Environmental targets for 2023

Environmental Vision 2050		Environmental targets for 2023	evaluation 2023	Results in 2023
2050 Targets	2030 Interim milestones			
Our decarbonization Take on the challenge of net-zero GHG emissions	Our low-carbonization CO2 emission efficiency improved by 50% compared to 2008	＜Reinforcement of measures to improve operational efficiency (fuel efficiency)＞ ・Reduce CO2 emissions through slow steaming ・Improvement of ship operation management through performance analysis using AI technology ＜Study the introduction of low-carbon and decarbonized fuels.＞ ・Study introduction of LNG, ammonia, and other fuel vessels ・Use of carbon neutral fuels such as biofuels ＜Contribution to the demonstration and diffusion of the Seawing automatic kite system＞ ・Trial and expansion of the introduction of the "Seawing" wind power propulsion auxiliary system	○	・Reduced CO2 emission by slow steaming and super slow steaming as the situation permitted as last year. ・Continuing performance monitoring of all vessels.Based on that results, conduct bottom inspection on 9 vessels annually and perform bottom cleaning on 7 vessels. ・Continuing to drive forward the project for ammonia-fueled ships. ・Decided installation of "Seawing" on coal transport vessels.(Mar.)
		＜Consideration and introduction of other new technologies＞ ・Consider adopting energy-saving equipment and add-ons (water-emission boilers, inverters, etc.) in the new shipbuilding plan. ・Verify the effectiveness of energy-saving devices using AI analysis technology. ・Consider specifications to control methane slip and N2O emissions. ・Study on-board CO2 capture technology.	○	・Conducted technical support utilizing AI analysis, such as verifying the fuel efficiency improvement effects through the implementation of UWC while utilizing Aging% as an indicator. ・Participating in a research consortium for unloading liquefied CO2 from shipboard CO2 capture equipment(Apr.)
		＜Onshore Initiatives＞ ・Reduce total electricity consumption and GHG emissions associated with electricity consumption at onshore facilities to below the previous year's levels. ・Promote the introduction of electricity derived from renewable energy sources ・Reduction of CO2 emissions by hybridization of cargo handling equipment at the company's terminals	○	・Reduced electricity consumption at land-based facilities by an additional 0.4% from the target. ・Intending to introduce four near-zero-emission transmitters.
Support for social Zero CO2 emissions improvement ・Becoming a player in new energy transportation and supply that supports social decarbonization	Support for social low CO2 emissions improvement Strengthen activities to promote new energy transportation and supply for social low-carbonizaiotn	＜Development and expansion of new businesses that contribute to the low-carbon society＞ ・Contribute to supply chain development as a transportation company through membership in domestic and international organizations related to the utilization of hydrogen and ammonia. ・Participated in a commercial demonstration project using a large liquefied hydrogen carrier, and worked toward the commercial use of hydrogen in society. ・Expand business related to renewable energy such as offshore wind power generation and CCUS (liquefied CO2 transport) ・Promote efforts to realize CNP (Carbon Neutral Port), participate in CNP study groups at each port, and study projects. ・Continuation of LNG fuel supply business for ships and consideration of ammonia fuel supply ships	○	・Provided operational support for the development project of large-scale liquefied hydrogen carriers. ・Delivered demonstration Test Ship for Liquefied CO2 Transportation (NOV) . ・Joint Research Agreement Signed for Next-Generation (Floating Axis) Small-scale Offshore Wind Turbine Demonstration Project (May) ・Provided information to Tokyo Port Authority and Aichi Port Authority. ・Continued to promotion the ammonia-fueled vessel project.
Our zero environmental impact to the utmost on oceans and atmosphere ・Zero oil pollution accidents ・Zero environmental impact to the utmost on oceans and atmosphere in operation	Reduction of our environmental impact on oceans and atmosphere Reduction of environmental impact on the ocean and atmosphere in ship operations including zero oil pollution accidents	＜Promotion of initiatives to eliminate oil pollution accidents＞ ・Proper implementation of the Safety Management System (SMS) and zero occurrence of oil leakage from vessels. ・Ship inspections for ship quality improvement activities: 170 vessels/year ・Remind shipowners of the importance of safe ship operation by sending out the Safe Operation Circular to each shipowner. ・Implement safety campaigns (150 vessels per year) based on lessons learned from past oil spill accidents ・Implement measures to prevent accidents involving oil spills from shipboard equipment, including consideration of installing equipment and devices to prevent oil spills. ・Promoting safe operations through automated loading optimization and AI	○	・If any issues are found during the vessel inspection, improvement requests are made to the shipowner using the inspection result report. ・Implement safety campaigns (164 vessels per year) ・The utilization of AI has been successfully demonstrated through pilot experiments. Continue system development and implementation from 2024. ・Adopt environmentally friendly paints (low-friction paints) ・Keep a close watch on trends in convention and local regulations, and install the most appropriate equipment for the type of vessel and route.
		＜Reduction of Environmental Impact of Ship Operations＞ Measures to minimize impact on the marine environment ・Minimize the amount of ballast water retained ・Installation of optimal ballast water treatment equipment and technical support for each ship type and route, while keeping a close eye on trends in convention and regional regulations ・Consider building vessels that have less environmental impact on marine life. ・Consider adoption of antifouling paints that have less impact on marine pollution, such as environmentally friendly paints (low-friction paints).	○	・Explored measures to reduce air pollutants from vessels. ・Onboard cargo handling materials for recycling in Yokohama unloading of 500-600kg in a months. Also commenced in Kobe from November.
		＜Reduction of air pollutants generated by ships (black smoke, PM, CO2, SOx, NOx)＞ ・Study installation of COLD IRONING in new and existing vessels ・Trial exhaust gas recovery at port of entry ・Consideration of using storage batteries ・Study of equipment to use low-sulfur fuel oil ・Study of equipment to control VOC (Volatile Organic Compounds) emissions from newly built tankers ＜Minimize resources consumed and minimize waste utilized by vessels.＞ ・Promotion of sorting and recycling of waste generated onboard the vessel, including reuse through repair of cargo handling materials onboard the vessel. ・Reduce the amount of waste generated from vessels through proper operation of the Garbage Management Plan.	○	・Reduced tap water comsumption in the office per employee in the office(14% decreased than target). ・Reduced OA paper comsumption per employee by promoting paperless initiatives(15% decreased than target). ・Promoted green products：Improve the rate of eco-friendly products(19% increased than target).
		<Reduction of environmental impact on land-based operations> ・Minimize resource consumption and waste at onshore facilities ・Reduction of water consumption per employee at land-based facilities ・Reduction of office paper consumption per employee through promotion of paperless operations ・Reduction of waste at land-based business sites: Promotion of sorting of recyclable containers and packaging waste ・Promote green procurement: Increase the ratio of eco-friendly products		・Delivered Environmental E-learnig in March and conducted internal auditor training by DNV in September with 8 participants. ・Conducted pre-boarding briefings ensure, and conduct training (target: 1 time in every month).

Environmental targets for 2023

Environmental Vision 2050		Environmental targets for 2023	evaluation 2023	Results in 2023
2050 Targets	2030 Interim milestones			
		＜Implementation of environmental training and education for crew members/constituents＞ ・Conduct various seminars and environmental e-learning education (once a year) ・Active participation in internal and external seminars ・Education for managers at pre-boarding briefings ・Conduct various training programs at Kline Maritime Academy ＜Promoting Dialogue with Stakeholders＞ ・Enhancement of disclosure and communication of our environmental measures (integrated report, website, etc.) and expansion of opportunities for explanation	○	・Issued ESG Data Book 2022 in January and Integrated Annual Report in November. ・Conducted ESG-focused investor meetings(6 times in a year)
Support for social environmental improvement ・Support for social environmental improvement ・Leader in protection of the ecosystem	Support for social environmental improvement Enhancing dialogue and activities for improving the social environment	＜Strengthening Green Ship Recycling＞ ・Dismantling at the Green Ship Recycling Yard in accordance with company policy ＜Participation in Marine Plastic Waste Collection and Surveys＞ ・Conducted survey and collection activities of marine plastic debris in cooperation with Tokyo University of Marine Science and Technology. ＜Promotion of Environmental Preservation Volunteer Activities＞ ・Conduct "forest conservation activities" or "beach cleanups	○	・In order to fulfill the requirements for the entry into force of the HKC, conducted visits and negotiations in Bangladesh. ・Conducted marine plastic debris survey activities in collaboration with Tokyo University of Marine Science and Technology. ・Conducted "beach cleanups"in May and "forest conservation activities" in last November.