

Environmental targets for 2023

Environmental Vision 2050		Environmental targets for 2023
2050 Targets	2030 Interim milestones	
<p><u>"K" LINE decarbonization</u></p> <p>Take on the challenge of net-zero GHG emissions</p>	<p><u>"K" LINE low-carbonization</u></p> <p>Improve CO2 emission efficiency 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"> • Trial and expansion 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 energy-saving devices 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 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
<p><u>Support the decarbonization of society</u></p> <p>Be the transporter and supplier of new energy</p>	<p><u>Support development of a low-carbon society</u></p> <p>Transport and supply new energy for a low-carbon society</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. • 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
<p><u>Minimize "K" LINE impact on the sea and air</u></p> <ul style="list-style-type: none"> • Zero oil spills • Aim for zero environmental impact 	<p><u>Reduce "K" LINE Impact on the sea and air</u></p> <p>Reduce the shipping operation's impact on the sea and air, including zero oil spills</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 automated loading optimization and AI <p><Reduction of Environmental Impact of Ship Operations> 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). <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.

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		<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 • 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
		<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 the environmental activities of society</u></p> <ul style="list-style-type: none"> • Support the environmental activities • Be the industry leader in ecosystem protection 	<p><u>Support the environmental activities of society</u></p> <p>Increase environmental dialogue and activities</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"