





January 29th, 2025 J-POWER / Electric Power Development Co., Ltd. IINO Kaiun Kaisha, Ltd. Norsepower Oy Ltd.

Completion of Norsepower Rotor Sail Installation on the bulk carrier "YODOHIME"

We are pleased to announce the successful installation of one Norsepower Rotor Sail™ onboard the bulk carrier Yodohime (completed in February 2016), which was decided by 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") manufactured by Norsepower Oy Ltd. (Head Office: Finland; CEO: Heikki Pöntynen; hereinafter "Norsepower"). The installation work was carried out at a dockyard in December 2024, and the first voyage after the installation was successfully completed this month.

Reference (Past Press Release - July 6, 2023)

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

The 24m x 4m Norsepower Rotor Sail is a wind propulsion system which was installed on the forecastle deck of the vessel. It utilizes the latest AI technology to automatically control the rotation, direction, and speed of the rotor sail using real-time meteorological information, such as wind direction and wind speed, detected by sensors.

The Magnus effect generated when wind meets the rotating cylindrical sail produces a powerful thrust which, in combination with the voyage optimization system, is expected to reduce fuel consumption and CO₂ emissions by approximately 6-10%.



YODOHIME equipped with the Norsepower Rotor Sail™

This is the first time that J-POWER has installed a wind propulsion auxiliary system on a bulk 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 to be equipped with Norsepower Rotor Sails, following the installation onboard the Very Large Gas Carrier (VLGC) Oceanus Aurora last November. The company will continue to actively promote initiatives for clean marine transport services in order to become carbon neutral in line with the theme set out in the mid-term management plan, "The Adventure to Our Sustainable Future."

[Information on each company]

J-POWER website: https://www.jpower.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 <u>"BLUE MISSION 2050"</u> in February 2021, and are working to make our power generation business carbon neutral by 2050.

We have set targets to reduce CO_2 emissions by 9.2 million tons in FY2025*, 22.5 million tons in 2030*, and virtually zero in 2050 by accelerating the development of CO_2 free power sources, upcycling existing thermal power plants, and promoting initiatives to generate, produce, and supply CO_2 free hydrogen.

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, Domestic and 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 December 31, 2024, a total of 94 vessels are owned and operated by IINO LINES, including 4 VLCCs, 34 chemical tankers, 23 dry bulk carriers, 8 large gas carriers, and 25 medium and small gas carriers.

IINO LINES has formulated the mid-term management plan, <u>"The Adventure to Our Sustainable Future,"</u> 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 the global market leader in mechanical sails for large ships. The award-winning company can help decarbonize 30,000 ships afloat today. Norsepower Rotor Sail™ harnesses the power of the wind to drive down fuel consumption and CO2 emissions by 5–25% — or even more in good conditions. Customers have been using the product for more than ten years.

Since its establishment in 2012, Norsepower has raised more than €50 million in funding to support its fast growth. 30 Norsepower Rotor Sails™ have been installed onboard 17 vessels so far. Installations within the next 18 months consist of 42 units on 15 ships. Around 100,000+ hours of Norsepower Rotor Sail performance data have been verified by independent third parties such as ABB, NAPA, RISE, and Lloyd's Register. For more information on the Norsepower Rotor Sail™, visit: www.norsepower.com

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