisha, Ltd.

Norsepower Oy Ltd.

**J-POWER, IINO LINES and Norsepower collaborate to install
world's first rotor sail on a dedicated coal carrier**

Electric Power Development Co., Ltd. (Head Office: Chuo-ku, Tokyo; Representative Director President: Hitoshi Kanno; hereinafter "J-POWER") and IINO Kaiun Kaisha, Ltd. (Head Office: Chiyoda-ku, Tokyo; President and Representative Director: Yusuke Otani; hereinafter "IINO LINES") have agreed to install the rotor sail (wind propulsion auxiliary device) manufactured by Norsepower Oy Ltd. (Head Office: Finland; CEO: Tuomas Riski; hereinafter "Norsepower") on the dedicated coal carrier YODOHIME (completed in February 2016).

This is the world's first case of the Norsepower Rotor Sails™ on a dedicated coal carrier, and the installation will take place in Q3 2024.

The Norsepower Rotor Sail™ (24m high x 4m diameter) is an innovative modernised version of the Flettner rotor. It uses the vessel's electric power to rotate the cylinder-shaped rotors on the deck. These rotating sails use the wind to generate powerful thrust, resulting in reduction of fuel consumption and CO₂ emissions by approximately 6-10% in combination with the navigation optimization system.



Image of the vessel equipped with the Norsepower Rotor Sails™

This is the second time that J-POWER has installed a wind propulsion auxiliary system on a dedicated coal carrier. J-POWER will continue to take on the challenge of achieving carbon neutrality as set forth in J-POWER's "BLUE MISSION 2050" in February 2021.

This is the second vessel for IINO LINES following a Very Large Gas Carrier (VLGC) to be equipped with the Norsepower Rotor Sails™ and the company will continue to actively promote initiatives for clean marine transport services in order to become carbon neutral in line with theme set out in the mid-term management plan, "The Adventure to Our Sustainable Future."

[Information on each company]

J-POWER website: <https://www.jpowers.co.jp/english/>

J-POWER is an electric power company established in 1952 and headquartered in Japan. The Group has been engaged in hydroelectric, thermal, wind, geothermal, and solar power generation and transmission projects in Japan and abroad.

To achieve this mission, we announced the J-POWER "BLUE MISSION 2050" in February 2021, and are working to make our power generation business carbon neutral by 2050.

We have set targets to reduce CO₂ emissions by 9.2 million tons in FY2025*, 22.5 million tons in 2030*, and virtually zero in 2050 by accelerating the development of CO₂ free power sources, upcycling existing thermal power plants, and promoting initiatives to generate, produce, and supply CO₂ free hydrogen.

*All figures are compared to FY2013, J-POWER's domestic power generation business.

IINO LINES website: <https://www.iino.co.jp/kaiun/english/index.html>

IINO LINES is a Tokyo-based company founded in 1899 and runs Oceangoing Shipping, Short-sea Shipping and Real Estate Businesses. In Oceangoing Shipping Business, IINO LINES provides services worldwide and transports energy resources and related products such as crude oil, LNG, LPG, petrochemicals and dry cargoes as a shipowner and operator. As of March 31, 2023, a total of 93 vessels are owned and operated by IINO LINES, including 4 VLCCs, 37 chemical tankers, 20 dry bulk carriers, 8 large gas carriers, and 24 small gas carriers.

IINO LINES has formulated the mid-term management plan, "The Adventure to Our Sustainable Future," in May 2023, and is stepping up its efforts to address climate change and other sustainability issues with the reduction targets of greenhouse gas emissions. In Shipping Business, 20% reduction per ton-mile compared to FY2020, and in Real Estate Business, 75% reduction in total amount compared to FY2013 by FY2030, and achieving the goal of carbon neutrality company-wide by 2050. We are aggressively investing in innovative technologies.

Norsepower website: www.norsepower.com

Norsepower is a Finnish clean technology and engineering company that develops state-of-the-art wind propulsion aids for the global shipping industry. Norsepower Rotor Sails™ have been used by customers for more than eight years and have proven to be easy to maintain, easy to use, and a reliable fuel-saving technology that supports the decarbonization of the shipping industry.

Since its inception in 2012, Norsepower has raised more than €40 million funding and currently has rotor sails installed on eight vessels. Independent third-party verification organizations such as ABB, NAPA, and Lloyd's Register have confirmed significant reductions in fuel costs and emissions. An increasing number of shipowners, charterers, and shipyards are beginning to adopt Norsepower Rotor Sails™ to benefit from the economic and sustainability impact of wind propulsion on their fleets.