

October 10, 2023

JX Metals Corporation

Pan Pacific Copper Co., Ltd.

IINO Kaiun Kaisha, Ltd.

## Demonstration Test on Marine Transportation of Copper Slag Using Biodiesel Fuel

Pan Pacific Copper Co., Ltd. (President & Chief Executive Officer: Kazuhiro Hori; hereinafter “PPC”), a group company of JX Metals Corporation (President and Representative Director: Yoichi Hayashi; hereinafter "JX Metals"), and IINO Kaiun Kaisha, Ltd. (President and Representative Director: Yusuke Otani; hereinafter "IINO LINES") have conducted a demonstration test on marine transportation of copper slag using biodiesel fuel<sup>\*1</sup>, the first in the domestic non-ferrous metal industry, and have completed the voyage on September 10 as scheduled. In this voyage, copper slag<sup>\*2</sup> handled by PPC was loaded onto the cargo ship "Bright Hope" operated by IINO LINES from a smelter in Japan to Malaysia, using biodiesel fuel refined from waste cooking oil and renewable fats and oils. The use of biodiesel fuel contributes to the reduction of greenhouse gas emissions generated during the "Well to Wake" cycle<sup>\*3</sup> of fuel production, transportation, and consumption on board the ship.



Cargo ship “Bright Hope”

JX Metals Group is developing a comprehensive non-ferrous metals business centered on copper and rare metals, ranging from the manufacture and development of advanced materials to smelting, recycling, and resource development. The Group has set a goal of reducing its own CO<sub>2</sub> emissions to net zero by FY2050, but it is also actively pursuing so-called "Scope 3" reductions, which aim to reduce CO<sub>2</sub> emissions throughout the entire supply chain, including raw material production and logistics.

IINO Group has two business pillars; the Shipping business, which mainly transports natural and energy resources, and the Real Estate business, which mainly leases office buildings. In its mid-term management plan, “The Adventure to Our Sustainable Future,” the Group is stepping up its efforts to address climate change and other sustainability issues. In the Shipping business, we have set a goal of reducing greenhouse gas emissions per ton-mile by 20% from the FY2020 level by 2030, and in the Real Estate business, we have set a goal of reducing total greenhouse gas emissions by 75% from the FY2013 level, and are aggressively investing in innovative technologies to achieve carbon neutrality throughout the company by 2050.

This initiative is a verification of the feasibility of the marine transportation using clean marine fuel by the two companies, which share a common vision for the realization of a decarbonized society. Based on the success of the demonstration test, the two companies will actively discuss more specific studies for the full-scale use of clean marine fuel and measures to reduce CO<sub>2</sub> emissions during marine transportation of various products related to copper smelting, not limited to slag.

\*1: In this demonstration test, approximately 24% of FAME (fatty acid methyl ester), a biodiesel fuel that has received International Sustainability & Carbon Certification (ISCC), was mixed with low-sulfur heavy fuel oil (VLSFO).

\*2: Copper slag is produced during the copper smelting process. It has a low CO<sub>2</sub> load and is recycled as a raw material for cement and sandblasting materials.

\*3: The emissions generated throughout the fuel consumption cycle, which is the process of fuel production, transportation, and use on vessels.

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