

June 11, 2021

Kawasaki Kisen Kaisha, Ltd.

Kick off “Joint Study” framework for studying ammonia as an alternative marine fuel

Kawasaki Kisen Kaisha, Ltd. (hereinafter “K” LINE) is pleased to announce that “K” LINE and 22 companies from energy, mining, power utility, chemical, terminal, shipping, shipbuilding, manufacture, bunkering, and classification society established “Joint Study” framework for studying common issues on ammonia (NH<sub>3</sub>) as an alternative marine fuel beyond industry boundaries, to get ready to IMO’s decarbonization targets.

In line with the agreed procedure, common issues including (1) Safety assessment of NH<sub>3</sub> fuel ship under guideline, (2) Safety assessment of NH<sub>3</sub> bunkering, (3) NH<sub>3</sub> fuel specification, and (4) NET CO<sub>2</sub> emission at NH<sub>3</sub> production, are going to be discussed in this Joint Study framework. Moreover, this framework may ask some of NH<sub>3</sub> producers, relevant international organizations, port authorities/regulators in potential bunkering countries to share their opinion, view, expertise and experience.

With international momentum towards the transition to a decarbonized society since the Paris Agreement came into effect in 2016, the International Maritime Organization (IMO) adopted a strategy for the reduction of greenhouse gas (GHG) emissions within the maritime industry in 2018. This strategy sets targets to reduce CO<sub>2</sub> emissions per transport work – as an average across international shipping – by at least 40% by 2030 (compared to 2008 levels), to reduce CO<sub>2</sub> emissions by 50% by 2050, and to phase them out entirely (zero-emissions) during this century. In order to achieve these goals, the early adoption of ammonia as a suitable zero emission, alternative marine fuel is one of the key elements.

“K” LINE will promote initiatives to reduce GHGs with the cooperation of domestic and overseas clients, as well as the relevant government agencies for achieving the targets set forth in the “K” LINE Environmental Vision 2050(\*2).

(\*1) Founding Member (Alphabetical order)>

ABS, ANGLO AMERICAN, CLASSNK, DNV, EQUINOR, FORTESCUE METALS GROUP, GENCO SHIPPING & TRADING, ITOCHU ENEX, ITOCHU, JERA, K-LINE, MAN ENERGY SOLUTIONS, MITSUI E&S MACHINERY, NIHON SHIPYARD, NS UNITED, PAVILION ENERGY, TOTALENERGIES, TRAFIGURA, UBE INDUSTRIES, UYENO TRANSTECH, UNIPER SE, VALE and VOPAK TERMINAL SINGAPORE.

(\*2) “K” LINE Environmental Vision 2050

“K” LINE Environmental Vision 2050 is a long-term vision on the environment established by “K” LINE in 2015. It was revised in June 2020 to set the target of “improving CO<sub>2</sub> emission efficiency by 50% compared to 2008 which exceeds the International Maritime Organization (IMO) target for 2030 of 40% improvement.