Environmental targets for 2022

Environmental Vision 2050		Environmental targets for 2022	evaluation 2022	Results in 2022
2050 Targets	2030 Interim milestones			
"K" LINE decarbonization Take on the challenge of net-zero GHG emissions	"K" LINE low-carbonization Improve CO2 emission efficiency by 50% compared to 2008	Reduce CO2 emissions by minimizing resource consumption (Reduce electric consumption in the office) ・ Reduce total electricity comsumption in the office by 1% compared to last year Reduce continuously fuel oil used for ships (Consideration of adoption of energy-saving equipment, etc.) ・Consider the adoption of energy-saving equipment and additives (water emulsion boiler, inverter, etc.) in the new shipbuilding plan ・ CO2 reduction by hybridizing cargo handling equipment at our terminal ・ Promote efforts to realize CNP (Carbon Neutral Port), participate in CNP study groups at each port, and consider projects. (Reduce CO2 emissions by slow down operation) ・ Curbing emissions of gases with high global warming potential Consider specifications to control methane slip and N2O emissions.	○	・Reduced electricity consumption at land-based facilities by an additional 8% from the target. ・Adopted Energy-Saving Appendages（SURF、RBWF、PBCF）,Exhaust Gas Energy Efficient Utilization System and optimal output M/E for new building vessel. ・Participated in CNP study groups at the ports of Tokyo,Yokohama, Nagoya, Osaka and Kobe. （CNP: Carbon Neutral Port). FebruaryCompleted vehicle terminal "Yokohama Port Daikoku C-4 Terminal" began operation, introducing LED lighting for port operations for nighttime work and EVs for on-premise work vehicles, and using electricity, a renewable energy source, to make the terminal more environmentally friendly. ・Reduced CO2 emission by slow steaming and super slow steaming as the situation permitted. ・Considered to reduce methane slip when planning a new shipbuilding.
		Study / verify CO2 emission reduction by introducing new technology ・ Adoption of wind power propulsion assistance system, "Seawing", Deliver the first vessel installed with "Seawing". ・ Sophistication of ship operational management through performance analysis utilizing AI technology ・ Collecting information on renewable energy, CCS (CO2 capture and storage), etc. and considering collaboration with other companies Study introduction of low-carbon and zero-carbon fueled ships	○	・As for renewable energy approch domestic offshore wind power support vessels. As for CCUS matter, obtained a project in Norway. ・In October, construction of the NEDO demonstration test ship began, and we are planning to conduct a risk assessment for safety evaluation, and we are contributing to the development of the manual for the operation of the demonstration test ship. ・The introduction of LNG/LPG-fueled vessels was discussed in cooperation with each sales department. ・In November, acquired an AiP for an ammonia-fueled cape ship. ・About seawing, completed drwaing approval and instalation completed in end of DEC 2022Y. ・Completed manual that includes how to utilize the results of AI analysis. The CII evaluation was also made to be able to be displayed in KPI. ・Completed rules survey, sharing and HAZOP meeting completed for risk assessment.
Support the decarbonization of society Be the transporter and supplier of new energy	Support development of a low-carbon society Transport and supply new energy for a low-carbon society	Study new technologies for low-carbon operation of ships ・ Continuous cooperation with the HySTRA to establish a CO2-free hydrogen supply chain ・ Continue studying the LNG fuel bunkering supply business	○	In hydrogen, Continuous cooperation with the HySTRA. In ammonia, activities began with participation in a bunkering consortium in Singapore.
		Renewable energy supply support ・Support and business promotion for work related to offshore wind power generation business development, construction, operation, etc..	○	・Shared information by attend monthly meeting.
Minimize "K" LINE impact on the sea and air ・Zero oil spills ・Aim for zero environmental impact	Reduce "K" LINE Impact on the sea and air Reduce the shipping operation's impact on the sea and air, including zero oil spills	Establish ballast water treatment technology and ballast operation to minimize the impact on the marine environment ・Minimize the amount of ballast water ・Pay close attention to trends in convention and regional regulations, and installation of optimum ballast water treatment system for ship type/shipping route and enhancement of technical support	○	・Installed BWTS as planned. For remaining vessel, will be instaled accordingly. ・Monitored closely on trends in convention and regional regulations, and installed the most appropriate equipment for the type of vessel and route.

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		Study building ships that reduce environmental impacts on marine life. ・Study the adoption of anti-fouling paints to minimize the impact on marine pollution such as environmentally friendly paints (low friction paints)	○	Adopted Environmentally friendly paint (low-friction paint).
		Minimize consumption resources and wastes used on ships. ・ Separation of waste generated onboard including reuse by repairing onboard cargo handling materials, and promotion of unloading and recycling. ・ Reduce waste onboard by strictly complying with Garbage Management Plan.	△	・About 400 kg of cargo binding materials continue to be unloaded every month. Metal and plastic parts are recycled, and cloth parts are cut and used as fuel for power generation. ・Continuing to investigate possible waste oil landing companies.
		Minimize Reduction of black smoke, PM, CO2, SOx, and NOx from ships ・ Study installing power receiving equipment (COLD IRONING) on newly built ships and existing ships ・ Study measures to reduce sout emissions from exhaust gas on car carriers ・ Study using storage batteries ・ Study equipment installation for using low sulfur fueled oil ・ Study introduction of VOC (Volatile Organic Compound) emission control device to newly built tanker	○	・Consideration of prevent soot and dust emissions from car carrier exhaust gases ・Achieved ″zero″ complaints about soot and dust emissions from car carriers ・Installed desulfurization equipment or equipment for low-sulfur fuel.
		Carry out the training and education to all employees ・Carry out environmental seminar and e-learning once a year ・Participate in internal/external company seminars ・senior officers training at Pre-embarkation briefing ・Conduct various trainings at Kline Maritime Academy	△	・Delivered Environmental E-learnig in April and conducted internal auditor training by DNV in August with 11 participants. ・Conducted pre-boarding briefings ensure, and conduct training by KLMA twice (target: 4 times).
		Comply with the safety management system (SMS) properly and aim to achieve zero major accident such as oil pollution ・Ship inspections for quality improvement activity : 170 ships/ year ・The safe operation Circular will be sent to each ship owner to alert them for safe operation ・Implement a safety campaign based on lessons learned from past oil pollution acccidents (150 ships/year) ・Take measures to prevent oil pollution accidents from ship equipment such as examination of equipment installation to prevent oil pollution.	○	・Conducted ship inspection of 196 vessel in this year by online and visiting vessel. ・Implemented safety campaign for 158 vessel by online and visiting vessel. ・Installed preventing oil pollution system for new delivery vessel.
Support the environmental activities of society ・Support the environmental activities ・Be the industry leader in ecosystem protection	Support the environmental activities of society Increase environmental daialogue and activities	Participation in social contribution activities Conducting cooperative reserch of marine plastic waste in collaboration with Tokyo University of Marine Science and Technology	○	・Conducted beach cleaning activity on May and October. ・Arranged landing marine plastic waste sample for Tokyo University of Marine Science and Technology.
		Enhance disclosure and substantiality of our environmental measures such as integrated reports/HP and expand opportunities for explanation.	○	・Published KLINE REPORTon October and completed renewal HP.
		Prevent environmental pollution when scrapping ・ Based on our company policy, we will not perform the scrapping in the yards that have a large environmental impact in scrapping, or yards where the working environment is inappropriate	○	・Scrapping was performed with company policy by our certified yard. ・Visited India and confirmed yard meets our green yard criteria. these yard were certified by online in 2020Y.

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		Minimize consumption resources and waste in the office. ・ Reduce tap water comsumption in the office per employee in the office ・ Reduce OA paper comsumption per employee by promoting paperless initiatives ・ Reduce waste in the office：Promote the separation of recyclable container and packaging waste ・ Promote green products：Improve the rate of eco-friendly products	△	・Reduced tap water comsumption in the office by an additional 30% from the target. ・Reduced OA paper comsumption per employee by an additional 53% from the target. ・Promoted the separation of recyclable container and packaging waste by an additional 2.5% from the target. ・Promoted the procurement of Eco-friendly products. but resuly is 14% below from the target. Consider announce again for increase usage of Eco-friendly products.