

Environmental targets for 2025

Environmental Vision 2050		Environmental targets for 2025	Evaluation 2025	Results in 2025
2050 Targets	2030 Interim milestones			
<p>Our decarbonization</p> <p>•Take on the challenge of net-zero GHG emissions</p>	<p>Our low-carbonization</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 •Implementation of proper hull cleaning based on hull fouling simulation function. •Visualization of our own GHG emissions. <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. •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. •Improve year's level: first half 200,000kwh<86.5t-CO2>, 2nd half 201,000kwh<88.0t-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>○</p> <p>○</p> <p>△</p>	<p><Reinforcement of measures to improve operational efficiency (fuel efficiency)></p> <ul style="list-style-type: none"> •Active implementation of slow steaming or Super Slow Steaming as the situation permitted •Continuation of performance monitoring for all vessels and implementation of monitoring for operational efficiency improvement •Achievement of 23% reduction in AER compared to 2008 for Bulk vessels •Adoption of optimal hull forms including rudder, propeller, and bow shape on all 7 newly launched vessels •Examination and verification of hull cleaning robots, implementation of effectiveness testing, and sharing of results with stakeholders <p><Study the introduction of low-carbon and decarbonized fuels.></p> <ul style="list-style-type: none"> •Examination of gas-fueled vessel introduction in cooperation with each sales department •Examination of biofuel and LNG fuel procurement for our operated vessels and information gathering from suppliers on new fuels such as ammonia and methanol •Explanation of kite utilization and environmental regulation trends during customer meetings <p><Contribution to the demonstration and diffusion of the Seawing automatic kite system.></p> <ul style="list-style-type: none"> •Conducted 3 flight tests by the end of June <p><Consideration and introduction of other new technologies></p> <ul style="list-style-type: none"> •Adoption of energy-saving equipment such as water emission boilers and inverters in new shipbuilding plans (9 out of 10 vessels) •Adoption of energy-saving add-ons (SURF, RBWF, PBOC) on 3 out of 4 newly launched vessels •Examination and adoption of specifications contributing to methane slip reduction in new shipbuilding plans •Regarding on-board CO2 capture technology, synthesis of adsorbents suitable for low-concentration CO2 adsorption and initiation of discussions with marine engine and marine equipment manufacturers toward commercialization <p><Onshore Initiatives></p> <ul style="list-style-type: none"> •Iino Building exceeded target by 2.3%, Hibiya Fort Tower achieved 9.4% reduction compared to target •Confirmation of actual results and continuous improvement at both Iino Building and Hibiya Fort Tower to reduce electricity consumption •Introduction of hybrid RTG as a CO2 reduction measure at company terminals
<p>Support for social Zero CO2 emissions improvement</p> <p>•Becoming a player in new energy transportation and supply that supports social decarbonization</p>	<p>Support for social low CO2 emissions improvement</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 •Social implementation of future ocean environment friendly materials 	<p>○</p>	<p><Development and expansion of new businesses that contribute to the low-carbon society></p> <ul style="list-style-type: none"> •Steady progress on various projects related to hydrogen and ammonia •Participation in CNP Promotion Councils at ports including Tokyo, Yokohama, Nagoya, Osaka, and Kobe toward realization of CNP •Examination of introduction of LNG fuel supply vessels for ships •Initiation of discussions with relevant research laboratories, marine engine manufacturers, and marine equipment manufacturers toward social implementation of future ocean environment friendly materials
<p>Our zero environmental impact to the utmost on oceans and atmosphere</p> <p>•Zero oil pollution accidents</p> <p>•Zero environmental impact to the utmost on oceans and atmosphere in operation</p>	<p>Reduction of our environmental impact on oceans and atmosphere</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 occurrences 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). 	<p>○</p>	<p><Promotion of initiatives to eliminate oil pollution accidents></p> <ul style="list-style-type: none"> •Adoption of air seal type stern tube sealing devices, biodegradable lubricants, and Bilge primary tanks on all 10 newly launched vessels <p>•Implementation of ICBT ship inspections on 172 vessels in the first half and 148 vessels in the second half, and requests for improvement to shipowners through inspection result reports when defects were found</p> <p><Reduction of Environmental Impact of Ship Operations></p> <ul style="list-style-type: none"> •Close monitoring of trends in conventions and regional regulations and installation of optimal ballast water treatment equipment suited to each vessel type and route •Adoption of environmentally friendly paints (low-friction paints) on all 10 newly launched vessels
		<p><Reduction of air pollutants generated by ships (black smoke, PM, CO2, SOx, NOx)></p> <ul style="list-style-type: none"> •Study installation of GOLD 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>○</p>	<p><Reduction of air pollutants generated by ships (black smoke, PM, CO2, SOx, NOx)></p> <ul style="list-style-type: none"> •Examination of battery utilization for CO2 emission reduction during berthing •Examination of soot emission countermeasures from exhaust gas of car carriers for new shipbuilding •Thorough confirmation of SMS procedure compliance status through supervisors and internal audits •For all vessels in operation, examination and implementation of scrubber installation, adoption of gas-fueled engines, or installation of low-sulfur fuel compatible equipment for vessels without EGOS, on a case-by-case basis •Withdrawal of target for VOC emission control equipment due to absence of applicable new tanker construction <p><Minimize resources consumed and minimize waste utilized by vessels.></p> <ul style="list-style-type: none"> •Collection and recycling of cargo lashing materials at Yokohama and Kobe ports, total collection of 2,052 kg •Confirmation of zero ocean dumping of applicable waste through internal audits and K-IMS data •Implementation of waste oil discharge to shore on 3 managed vessels
		<p><Reduction of environmental impact on land-based operations></p> <p>Minimize resource consumption and waste at onshore facilities</p> <ul style="list-style-type: none"> •Reduction of water consumption per employee at land-based facilities —Target value (first half 226m3, second half 225m3) •Reduction of office paper consumption per employee through promotion of paperless operations. —(first half 800, second half 800 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>△</p>	<p><Reduction of environmental impact on land-based operations></p> <ul style="list-style-type: none"> •Water consumption per employee at land-based facilities: 190m³, 16% reduction compared to target •OA paper consumption: 591 sheets/person, 1.5% reduction compared to target •Recycling rate exceeded target (Iino Building 3.8%, Hibiya Fort Tower 27.3%) •Eco-friendly product ratio in green procurement exceeded target by 3.5%
		<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>○</p>	<p><Implementation of environmental training and education for crew members/constituents></p> <ul style="list-style-type: none"> •Environmental E-learning conducted once a year •Implementation of manager education through pre-boarding briefings and achievement of 100% implementation rate (84 persons) <p><Promoting Dialogue with Stakeholders></p> <ul style="list-style-type: none"> •Enhancement of disclosure and communication of our environmental measures

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<p>2050 Targets</p> <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>2030 Interim milestones</p> <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" 	<p>○</p>	<p><Strengthening Green Ship Recycling></p> <ul style="list-style-type: none"> •Appropriate information gathering including media response, internal and external dissemination, and promotion of responses in cooperation with related organizations <p><Participation in Marine Plastic Waste Collection and Surveys></p> <ul style="list-style-type: none"> •Marine plastic debris survey activities not conducted due to no request from the other party <p><Promotion of Environmental Preservation Volunteer Activities></p> <ul style="list-style-type: none"> •Forest conservation activities cancelled due to bear sightings •Beach cleanup activities conducted (1 time) •Training on seaweed bed restoration activities including group companies in the Kansai region conducted (1 time)