

Environmental targets for 2024

Environmental Vision 2050		Environmental targets for 2024
2050 Targets	2030 Interim milestones	
<p><u>Our decarbonization</u></p> <ul style="list-style-type: none"> •Take on the challenge of net-zero GHG emissions 	<p><u>Our low-carbonization</u></p> <p>CO2 emission efficiency improved by 50% compared to 2008</p>	<p><Reinforcement of measures to improve operational efficiency (fuel efficiency)></p> <ul style="list-style-type: none"> •Reduce CO2 emissions through slow steaming •Improvement of ship operation management through performance analysis using AI technology <p><Study the introduction of low-carbon and decarbonized fuels.></p> <ul style="list-style-type: none"> •Study introduction of LNG, ammonia, and other fuel vessels •Use of carbon neutral fuels such as biofuels <p><Contribution to the demonstration and diffusion of the Seawing automatic kite system></p> <ul style="list-style-type: none"> •Development and implementation of the introduction of the "Seawing" wind power propulsion auxiliary system <p><Consideration and introduction of other new technologies></p> <ul style="list-style-type: none"> •Consider adopting energy-saving equipment and add-ons (water-emission boilers, inverters, etc.) in the new shipbuilding plan. •Verify the effectiveness of UWC (Under Water Cleaning), paint performance, and energy-saving add-ons using AI analysis technology. •Consider specifications to control methane slip and N2O emissions. •Study on-board CO2 capture technology. <p><Onshore Initiatives></p> <ul style="list-style-type: none"> •Reduce total electricity consumption and GHG emissions associated with electricity consumption at onshore facilities to below target. *previous year's level: first half 200,000kwh<88.2t-CO2>,2nd half 201,000kwh<88.6t-CO2> •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
<p><u>Support for social Zero CO2 emissions improvement</u></p> <ul style="list-style-type: none"> •Becoming a player in new energy transportation and supply that supports social decarbonization 	<p><u>Support for social low CO2 emissions improvement</u></p> <p>Strengthen activities to promote new energy transportation and supply for social low-carbonization</p>	<p><Development and expansion of new businesses that contribute to the low-carbon society></p> <ul style="list-style-type: none"> •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. •Engage in the business development and participation in demonstration projects 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
<p><u>Our zero environmental impact to the utmost on oceans and atmosphere</u></p> <ul style="list-style-type: none"> •Zero oil pollution accidents •Zero environmental impact to the utmost on oceans and atmosphere in operation 	<p><u>Reduction of our environmental impact on oceans and atmosphere</u></p> <p>Reduction of environmental impact on the ocean and atmosphere in ship operations including zero oil pollution accidents</p>	<p><Promotion of initiatives to eliminate oil pollution accidents></p> <ul style="list-style-type: none"> •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 the utilization of technology and cutting-edge techniques. <p><Reduction of Environmental Impact of Ship Operations></p> <p>Measures to minimize impact on the marine environment</p> <ul style="list-style-type: none"> •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).

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		<p><Reduction of air pollutants generated by ships (black smoke, PM, CO2, SOx, NOx)></p> <ul style="list-style-type: none"> • 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 <p><Minimize resources consumed and minimize waste utilized by vessels.></p> <ul style="list-style-type: none"> • 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.
		<p><Reduction of environmental impact on land-based operations></p> <ul style="list-style-type: none"> • 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.(800 in the first half of the year, Second half 700 sheets) • Reduction of waste at land-based business sites: Promotion of sorting of recyclable containers and packaging waste.(Procurement rate 87%) • Promote green procurement: Increase the ratio of eco-friendly products.(Recycling rate 70%)
		<p><Implementation of environmental training and education for crew members/constituents></p> <ul style="list-style-type: none"> • 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 <p><Promoting Dialogue with Stakeholders></p> <ul style="list-style-type: none"> • Enhancement of disclosure and communication of our environmental measures (integrated report, website, etc.) and expansion of opportunities for explanation
<p><u>Support for social environmental improvement</u></p> <ul style="list-style-type: none"> • Support for social environmental improvement • Leader in protection of the ecosystem 	<p><u>Support for social environmental improvement</u></p> <p>Enhancing dialogue and activities for improving the social environment</p>	<p><Strengthening Green Ship Recycling></p> <ul style="list-style-type: none"> • Dismantling at the Green Ship Recycling Yard in accordance with company policy <p><Participation in Marine Plastic Waste Collection and Surveys></p> <ul style="list-style-type: none"> • Conducted survey and collection activities of marine plastic debris in cooperation with Tokyo University of Marine Science and Technology. <p><Promotion of Environmental Preservation Volunteer Activities></p> <ul style="list-style-type: none"> • Conduct "forest conservation activities" or "beach cleanups"