

Environment

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Environmental Management

Governance

- NYK Group Environmental Vision
- NYK Group Environmental Policy Organization
- Environmental ISO Certification
- Strengthening Environmental Management through External Organizations

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NYK Group Environmental Vision

Our Environmental Vision (the "Vision") sets forth the Board-approved environmental goals and aspirations for the entire NYK Group.

NYK Group Environmental Vision

The NYK Group will continue to be a force that supports the sustainable development of the Earth and humanity by taking a leading role in solving environmental issues on a global scale through continuous co-creation of necessary value for the future beyond the scope of a comprehensive logistics company

Environmental issues that require particular attention



Response to Climate Change



Marine Environment and Biodiversity Conservation



Prevention of Air Pollution

• Three environmental issues that require particular attention

> Response to Climate Change

NYK Group will work decisively towards the achievement of net-zero emissions by 2050 through the social implementation of new technologies and fuels brought by co-creation with diverse stakeholders and put forward the reduction of greenhouse gas emissions including Scope 3 throughout the entire value chain with whole group companies and employee.

> Marine Environment and Biodiversity Conservation

NYK Group will work to prevent marine pollution through the thorough enforcement of safety ship operation, reduce the environmentally hazardous substances emitted from ships through proactive implementation of new technologies, reduce underwater noise and ship fouling. In addition, NYK Group will implement effective measures with diverse stakeholders through the analysis of the distribution and impact of marine plastics, as well as ecological understanding using environmental DNA sampling.

> Prevention of Air Pollution

NYK group will promote the reduction of atmospheric pollutants emitted from ships, aircraft, vehicles, and other sources, then further practice businesses that are friendly to the Earth's environment and human health.

We have established the NYK Group Environmental Policy (the "Policy") based on our Vision. Together, the Vision and Policy represent the highest level environmental guidelines of the NYK Group, having been approved by the Board of Directors after incorporating feedback from Group companies.

NYK Group Environmental Policy

1. We will strive to conserve the oceans, the global environment, biodiversity, water resources, forests, and other natural resources by considering the impact of our business activities on the environment, setting necessary objectives and targets, and periodically reviewing them and continuously improving our measures, based on the clear commitment of top management following the resolution at the board of directors.
2. In addition to complying with laws and regulations related to safety and the environment, we will strive to improve our environmental performance through the establishment and operation of our unique Environmental Management System, based on dialogue with diverse stakeholders both inside and outside the group.
3. We will strive to ensure the safety of all modes of transportation, including inland and inland waters and air transportation, as well as services that spread across the sea, land, and air, such as terminals and warehouses and other places, including the safety of the operating fleet.
4. We will strive to collaborate with diverse stakeholders throughout our value chain, and work towards resource conservation, energy conservation, waste reduction, recycling, greenhouse gas reduction, reduction of environmentally hazardous substances discharge, water resource management, and forest conservation, and address all environmental challenges, such as climate change countermeasures, marine environment and biodiversity conservation, and prevention of air pollution.
5. We will strive to minimize the environmental impact resulting

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from the procurement, operation, and disposal of transportation equipment such as ships, aircraft, vehicles, and other sources, and decisively implement new technologies and fuels into society through co-creation with diverse stakeholders.

6. We will practice a circular economy by promoting responsible, transparent ship dismantling with consideration given to safety, the environment, human rights, and other factors.
7. We will provide appropriate and sufficient education and training to internal and external parties and ensure a "Just Transition" when adopting new technologies to address environmental issues.
8. Through internal public relations activities and environmental seminars, we will tirelessly raise the environmental awareness of each employee and instill these environmental policies.
9. We will promote co-creation with diverse stakeholders by maintaining close dialogue with society, proactively disclosing environmental information including environmental risks and opportunities throughout the entire value chain, proactively engaging in and communicating effective initiatives, and providing grants and support for environmental conservation activities. Through collaboration with diverse stakeholders, we will respond to environmental issues inside and outside the Group and strive to enhance corporate value.

President, Representative Director, President and Chief Executive Officer
 Constituted on 1st September, 2001
 Amended on 1st April, 2009
 Amended on 1st April, 2017
 Amended on 31st March, 2023

Environmental Management

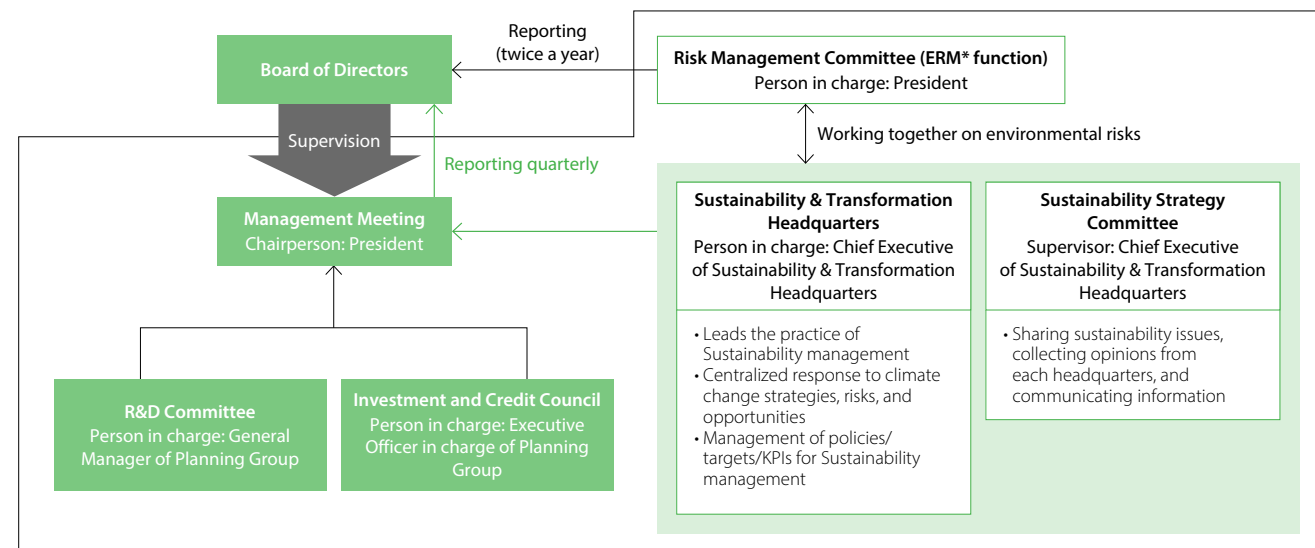
Organization

The Sustainability Strategy Committee examines a variety of sustainability topics, including climate-related issues, from a cross-departmental perspective. Key matters emerging from these discussions are reported to the Management Meeting via the Sustainability & Transformation Headquarters.

The Risk Management Committee, which comprises the

Chairman, President, Executive Officers who are chief executives, and full time Audit & Supervisory Committee members, manages and evaluates risks that could significantly impact company-wide operations. Environmental risks are incorporated into the company's overall risk-management framework and reported to the Board of Directors twice a year through close cooperation between the Sustainability & Transformation Headquarters and the Risk Management Committee.

■ Framework for Promoting Environmental Management (As of April 1, 2025)



*ERM (Enterprise Risk Management): Company-wide risk management

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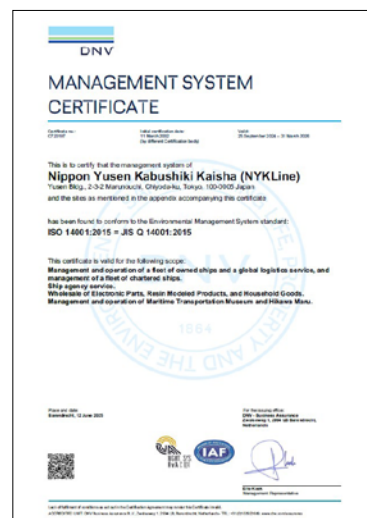
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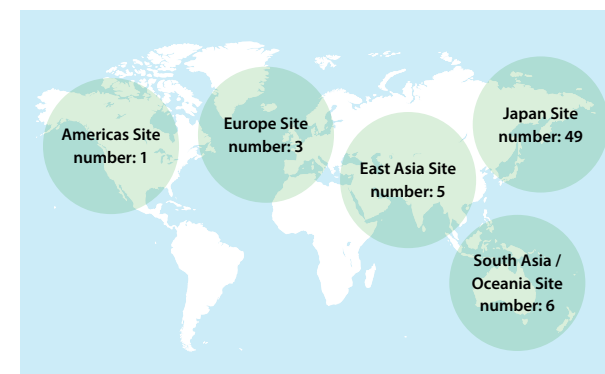
Environmental ISO Certification

NYK has obtained environmental certification for our environmental management system through a global multisite system based on the ISO14001:2015 standard. Additionally, several Group companies, primarily located overseas, have established their own certified environmental management systems. As of April 1, 2025, the ratio of certified companies accounted for approximately 70% of the Group's consolidated net sales.



ISO Certificate

ISO14001 Certified Site List by multisite system (by region)



(As of April 1, 2025)

Link For more information, click on the link below.
<https://www.nyk.com/english/sustainability/pdf/environment015en.pdf>

Strengthening Environmental Management through External Organizations

Implementation of Internal and External Auditing

NYK conducts internal environmental audits in accordance with the requirements of the ISO14001:2015 standard for companies that have obtained environmental management system certification through the global multisite system. Moreover, NYK undergoes periodic external audits by certified organizations to maintain its certification.

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Our Group has established a management system in which we analyze the risks and opportunities associated with the impact of climate change on our corporate activities and businesses over the medium to long term, incorporate those risks and opportunities into our management strategy, and promote our responses to them. Please see “Environmental Management” for the governance structure of environment-related issues, including responses to climate change.

For more information, click on the link below

[P.030 Environmental Management](#)

Risk and Opportunity Assessment Process

In our Group, based on consultation from the Chief Executive of Sustainability & Transformation Headquarters, the Sustainability Strategy Committee discusses risks and opportunities associated with climate change while considering the contents presented by each business unit. The Sustainability & Transformation Headquarters compiles the details on the matters discussed by the Sustainability Strategy Committee, and reports the same to the Directors and management personnel.

The Risk Management Committee, chaired by the President and composed of chief executives of respective departments, manages and evaluates risks that can potentially a significant impact on the Company as a whole, and risks associated with climate change. The Sustainability & Transformation Headquarters and Risk Management Committee work closely together to integrate such risks into the company-wide risks, and report them to the Directors twice each fiscal year.

Strategy and Risk Management

The Group considers the transition to a decarbonized society as an opportunity, and actively promotes initiatives to achieve low-carbon emissions and decarbonization, aiming for sustainable growth by decoupling environmental impact and business activities. We will continue to contribute to the realization of a sustainable society by strengthening our own competitiveness through decarbonization initiatives, making proactive, forward-looking investments that respond to social demands for a decarbonized society, and creating mutual benefits with our stakeholders.

Scenario Analysis and Identification of Risks and Opportunities

Our group recognizes that it is important to assess risks and opportunities using scenario analysis for climate change and understand the impact of these risks and opportunities on our business strategy and performance. From the long-term business operations perspective, we continue to work towards managing risks and identifying opportunities based on rational scenarios by factoring in climate change elements into our own transportation demand forecast.

In the “Disclosure Report Based on Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)”, the business environment and strategies in 2050 are organized and disclosed using climate change scenarios for the “1.5°C scenario” and the “~4°C scenario”. See “Disclosure Report Based on Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)” for details on the scenario analysis by each business segment.



For more information, click on the link below
<https://www.nyk.com/english/sustainability/pdf/environment005en.pdf>

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• Main Anticipated Risks and Opportunities Associated with Climate Change

Our Group continues to assess and manage the various potential risks and opportunities due to climate change, and strives to strengthen our competitiveness while evaluating the long-term impact on our business operations.

Risks and opportunities Associated with Climate Change	Impact on the Group	Manifestation timing	Business sectors				Impact on Business				Strategy			
			Liner & Logistics	Bulk Shipping			2030		2050					
				Dry Bulk	Energy	Auto-motive	1.5-2°C	≤ 4°C	1.5-2°C	≤ 4°C				
Transition risks/opportunities	Regulations	Risk	Tighter GHG emission regulations by the IMO and each country's authorities may increase the burden of investment in lowcarbon technologies. In addition, there is a possibility that operating costs will increase due to the pricing for GHG emissions from vessels operated by the NYK Group.	Short-medium term	○	○	○	○	Small	Small	Small	Small	<ul style="list-style-type: none"> • NYK Group aims to reduce GHG emissions and gain environmental advantage ahead of future regulations. • Key actions: <ul style="list-style-type: none"> – Improve ship efficiency through DX and adopt LNG-fueled vessels. – Invest in ammonia-fueled vessels to cut emissions by over 80%. – Gradually switch to biogas, synthetic fuels, and biofuels. – By 2050, plans to invest approx. ¥2.1 trillion in low-carbon vessels. Carbon-related costs will be appropriately reflected in freight rates. • NYK Group secures skilled seafarers through in-house training in the Philippines and crew management in Singapore. • Also exploring ship management services as a new business opportunity. • NYK Group transports diverse cargo with a balanced portfolio. • To boost resilience, it will: <ul style="list-style-type: none"> – Strengthen core businesses. – Explore new growth areas. • By 2050, plans to invest: <ul style="list-style-type: none"> – ¥3.6 trillion in core businesses. – ¥1.2 trillion in new growth areas. • NYK Group leads in investing in low-/decarbonized vessels, with 127*1 vessels announced as of March 2025. • Plans to invest ¥2.1 trillion by 2050, but will adjust based on tech progress and social trends. • NYK Group sees LNG-fueled vessels as a practical way to cut GHG emissions by the early 2030s. • Plans to introduce zero-emission vessels using ammonia and hydrogen by the mid-2030s. • Is assessing drop-in fuels like biofuels and bio-LNG to enable gradual decarbonization using existing ships. • NYK Group promotes sustainable financing*2 to support environmental efforts, including climate change. • Shares policies through its website and integrated reports (NYK Report). • Has raised tens of billions of yen in funds. • Will continue using sustainable financing to balance environmental investment and earnings. • Simulations show only a slight increase in severe weather risk for NYK's fleet. • To ensure safe and efficient navigation, NYK implements: <ul style="list-style-type: none"> – Route optimization support using its own system. – Storm avoidance simulations by land-based operators who guide vessels. • Final decisions remain with the captain, but shared data (e.g. costs, arrival times, customer needs) helps minimize risks and fuel use. • These efforts are part of NYK's Sustainability Management. • Most terminals used by NYK vessels are operated by public or third-party entities, so sea level rise poses limited asset risk. • NYK has conducted quantitative assessments for climate-related flood and wind damage risks. • For low-lying properties and warehouses, NYK is converting leases to allow flexible responses to rising sea level risks. • Climate change is expected to negatively impact NYK's business the Panama Canal transit. • Simulations show Gatun Lake water levels will decline as global warming progresses. • The Panama Canal Authority is taking water-saving measures, but NYK will continue to monitor and request improvements if needed. 	
	Technology	Risk	The number of highlyskilled seafarers who can operate LNG-fueled and next-generation fuel vessels is currently limited, and there is a possibility that there will be a shortage of seafarers in the future.	Short-medium term	○	○	○	○	Medium	Small	Medium	Small		
		Opportunity	The demand for highlyskilled seafarers will increase, which could create new business opportunities for ship management companies with these personnel.	Short-medium term	○	○	○	○	Medium	Medium	Large	Medium		
	Market	Changes in shipment and transportation demand	Risk	Demand for existing energy resources with high GHG emissions is expected to decrease, and there is a risk of a decrease in revenue opportunities in the dry bulk energy transportation business.	Long term	○	○	○	Small	Small	Large	Medium		
			Opportunity	In light of the increase in demand for renewable energy, the offshore wind power value chain, and the transportation business of hydrogen, ammonia, biofuel, etc. is expected to expand.	Long term	○	○	○	Small	Small	Large	Medium		
		Rapid changes in customer Trends	Risk	There is a risk of customer attrition due to delays in efforts to reduce GHG emissions.	Long term	○	○	○	○	Small	Small	Large		Medium
			Opportunity	Growing demand for marine transportation services that have low GHG emissions could favor companies that are ahead of the curve in related investments.	Long term	○	○	○	○	Small	Small	Large		Medium
	Decline in asset value due to delays in the decarbon ization of the NYK Group fleet	Risk	Delays in the decarbonization of the fleet (including the earlier-than expected popularization of zeroemission vessels) may lead to increased carbon pricing for existing fuel vessels, resulting in a potential decline in asset value.	Long term	○	○	○	○	Small	Small	Medium	Small		
		Cost of funding activities	Risk	We may not be able to utilize sustainable financing*2, etc., and may have to conduct funding activities under conditions that are less competitive compared to our competitors.	Short-medium term	○	○	○	○	Small	Small	Medium		Small
	Opportunity		By securing our environmental advantage, there is an opportunity to utilize sustainable financing and reduce funding costs.	Short-medium term	○	○	○	○	Medium	Medium	Large	Medium		
Physical Risks	Acute	Risk	The vessels the NYK Group operates are constantly exposed to the risk of encountering stormy weather in various marine regions of the world. In particular, the impact of typhoons, monsoons, and giant cyclones in highlatitude regions is significant, and in recent years, cases of vessels being affected just by typhoons have been on an increasing trend. If a vessel encounters stormy weather, there may be additional fuel costs associated with route changes to avoid the storm zone, or additional fuel costs associated with increased speeds to maintain the transportation schedule.	Long term	○	○	○	○	Small	Small	Small	Small		
	Chronic	Risk	Among the assets held by the NYK Group, real estate, warehouses, terminals, and port facilities located in lowlying areas may become unusable due to rising sea levels as a result of climate change. In addition, as an operational risk, due to the limited number of operating ports, there is a possibility that ships may incur demurrage, etc.	Long term	○	○	○	○	Small	Small	Small	Medium		
	Acute	Risk	The Intergovernmental Panel on Climate Change's 6th Assessment Report (IPCCAR6) predicts that the area around Panama will become hotter and drier. There is concern that the risk of drought will increase in the future, as the water level in Gatun Lake, the source of the Panama Canal, has been dropping in recent years, causing drought problems. As global warming is expected to continue to increase the range of annual rainfall fluctuations, there is concern that the risk of both flooding and drought will increase further.	Short-medium term	○	○	○	○	Medium	Medium	Medium	Large		

*1 127: vessels of our related companies

*2 Financial methods specialized in addressing climate change, environmental destruction, and human rights issues

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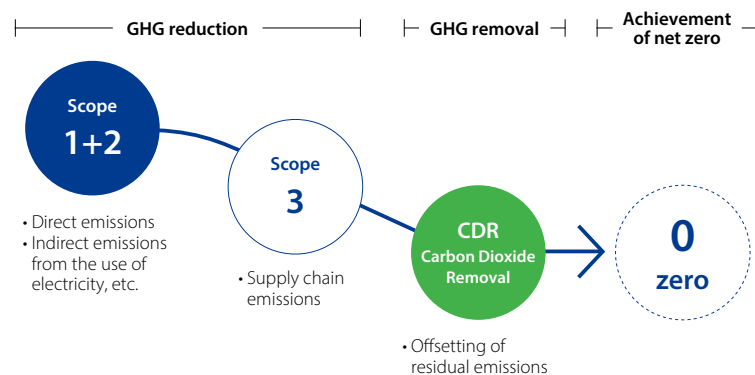
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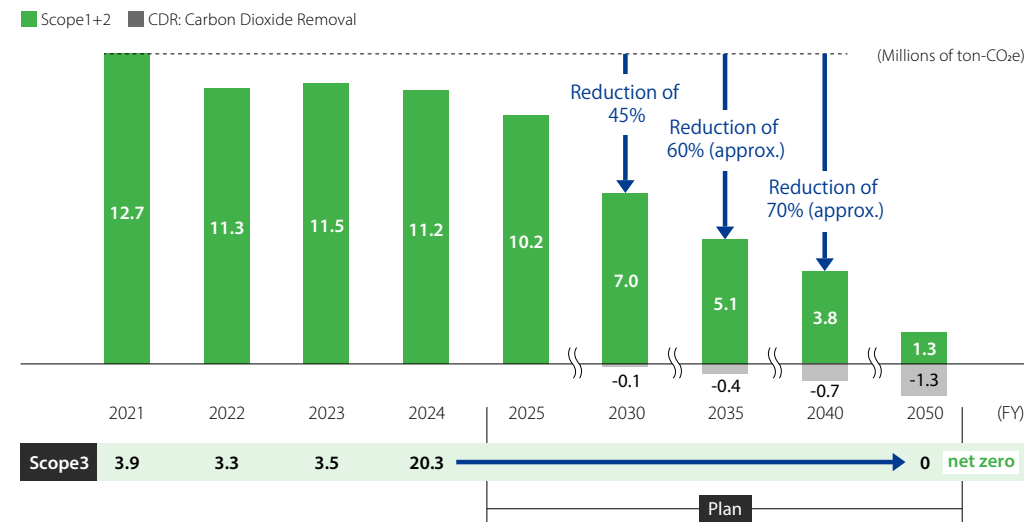
Net Zero Achievement Scenario

To achieve net zero GHG emissions by 2050, our Group has formulated a scenario that takes a two-pronged approach of “reducing” and “removing” the GHG emissions. With steady implementation of this scenario, we aim to support the decarbonization of society from the perspective of marine transport, and ultimately to realize a sustainable society.

Aiming for Net-Zero GHG Emissions through a Reduction and Removal Approach



Scenario for Achieving Net Zero



Note: From fiscal year 2024, the boundary for Scope 3 emissions calculation has been expanded to include all major consolidated subsidiaries and key equity-method affiliates. Furthermore, emissions data is collected across all Scope 3 categories.

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● Path to Net Zero / Reducing GHG Emissions

Our plan is to gradually deepen our efforts to reduce Scope 1 and 2 GHG emissions using two strategies. We will pursue Strategy ①, in which we will maximize energy efficiency (operation/specifications) till 2030, and then we will aim for Strategy ②, in which we will accelerate the use of alternative fuels after 2030.

With regards to Scope 3, we will share data with stakeholders and work with them in parallel with Strategies 1 and 2, with an aim to build an ecosystem through the creation of a low-carbon value chain.

> Scope 1, 2 Strategy ① Maximize Energy Efficiency (Operation/ Specification)

We will promote the reduction of GHG emissions from our existing fleet by improving daily operations and energy efficiency.

> Scope 1, 2 Strategy ② Acceleration through Alternative Fuels

Starting in 2030, we will introduce alternative fuel vessels that take into account other environmental impact in addition to GHG emissions, and build a resilient fleet portfolio.

■ Scope 1,2 Strategy ①

Improvement of ship operation efficiency

Collaborating with customers to enhance frameworks and management aimed at maximizing the efficiency of vessel operations

Executive Officers and Heads of Groups representing respective group

Sustainability Strategy Committee

Management / Vessel Operator

GHG Reduction Task Force / IBIS* Challenge

Sharing and Integration of GHG Reduction Plans, Actions, and Achievements Across Investment, Sales, Vessel Operations, and Group Company Management

All employees

IBIS Frontier

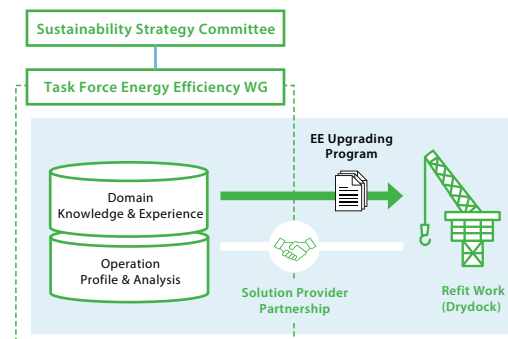
Study Session on Decarbonization and Sustainability for All Group Employees

*IBIS: Innovative Bunker and Idle-time Saving

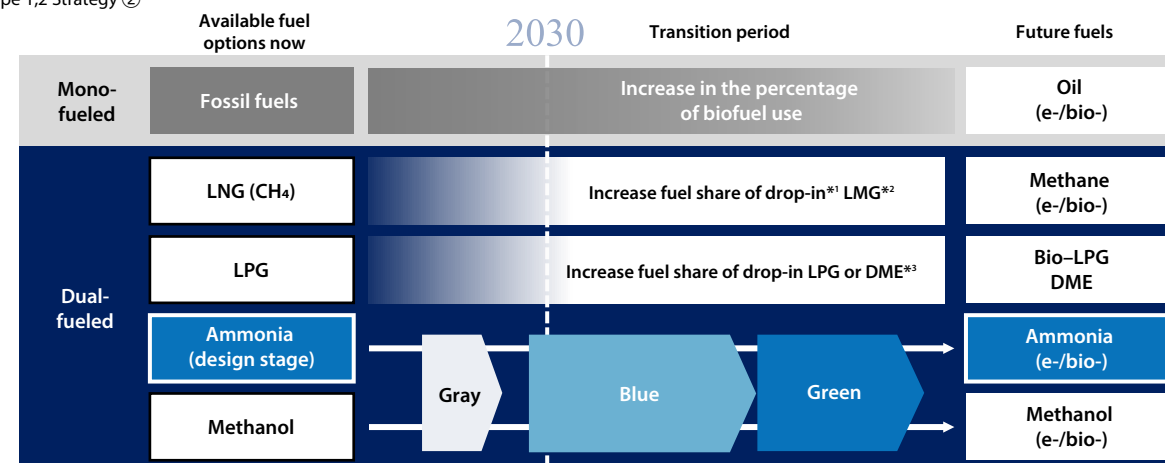


Enhancement of technical capabilities

Working with external partners to improve energy efficiency



■ Scope 1,2 Strategy ②



*1 Drop-in: Fuel that can be used without requiring remodeling the ship or its engines. *2 LMG: Liqueed Methane Gas *3 DME: Dimethyl Ether

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● Path to Net Zero / GHG Removal

In order to cover the remaining GHG emissions that are difficult to shift to zero emissions, we will invest in and participate in projects to build a value chain for carbon capture, utilization, and storage (CCUS) that utilizes negative emissions technology (NETs)*. We will also work to create new green businesses through carbon credits.

*Negative Emission Technology (NETs): A general term for technologies that capture and remove CO₂ from the atmosphere or the ocean

> Internal Carbon Pricing (ICP)

Our Group introduced an internal carbon pricing system (ICP) in fiscal 2020, and we are using it as reference information to aid investment decisions at the Investment and Credit Council and the Management Meeting in which investment decisions are deliberated. By linking financial information and GHG emissions using ICP, we visualize the value of GHG emissions reductions and promote sound decision-making by unifying the evaluation criteria for various departments and projects. The applicable prices are set at US\$120/t-CO₂ until fiscal 2026, US\$200/t-CO₂ from fiscal 2027 to fiscal 2030, and US\$250/t-CO₂ from fiscal 2031 onwards.

NYK SUPER ECO SHIP 2050

In November 2018, NYK in collaboration with our group company MTI Co., Ltd., and Elomatic, a Finnish marine technology consulting firm, devised "NYK Super Eco Ship 2050" to achieve GHG reduction targets and realize the decarbonization of ships.

Equipped with the revised individual elemental technologies of the "NYK Super Eco Ship 2030" concept ship announced in 2009, this ship is a new zero-emission concept ship that reduces GHG emissions by 100% through the use of hull modifications, weight reduction, increased efficiency, and digitalization.

In the future, we will continue to promote collaboration with a wide range of global partners in the maritime industry with the aim of researching, developing, verifying, and introducing the elemental technologies set out in the NYK Super Eco Ship 2050.



For more information, click on the link below

<https://www.nyk.com/english/sustainability/pdf/environment006en.pdf>
<https://www.youtube.com/watch?v=wXJTbcUjxmk>

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In November 2023, our Group announced the "NYK Group Decarbonization Story" in which we established decarbonization strategies and GHG reduction targets towards 2050. In October 2024, our Group released "Progress Report 2024 as an annex to the NYK Group Decarbonization Story", detailing the progress and specific initiatives undertaken over the past year.

In January 2025, the Group also published an official position paper on carbon dioxide removal (CDR). By leveraging CDR technologies, we aim to achieve net-zero greenhouse gas emissions by 2050.

[Link](https://www.nyk.com/sustainability/pdf/environment003.pdf) For more information, click on the link below.
NYK Group Decarbonization Story
<https://www.nyk.com/sustainability/pdf/environment003.pdf>

New Decarbonization Goals

Since the medium-term management plan announced in 2018, our Group has disclosed greenhouse gas emission reduction targets and has been steadily working to achieve these targets. In recent years, the movement towards decarbonization in the international shipping industry has been gaining momentum. In the light of this global trend, for our Group to continue to be a presence that is needed by society and industry, we have revised our medium to long term environmental targets (announced in 2018; 30% reduction in CO₂ emissions from ships and marine transport by 2030 compared to 2015, and a 50% reduction by 2050), and we have revised our targets to achieve a 45% reduction by 2030 (Scope 1+2) and net zero by 2050 (Scope 1+2+3) with 2021 as the base year. Details of the latest GHG reduction targets are as follows.

To reduce emissions, we have changed from an efficiency target to a total emissions target (in accordance with the 1.5°C scenario of the Paris Agreement).

Target year	FY2030	FY2050
Scope 1+2 for the entire group	45% reduction (compared to fiscal 2021)	Net Zero
Scope 3 for the entire group	–	

Past GHG emission reduction targets are as follows.

Established	2018	2021
Publication Medium	Medium-term Management Plan "Staying Ahead 2022 with Digitalization and Green"	Green Pledge*
Type of Target	Efficiency	Total amount
Scope 1+2 for the entire group	Oceangoing ships + aircraft 30% reduction	Oceangoing ships Net Zero
Scope 3 for the entire group		
Target year	2030	2050
Base year	2015	–

* Green Pledge: On September 30, 2021, the NYK Group decided to set a long-term target for reducing GHG emissions related to its international shipping business of achieving "Net Zero Emissions by 2050".

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Initiatives

In addition to initiatives and activities aimed at decarbonization from three aspects; "GHG Reduction", "Zero GHG Emissions," and "GHG Removal", our Group is promoting research and development associated with the decarbonization technology.

Initiatives in Shipping

GHG Reduction

● Overview on Active Use of LNG (Liquefied Natural Gas)

Heavy fuel oil is currently the primary marine fuel used. However, its usage results in environmental destruction, including climate change. LNG, however, is a next-generation fuel that can significantly reduce CO₂, NOx (nitrogen oxides), and SOx (sulfur oxides) emissions.

Our Group positions marine LNG fuel as a bridge solution until zero-emission fuels become commercially viable, and has proactively invested in its development and deployment.

● Establishment of LNG fuel supply system

As an industry frontrunner, the Group has been actively developing its LNG fuel supply business. In 2017, our Group completed the world's first LNG fuel supply vessel and began supplying LNG to vessels operating in the North Sea and Baltic Sea in Europe. We have since established a reliable LNG fuel supply network and a system that enables stable operations from the outset, successfully transitioning into full-scale commercial use.

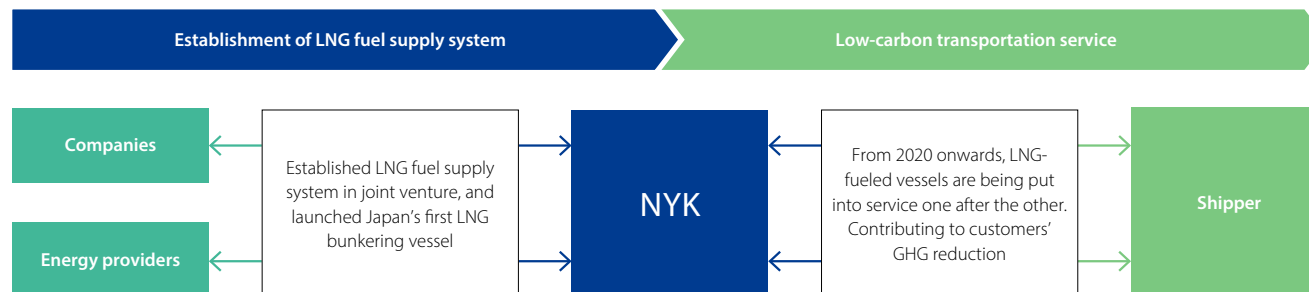
As a shipping company, we can contribute to the LNG-fueled demand side and the supply side. We are expanding our business globally in key locations and building an LNG-fuel value chain.

■ Progress in LNG fuel supply business

Month/Year	Event
Feb-17	NYK begins operation of the world's first LNG bunkering vessel, "Green Zeebrugge"
May-18	The four companies including Kawasaki Kisen Kaisha, Ltd., JERA Co., Inc.* ¹ , Toyota Tsusho Corporation, and NYK establish two joint venture companies, Central LNG Shipping Co., Ltd. (CLS), and Central LNG Marine Fuel Co., Ltd. (CLMF) for the sale of LNG fuel in the Chubu region.
Jul-18	CLS orders an LNG fuel supply ship from Kawasaki Heavy Industries, Ltd. As the first LNG fuel supply ship in Japan, it is put into service in the Chubu region in 2020 and used for the LNG fuel supply business by CLMF
Feb-19	MLZ signs an LNG fuel supply agreement with Equinor ASA, a Norwegian multinational energy company. Starts supplying four shuttle tankers at the Port of Rotterdam and other locations from 2020.
May-19	The four companies, including Kyushu Electric Power Company Inc., Seibu Gas Co., Ltd., The Chugoku Electric Power Co., Inc. and NYK implement the first LNG fuel supply in the Setouchi and Kyushu regions.
Sep-20	The first LNG fuel supply ship ordered by CLS is named "Kaguya"
Oct-20	The LNG fuel supply vessel "Kaguya" carries out Japan's first "ship-to-ship" ^{**2} LNG fuel supply to the LNG-fueled pure car carrier "SAKURA LEADER."
Sep-21	The four companies, including Itochu Enex Corporation, Kyushu Electric Power Company Inc., Seibu Gas Co., Ltd. and NYK sign MOU to jointly study the commercialization of LNG fuel supply for ships in the Kyushu and Setouchi regions. Full-scale study of building and owning LNG fuel supply ships
Feb-22	The four companies, including Kyushu Electric Power Company Inc., Itochu Enex Corporation, and Saibu Gas Co., Ltd., and NYK jointly establish KEYS Bunkering West Japan. Discussions on ship-to-ship LNG bunkering in western Japan
Mar-24	The LNG bunkering vessel "KEYS Azalea," which was built a joint venture between four companies; Itochu Enex Co., Kyushu Electric Power Company Inc., Seibu Gas Co., Ltd., and NYK is complete.
Nov-24	The LNG supply vessel "Kaguya" completed its 100th LNG fuel supply operation.

*1 At the time of the establishment of CLS and CLMF in May 2018, Chubu Electric Power Co., Ltd.

**2 Ship to Ship: A method of bunkering where an LNG bunkering vessel comes alongside an LNG-fueled vessel to supply LNG. This can be done at various locations, such as along the quay or pier or at anchor



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● Active Investment in LNG-Fueled Ships

In October 2020, Japan's first LNG-fueled pure car carrier, "Sakura Leader", was delivered. Designed to transport approximately 7,000 standard vehicles, it was one of the largest vessels of its kind in the world at the time. The vessel is expected to significantly reduce CO₂ emissions and achieves approximately 99% reduction in SO_x emissions and 86% reduction in NO_x emissions compared to conventional heavy fuel oil engines.

Furthermore, in 2019, the Group decided to build the world's first large LNG-fueled coal carrier, which was completed in 2024. In 2021, an order was placed for a Cape-size LNG-fueled dry bulker, further promoting sustainable maritime transport.

*Capsize: A bulk carrier having a deadweight tonnage of 120,000 tons or more. Ships between 60,000 tons and 120,000 tons are called Panamax carriers



LNG-fueled capsized dry bulk carrier "SG OCEAN"
(LNG dual-fuel engine-equipped ship)

● Utilization of Methanol Fuel

Methanol is a fuel with lower environmental impact compared to heavy fuel oil. Moreover, the use of bio-methanol and e-methanol—produced using hydrogen derived from renewable energy and CO₂ captured from the atmosphere—can significantly reduce greenhouse gas (GHG) emissions.

In May 2025, "Green Future", a methanol dual-fuel dry bulker time-chartered by NYK Bulk & Projects Carriers Ltd., was delivered.

This vessel is the NYK Group's first dry bulker equipped with a dual-fuel engine capable of operating on both methanol and heavy fuel oil.

● IBIS Project: Aiming for both Optimal Ship Operation and GHG-Emissions Reduction

The NYK Group is committed to pursuing safe operations with both high in quality and low in environmental impact, through various initiatives.

Since fiscal 2012, we promoted the IBIS (Innovative Bunker & Idle-time Saving) Project which focuses on optimal and economical vessel operations. Currently, our activities aim to simultaneously create both corporate value and social value by improving operational efficiency while reducing GHG emissions.

As part of the IBIS Project, we have established the "GHG Reduction Task Force / IBIS Challenge," which shares GHG reduction plans, actions, and results related to vessel operations, in addition to conducting educational sessions on decarbonization and sustainability for all group employees. Improving operational efficiency through this initiative is an essential element in achieving the NYK Group's decarbonization targets. We are systematically promoting sharing of best practices, such as communication between on-site employees and land-based operators, as well as remote support from land, to challenge more advanced operational practices.

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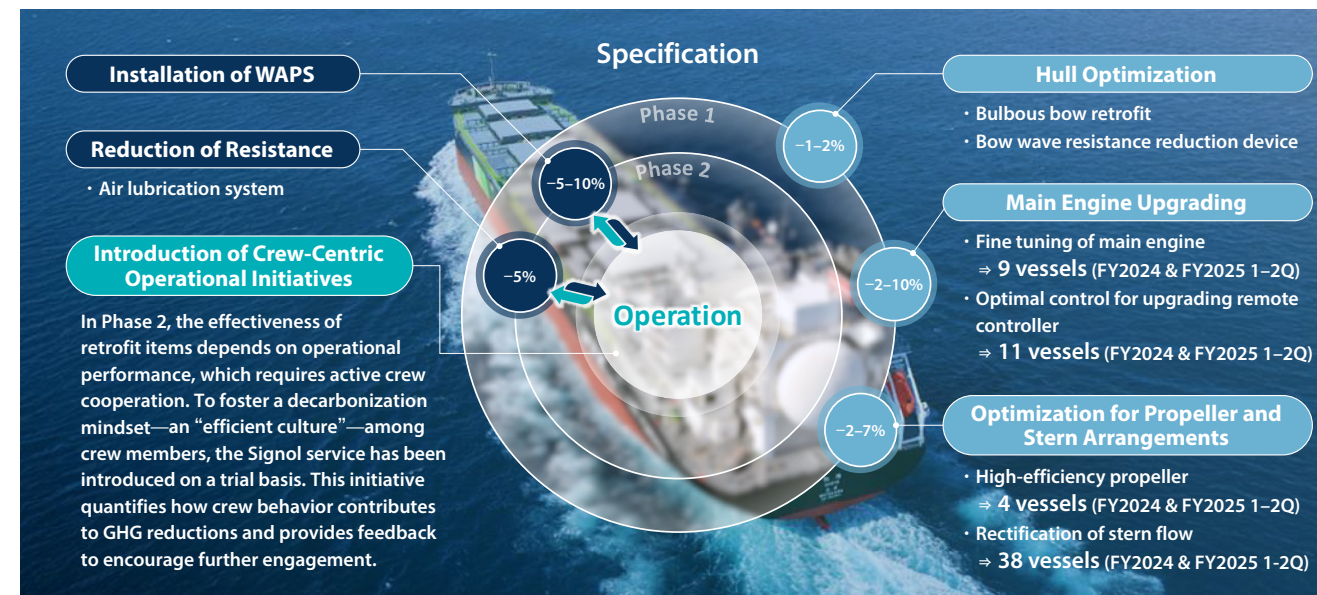
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● GHG Emission Reduction Initiatives by The Energy Efficiency Working Group

In response to the revision of our GHG reduction targets, NYK has established the Energy Efficiency Working Group as part of our initiatives to achieve these goals, focusing on enhancing vessel performance. This working group aims to maximize the energy efficiency of vessels by evaluating and implementing various performance improvement technologies.

In Phase 1, the working group focused on optimizing hull shapes, improving main engine performance, and installing propellers and stern appendages. These measures have not only contributed to reducing GHG emissions but also improved fuel efficiency, leading to lower fuel costs and steady recovery of implementation costs.

In the subsequent Phase 2, we are working to further reduce GHG emissions by introducing technologies such as reducing hull resistance and wind-assisted propulsion systems (WAPS). However, these technologies and equipment involve significant additional investment, and simply reducing fuel costs through improved fuel efficiency will not be sufficient to recover these expenses. The Group is focused on valuing GHG emission reductions by quantifying their financial benefits. Internally, we use the ICP (Internal Carbon Pricing) to convert GHG reductions into monetary value for evaluation. We are also working to ensure that our customers and other stakeholders evaluate the economic value of environmentally friendly transportation services.



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Zero GHG Emissions

● Ammonia

Amid the accelerating energy shift towards a decarbonized society, in the shipping industry in which GHG-emission reduction is an urgent issue, research and development is underway to switch from the conventional heavy oil to LNG and then to next-generation zero-emission fuels for marine vessels.

Ammonia, which does not emit CO₂ when burned, is considered as a zero-emission fuel that will contribute to the prevention of global warming; however, there are several hurdles to overcome before it can be used as a marine fuel. One of the issues is ensuring safety. Ammonia is toxic in nature. Therefore, it is essential to take measures to ensure that seafarers handle it safely. Moreover, to use Ammonia as fuel, production is required on a scale that is completely different from that required for conventional fertilizer use, which means that it is essential to create a fuel ammonia market and build a supply chain.

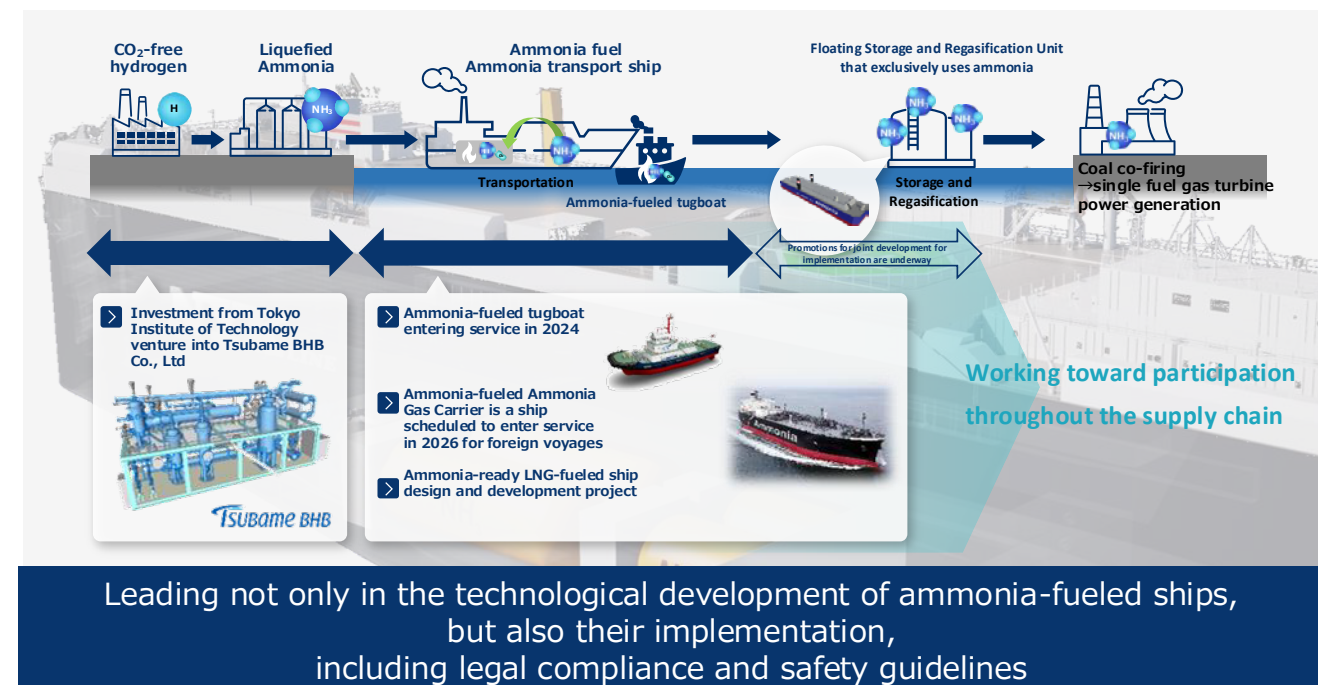
Through the support of the Green Innovation Fund* and collaboration with our partners, the NYK Group is involved in the technological development of next-generation fuel ships, including ammonia, as well as leading the way in implementation of the entire supply chain for the commercialization of next-generation fuels, including legal compliance and safety guidelines.

* Green Innovation Fund: A 2 trillion-yen fund created in NEDO to significantly accelerate current efforts such as structural transformation of the energy and industrial sector and innovation through bold investment toward carbon neutrality by 2050. The fund provides continuous support from R&D and demonstration to social implementation for up to 10 years for companies that share ambitious and concrete goals with the public and private sectors and tackle them as management issues. NEDO mainly provides support in 14 priority areas for which action plans are being formulated in the green growth strategy

■ Prospects for Ammonia-fueled Ship Development Project



■ Driving establishment of ammonia supply chain with partners



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● Demonstration project begins for commercialization of vessels equipped with domestically produced ammonia-fueled engine

In October 2021, our Company was selected for a public call for proposals for a subsidy project by the New Energy and Industrial Technology Development Organization (NEDO), which is a part of the Green Innovation Fund Project. We have begun a demonstration project for commercialization of vessels equipped with domestically produced ammonia-fueled engines in collaboration with our joint development partners; Japan Engine Corporation, IHI Power Systems Co., Ltd., Nippon Shipyard Co., Ltd., and the cooperating organization Nippon Kaiji Kyokai. In December 2023, we concluded a series of agreements related to the construction of the first ammonia-fueled medium gas carrier (AFMGC) equipped with a domestically produced engine.

● Ammonia-fueled tugboat (AFT)

As part of the "Demonstration project begins for commercialization of vessels equipped with domestically produced ammonia-fueled engine", we are working with IHI Power Systems Co., Ltd., and Nippon Kaiji Kyokai to commercialize the world's first ammonia-fueled tugboat. We obtained Approval in Principle (AiP)* in July 2022.

NYK Group's Shin Nihonkai Ocean Co., Ltd., carried out modification work at Oppama factory of Keihin Dock Co. Ltd. (Kanagawa Prefecture) to convert the LNG-fueled tugboat "Sakigake," previously operated in Tokyo Bay, into an ammonia-fueled tugboat. In this modification work, the entire engine system including the main engine (hereinafter referred to as "engine") and the fuel tank were replaced. This involved cutting the engine room to remove the existing LNG fuel equipment and installing new equipment designed for ammonia fuel. The newly installed ammonia fuel engine has completed its operational testing at the IHI Power Systems Co., Ltd. Ota Plant (Gunma Prefecture). It has

been confirmed that emissions of N₂O (nitrous oxide), which has a greenhouse effect approximately 300 times that of CO₂, as well as unburned ammonia, are nearly zero.

The ammonia-fueled tugboat "Sakigake" was completed in August 2024. Subsequently, Shin Nihonkai Ocean Co., Ltd. undertook demonstration operations for the tugboat as the world's first ammonia-fueled vessel to verify decarbonization effects and operational safety.

* Approval in Principle (AiP): This is a certificate issued by a certification body to indicate that the basic design has been reviewed and approved as meeting the technical requirements and safety standards.

> Ammonia-fueled Ammonia Gas Carrier (AFAGC)

As a part of the initiative "Demonstration project for commercialization of vessels equipped with domestically produced ammonia-fueled engine," we are collaborating with Japan Engine Corporation, IHI Power Systems Co., Ltd., and Nihon Shipyard Co., Ltd. to advance the research and development of ammonia-fueled ammonia gas carrier (AFAGC). In September 2022, we obtained approval in principle (AiP), and we are working on further design optimization with the aim of launching the ship in 2026. Based on the joint study that NYK and Yara Clean Ammonia Switzerland SA have been conducting since 2021 on the practical application of ammonia-fueled ammonia gas carriers, the two companies have now entered into a time-charter contract for the AFMGC.

■ Development and Implementation of Ammonia-fueled Tugboat

Application	In charge	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026	FY2027
Main machinery	IHI Power Systems	Development, Manufacturing, and Trial Operation of 4-stroke Engines						
Ship development	Nippon Yusen Kabushiki Kaisha (NYK)	Hull Design, Trial Operation, and Construction				Completion		
Operation	Nippon Yusen Kabushiki Kaisha (NYK)	Compliance with Laws and Regulations, Development of Operation Manuals					Demonstrational Operation/Actual Operation	

ClassNK (Nippon Kaiji Kyokai)

Technical verification of safety
Basic research for the formulation of international guidelines
Support for compliance with laws and regulations



Image of AFAGC exterior



Ammonia-fueled tugboat "Sakigake"

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> Ammonia-fuel Ready LNG-Fueled Vessel (ARLFV)

We are working on the design and development of "AmmoniaReady LNG Fuel Vessel," which is an LNG-fueled ship capable of being converted to use ammonia as a marine fuel immediately after the facilities for supplying ammonia as a marine fuel are established. This initiative is undertaken in collaboration with MTI, our group company and Elomatic, a Finnish ship technology consulting firm.

The three companies are positioning the ammonia-ready LNG-fueled ships as the next-bridge solution until marine fuel is completely switched from LNG to ammonia. The concept design is now complete, and we are currently working with shipyards and marine equipment manufacturers on the actual design.

> Ammonia Fuel Supply Initiatives

• Development of a new N₂O Removal System for Ammonia-Fueled Vessels

Kanadevia Co., Ltd. and NYK have jointly proposed the development of an N₂O reactor for ammonia-fueled vessels under the GI Fund Project of NEDO, which was adopted in November 2023. The International Maritime Organization (IMO) has set a target to achieve net-zero greenhouse gas emissions from shipping by 2050, making the transition to alternative fuels such as ammonia an urgent priority. This project aims to develop a catalytic system that removes nitrous oxide (N₂O), a greenhouse gas emitted during the use of ammonia fuel, thereby contributing to greenhouse gas reduction. Kanadevia will leverage its expertise in catalyst technology, and we plan to install an N₂O reactor on an ammonia-fueled vessel scheduled for delivery in 2026 to conduct demonstration voyages.

• Basic Agreement on Maritime Transport of Green Ammonia from India to Japan

NYK has signed a basic agreement with Kyushu Electric Power Co., Inc., Sojitz Corporation, and Sembcorp Green Hydrogen Pte. Ltd., a

wholly owned subsidiary of Sembcorp Industries Ltd., to collaborate on the maritime transport of green ammonia to Japan. This project aims to produce approximately 200,000 tons of competitive green ammonia annually using renewable energy in India and transport it to Kyushu. Leveraging our experience in ammonia maritime transport, we will contribute to building a next-generation energy supply chain for Japan.

* Green ammonia refers to ammonia produced using renewable energy sources. Because it emits no carbon dioxide (CO₂) during either combustion or production, it is considered a promising energy resource for realizing a decarbonized society.

■ Progress in Ammonia Fuel Supply

Date	Initiative
Jan-23	NYK, Japan Marine United Corporation, and IHI Corporation jointly obtained Approval in Principle (AiP) for the world's first A-FSRB (Ammonia-Fueled Floating Storage and Regasification Barge).
Aug-23	NYK and TB Global Technologies Ltd. signed a basic agreement to jointly develop Japan's first land-based ammonia supply system for ships.
Jul-24	Obtained Approval in Principle (AiP) from ClassNK (Nippon Kaiji Kyokai) for the basic design of the bunkering boom.
Jul-24	Conducted the world's first ammonia bunkering for ships using the "Truck to Ship" method.

* Truck to Ship: A method of supplying fuel to vessels by transferring it from tank trucks through flexible hoses.

● Hydrogen

> Capital Participation in JSE Ocean to Establish International Liquefied Hydrogen Supply Chain

In September 2023, NYK agreed to participate in a third-party capital increase alongside Kawasaki Kisen Kaisha, Ltd. and Mitsui O.S.K. Lines, Ltd., to invest in and collaborate with JSE Ocean Co., Ltd., a subsidiary of Japan Hydrogen Energy Co., Ltd.

JSE Ocean was established in January 2023 as a subsidiary of Japan Hydrogen Energy Co., Ltd. with the purpose of exploring marine transportation of liquefied hydrogen using liquefied

hydrogen carriers. Through this third-party capital increase, NYK will jointly work on ensuring safe and efficient operation of the world's first large, liquefied hydrogen carrier and on exploring viable business models for future marine transportation.

● Biofuels*

In pursuit of the practical application of biofuels, we have conducted trial voyages and participated in various demonstration projects, and since fiscal 2024, has conducted long-term trials toward full-scale introduction. As a result, the volume of biofuel (blended fuel base) used on our vessels reached 251,017 tons in fiscal 2024, significantly surpassing the 6,287 tons in fiscal 2023. This achievement marks the start of our company providing low-carbon transportation services utilizing biofuels, thereby accelerating efforts to reduce GHG emissions in maritime transportation.

The environmental value created through the use of biofuels is allocated to customers via our group's Yusen Logistics Group as part of a new green solution called "Alternative Fuel Ocean." The Group also offers "Alternative Fuel Air" and "Alternative Fuel Road."

* Biofuel: A fuel made from renewable, biologically sourced organic materials (biomass), and is expected to serve as an alternative to petroleum-based heavy oil and diesel. CO₂ emissions from burning biofuels are considered to be effectively zero.

> Start of Continuous Use of Bio-LNG Fuel on Car Carriers

We have begun the continuous use of bio-LNG fuel starting with two LNG-fueled car carriers operated by NYK at the port of Zeebrugge in Belgium. The fuel is supplied by Titan Supply B.V., a company specializing in LNG bunkering for ships.

Moving forward, we will continue to actively utilize environmentally friendly fuels, including bio-LNG, as part of our commitment to decarbonizing maritime transport.

* Bio-LNG: Refined and liquefied methane gas (biogas) produced from biomass (organic matter) such as livestock manure and food waste.

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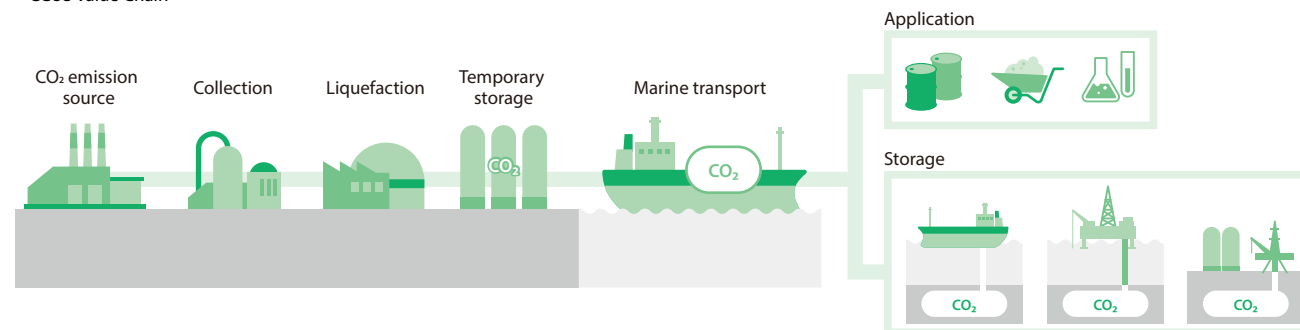
GHG Removal

CO₂ Capture, Utilization, and Storage (CCUS*)

In industries in which GHG emission reductions are technically and economically challenging, efforts in CO₂ capture, utilization, and storage are also essential for achieving net-zero goals. There are currently many CCUS projects being planned around the world including Japan. It is expected that multiple CCUS projects will be launched in parallel in Japan from the second half of the 2020s onwards. With this background, our Group is also participating in the CCUS value chain.

* CCUS (Carbon dioxide Capture, Utilization, and Storage): Involves the capture, conversion, and storage of CO₂; it is garnering attention as an effective means of achieving a carbon-neutral society. In such a value chain, LCO₂ ships are expected to play an indispensable role in transporting liquefied CO₂ to storage and utilization sites, and future demand for them is expected to grow.

CCUS Value Chain



Progress of CO₂ Transportation Technology

Date	Initiative
Nov-21	NYK and Mitsubishi Shipbuilding Co., Ltd. began joint development of CO ₂ transportation technology using large vessels.
May-22	Obtained Approval in Principle (AiP) from ClassNK for the basic design of a large liquefied CO ₂ carrier (LCO ₂ vessel).
Jun-23	Obtained Approval in Principle (AiP) from ClassNK for a dual purpose ammonia and liquefied CO ₂ carrier.

Collaboration in LCO₂ and LNG Transportation and Joint Establishment of a Ship Management Company

In June 2024, we signed a memorandum of understanding with PT Pertamina International Shipping (PIS), a subsidiary of Indonesia's state-owned enterprise PT Pertamina, to collaborate in the transportation of liquefied carbon dioxide (LCO₂) and liquefied natural gas (LNG), and to jointly establish a ship management company.

The two parties agreed to jointly own LCO₂ and LNG carriers in Indonesia, aiming to create new business opportunities and respond to growing transportation demand. In addition, we will work with PIS and other partners to assess the business viability and feasibility of LCO₂ transportation. Through the joint establishment of a ship management company with PIS, we also aim to provide advanced management services to meet the expected increase in ship demand in Indonesia.

Development of LCO₂ Carriers and Floating Liquefied Storage Units

NYK and Knutsen NYK Carbon Carriers AS (KNCC), a joint venture established with the Norwegian Knutsen Group, have developed a new LCO₂ carrier — the LCO₂-EP carrier — which utilizes the ambient temperature and elevated pressure (EP) method to transport liquefied carbon dioxide (LCO₂) at room temperature. Nippon Kaiji Kyokai (Class NK) reviewed the design based on its "Rules for the Survey and Construction of Steel Ships" (Part N) and issued an Approval in Principle (AiP) after confirming that the design meets the required standards.

The LCO₂-EP carrier incorporates KNCC's proprietary LCO₂-EP Cargo Tank technology, enabling stable transport of LCO₂ without the need for sub-zero cooling. This simplifies handling and offers potential reductions in energy consumption and liquefaction costs.

In addition, NYK, KNCC, and ENEOS Xplora Co., Ltd. have jointly

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developed a Floating Liquefied Storage Unit (FLSU) that combines the LCO₂-EP Cargo Tank with the Joule-Thomson cooling method, a liquefaction process that utilizes temperature drops caused by pressure reduction. ClassNK has reviewed the design based on its “Rules for the Survey and Construction of Steel Ships” (Part PS) and the “Guidelines for Floating Offshore Liquefied Natural Gas and Petroleum Gas Production, Storage, Offloading, and Regasification Facilities,” and has issued an AiP.

*1 The Rules for the Survey and Construction of Steel Ships are technical standards established by ClassNK (Nippon Kaiji Kyokai) that define requirements for ship structures and equipment. These rules are divided into sections from Part A to Part X. Part N covers liquefied gas carriers, while Part PS pertains to floating offshore facilities for the production, storage, offloading, and regasification of oil and gas.

*2 The LCO₂-EP Cargo Tank is a specialized tank developed by KNCC for transporting liquefied carbon dioxide at ambient temperatures between 0 and 10 degrees Celsius and under elevated pressure conditions ranging from 34 to 45 barG. This technology enables stable transport without the need for sub-zero cooling.

*3 The Joule-Thomson cooling method, also known as isenthalpic expansion cooling and liquefaction, is a process that utilizes the temperature drop caused by pressure reduction to produce liquefied CO₂ suitable for maritime transport.

Progress in the Marine Transportation and Storage of Liquefied CO₂

Date	Initiative
Dec-21	Established Knutsen NYK Carbon Carriers AS (KNCC), a joint venture between NYK and Norway's Knutsen Group, to engage in the marine transportation and storage of liquefied CO ₂ .
Apr-22	Obtained classification certification from DNV (Norwegian classification society) for technology enabling the transportation and storage of liquefied CO ₂ at ambient temperature (PCO ₂). This was the world's first certification for a cargo tank system of this kind. The system was later renamed the “LCO ₂ -EP System.”
Jun-23	Received General Approval for Ship Application (GASA) from DNV* for the detailed design of the LCO ₂ -EP System, enabling installation on both new and existing vessels.

* DNV is an international classification society that provides third-party certification for ship safety, ISO standards, and technical support in the energy sector.

Carbon Offset

Carbon offset refers to the practice of compensating for greenhouse gas (GHG) emissions—particularly those that are difficult to reduce—by purchasing credits generated through GHG reduction or absorption efforts elsewhere, or by participating in projects that achieve such reductions or absorption in other locations.

Amid growing interest in environmental responsibility across the entire supply chain, the NYK Group is responding to requests from domestic and international customers by offering carbon offset transportation services as one of the environmentally value-added maritime transport options.

Starting in fiscal 2025, we will begin trial procurement of carbon dioxide removal (CDR) credits*, with the goal of offsetting a cumulative total of 100,000 tons of CO₂ by 2030. While maximizing energy efficiency and transitioning to next-generation fuels remain our top priorities for reducing GHG emissions, we will utilize CDR as an equivalent mitigation measure to Scope 1 emissions for unavoidable residual emissions due to technical and operational constraints. Through this approach, we aim to contribute to achieving net zero emissions by 2050.

* CDR credits: An environmental value that can be traded representing the amount of CO₂ reduced by CDR

Initiatives beyond Shipping

Environmental Activities at Terminals and Warehouses

> Domestic Terminals

We have set a target of achieving carbon neutrality by 2040 and aim to realize decarbonization at Japan's domestic ports.

(Example of Activities)

- Installation of hybrid cargo-handling equipment at Ohi Container Terminal (Tokyo) and Rokko Container Terminal (Kobe)

- Cargo-handling operations using hydrogen-powered rubber-tired gantry cranes at Ohi Container Terminal
- Additives that reduce soot and smoke and improve fuel efficiency are used in the fuel
- Installation of hybrid cargo handling equipment
- Older trucks have been replaced with ones that emit less pollution
- Eco-driving training has been provided for truck drivers
- Waste generated in container yards is recycled.

> Overseas Terminals

United States – Port of Los Angeles

- Solar power generation system installed
- Electric vehicles introduced within the terminal
- Power factor correction devices installed to improve electricity usage efficiency
- Shore-side connection boxes installed for supplying electricity from land to vessels

Belgium – Port of Zeebrugge

- Wind power generation introduced within the port

China – Port of Tianjin

- Two wind turbines installed and operating at the finished vehicle terminal

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● Installation of solar-power generation equipment in various facilities

NYK has been operating rooftop solar-power generation facilities at the NYK Tobitakyu general training institute since 2002. Consisting of six generators with 420 solar panels (120 centimeters by 80 centimeters), the system can meet approximately 30% of the electricity needs of the institute. In addition, we have installed and are operating solar power generation systems at facilities in Japan and overseas.

● Offshore wind power

The offshore wind market in Japan is expected to expand rapidly. In addition to the technological capabilities and knowledge of Japanese regulations and legal systems that we have cultivated over many years through our shipping business, the NYK Group is taking full advantage of the knowledge that we have gained through our offshore business and the nationwide group companies that we have established throughout Japan to actively participate in the entire offshore wind value chain.

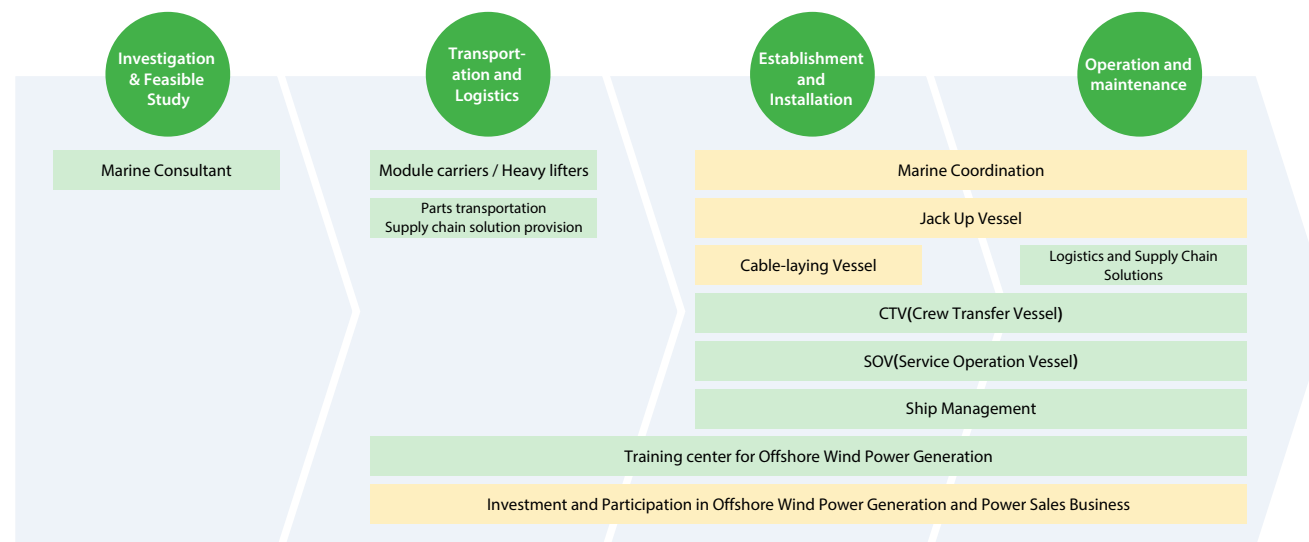
> Crew Transfer Vessel (CTV)

In cooperation with Northern Offshore Group AB (NOG), a pioneering Swedish company in Crew Transfer Vessel (CTVs) for offshore wind power, we signed a basic agreement in 2021 and acquired a majority stake in January 2025, making NOG a consolidated subsidiary. In March 2025, we added a service operation vessel (SOV) to NOG's fleet, enhancing its capability to support personnel and material transportation during the construction and maintenance phases of offshore wind power projects.

In Japan, the Group began operating the CTV "Rera As" in July 2023 at Ishikari Bay New Port in Hokkaido, marking the first domestically owned and managed CTV. In addition to Rera As, we modified NOG's original vessel design to meet domestic construction specifications and placed an order with Kosaba Shipbuilding Co., Ltd. in Kamaishi, Iwate Prefecture. These vessels are primarily managed by Japan Offshore Support Co., Ltd., a company jointly established with Akita Eisen KK to accumulate operational expertise and ensure safe operations, thereby contributing to the nationwide expansion of offshore wind power in Japan.

■ Scope of the Group's Services in Offshore Wind Power Generation Business

Existing business New entry / areas under consideration



CTV "Rera As"

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● Cable-Laying Vessel

We are participating in a four-company consortium with Sumitomo Electric Industries, Ltd., Furukawa Electric Co., Ltd., and Mitsui O.S.K. Lines, Ltd. for a project commissioned by Japan's New Energy and Industrial Technology Development Organization (NEDO) titled "Research and Development of a Multi-purpose and Multi-terminal HIGH Voltage Direct Current Transmission System (RIGHT Project)" and "Development of construction methods for the installation of cable protecting system, etc. and the development of new cable-laying vessels, etc."

Under a cooperative framework with Sumitomo Electric, we are engaged in developing the fundamental technologies for cable-laying vessels that will contribute to the establishment of a domestic DC submarine power transmission network. Also with support from Furukawa Electric, we have obtained Approval in Principle (AiP) for the conceptual design from Nippon Kaiji Kyokai (Class NK).

To contribute to the development of submarine DC transmission networks, which are essential for the widespread adoption of renewable energy, we are actively working toward the realization of cable-laying vessel deployment.

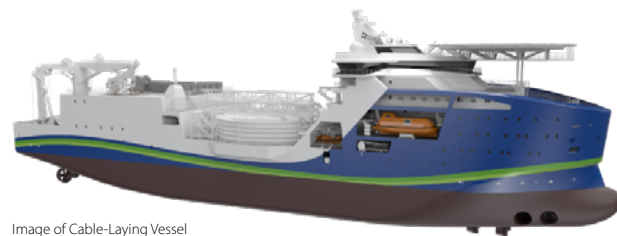


Image of Cable-Laying Vessel

> Maritime consulting services

Japan Marine Science Inc. (JMS), an NYK Group company, provides comprehensive maritime consulting services. For the offshore wind business, JMS offers site environment assessments, feasibility-study support for wind-turbine scale and specifications, use of a maritime simulator to examine vessel safety during and after the installation of wind turbines, diving inspections during wind turbine operation, training via simulator for workboat crews, and marine monitoring systems.



Maritime simulator

> Collaboration with Regions

We opened the Akita branch in April 2022 and the Hokkaido branch in April 2024, strengthening our ties with local governments and communities.

For more information, click on the link below

[P.097 Community](#)

● Offshore Data Center

In March 2025, we signed a memorandum of understanding with NTT Facilities Inc., Eurus Energy Holdings Corporation, MUFG

Bank, Ltd., and the city of Yokohama to conduct a demonstration experiment for a floating offshore green data center utilizing disaster-response mini-floats. In fiscal 2025, solar power generation equipment, storage batteries, and a container-type data center will be installed on a mini-float at Osanbashi Pier to verify salt damage resistance and stable operation. Looking ahead, we aim to realize a carbon-neutral society by maximizing the use of renewable energy through integration with offshore wind power, without relying on the conventional power grid.



Image of an Offshore Floating Green Data Center

Research & Development

● Development of Technology that Enables Energy-efficient Operation

With the promotion of energy-efficient navigation, ships are generally operated at lower speeds than those assumed when they were built. On this background, our Group is working to convert ships to low-speed operation specifications and improve propulsion performance by modifying the bulbous bow* of ships in service and installing the MT-FAST hull appendage.

In June 2014, we carried out retrofit work on a containership,

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including modifications to the bulbous bow and the installation of MT-FAST. Big Data analyses using actual voyage data gathered over a six-month period confirmed a 23% reduction in CO₂ emissions, exceeding initial estimates. We also verified that the retrofit did not affect the safe operation of the vessel or the operating condition of the engine.

The NYK Group has established a method for examining modifications suitable for operational conditions in a short period and efficiently (patent obtained). Based on this method, we will proceed with modifications for our operational vessels in the future to further enhance energy-saving effects.

* Bulbous bow: A protruding bulb at the front of a ship just below the waterline. The bulb modifies the way the water flows around the hull, reducing drag and thus increasing speed, range and fuel efficiency.

Recent Examples of Technology Development for Energy-Efficient Ship Operations

Date	Initiative
May-22	Developed "Unic 800Eco," an enhanced version of "Unic 800VLS"* ¹ with improved sludge** ² dispersion and combustion efficiency
Aug-22	participated in a tidal power generation demonstration project in Singapore conducted by Bluenergy Solutions Pte Ltd, in collaboration with MIT and us
Mar-23	Commenced operation of the tidal power generation demonstration project in an off-grid area in Singapore

*1 Unic 800VLS: An additive that improves the stability and combustion efficiency of low-sulfur marine fuel oil.

**2 Sludge: Sediment contained in fuel. Preventing sludge accumulation and maintaining dispersion improves combustion efficiency.

Co-creation with External Parties

Participation in External Initiatives

NYK group continues to participate in various initiatives and promote co-creation toward the realization of decarbonization.

Major Decarbonization-related Initiatives with NYK Group Participation

Initiative/Organization Name	Theme	Time of Participation
International Shipping GHG Zero Emission Project	Climate Change/Decarbonization	Aug-18
Climate Change Initiative "Japan Climate Initiative"	Climate Change/Decarbonization	Sep-18
Clean Fuel Ammonia Association	Ammonia	Apr-19
Task Force on Climate-related Financial Disclosures (TCFD) Consortium	Climate Change/Decarbonization	May-19
Coalition of Non-Profit Organizations "Getting to Zero Coalition"	Climate Change/Decarbonization	Oct-19
Japan Business Federation "Challenge Zero Declaration"	Climate Change/Decarbonization	Mar-20
Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping	Climate Change/Decarbonization	Jul-20
Hydrogen Council	Hydrogen	Jul-20
Japan Hydrogen Association (JH2A)	Hydrogen	Dec-20
International think tank for CO ₂ capture and storage technology "Global CCS Institute"	Climate Change/Decarbonization	Jul-21
GX League	Climate Change/Decarbonization	May-23
GCMD (Global Centre for Maritime Decarbonization)	Climate Change/Decarbonization	Jul-23
Methane Abatement in Maritime Innovation Initiative (MAMII)	Climate Change/Decarbonization	Sep-23
Smart Freight Centre (SFC)	Climate Change/Decarbonization	Apr-24

Became Member of Smart Freight Centre

In April 2024, we became a member of Smart Freight Centre (SFC), an international non-profit organization that aims to reduce GHG emissions in the logistics sector. We have established Global Ro-Ro Community (GRC), aimed at standardizing GHG emissions calculation for Ro-Ro vessels*, including car carriers, in collaboration with SFC, the overseas shipping company Wallenius Wilhelmsen ASA, and the Nippon Kaiji Kyokai. In recent years, as interest in carbon footprints—GHG emissions throughout the lifecycle of products and services—has grown, we identified the inconsistency in GHG emission calculation standards for Ro-Ro vessels as a key issue. At GRC, we emphasized the importance of establishing unified rules. Open discussions were held at GRC, ensuring fairness and transparency through the involvement of stakeholders such as shipping companies, shipper, and third-party verification bodies. As a result, a standardized model for calculating GHG emissions was formulated in April 2025. This model has been published as a guideline on the SFC website.

* Ro-Ro vessels: cargo ships designed to allow vehicles such as cars, trucks, trailers, construction machinery, and agricultural machinery to drive directly onto and off the ship.

Activities as Member of Japanese Shipowners' Association

The Japanese Shipowners' Association, in cooperation with the Ministry of Land, Infrastructure, Transport and Tourism, is demonstrating leadership in discussions at the International Maritime Organization (IMO) regarding the introduction of regulations and the reduction of GHG emissions.

We are active as a member of the Environmental Committee of the Japanese Shipowners' Association, as well as the various steering committees and task forces that form part of the committee. In the GHG Task Force, which serves as a forum for discussions on GHG emissions, NYK acts as the chair and represents member companies. As a shipowner and ship operator, we actively

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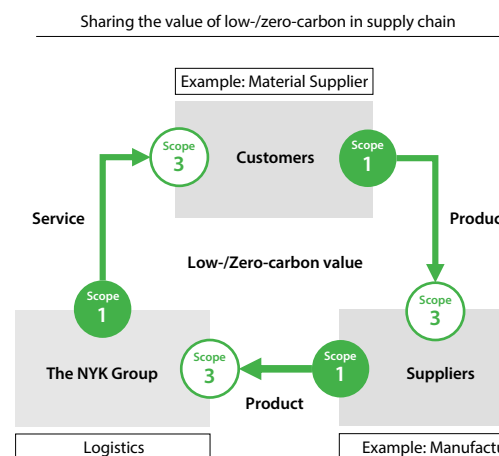
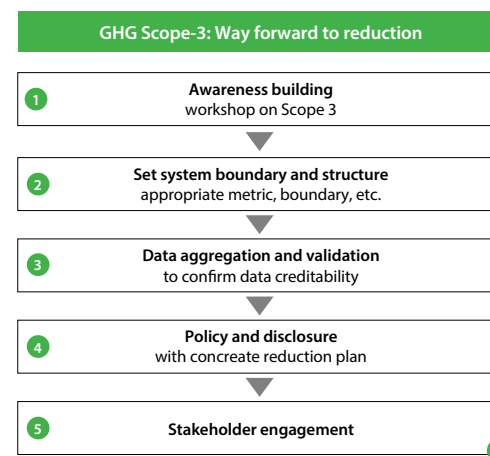
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participate in discussions on a feasible climate change framework within the shipping industry.

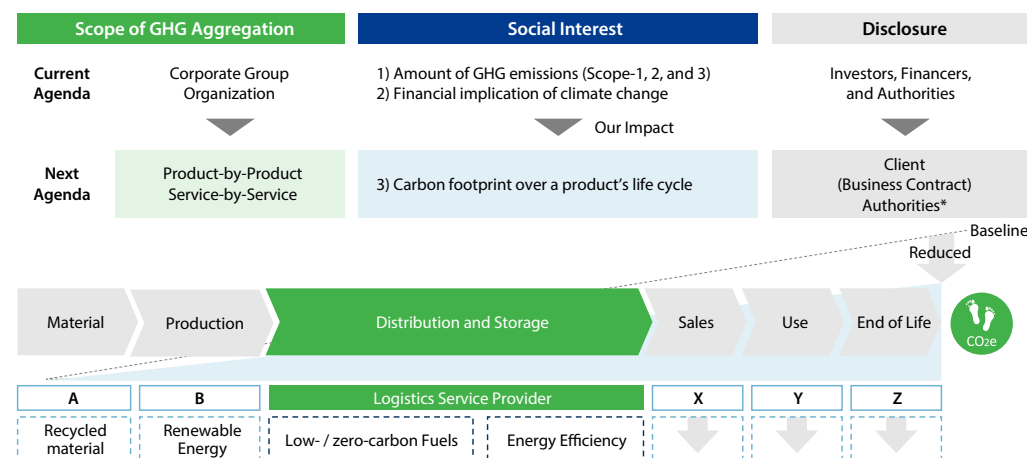
Co-creation with Stakeholders

In pursuit of reducing GHG emissions in Scope 3, we are promoting initiatives aimed at achieving a low-carbon and decarbonized society, working together with our business partners to reduce emissions (carbon footprints) for each product.

Towards Reduction of Scope 3 Emissions



Carbon Footprint Garnering More and More Attention



*EU: Battery Regulation, Carbon Boarder Adjustment Mechanism etc.

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Investment in Startups

We aim to discover startups having groundbreaking ideas and technologies, fostering their growth and co-creation with an eye toward future collaboration. This initiative seeks to promote the decarbonization of our businesses and create new ventures that bring added value to society.

● Tsubame BHB

In June 2021, NYK decided to invest in Tsubame BHB Co. Ltd., a venture company originating at the Tokyo Institute of Technology. Tsubame BHB has established the practical application of an on-site ammonia synthesis system invented by Professor Emeritus Hideo Hosono that uses a manufacturing method to produce a required amount of ammonia at a required location. This method operates at lower temperatures and pressures than conventional technologies, and is expected to contribute to the decentralization of production. We have high expectations for Tsubame BHB as a partner that plays a role in the ammonia value chain.

● Marunouchi Climate Tech Growth Fund

In May 2023, we signed an investment agreement to participate in the Marunouchi Climate Tech Growth Fund L.P., which primarily targets growth investments in climate tech-related businesses that contribute to decarbonization. The fund was established by Mitsubishi Corporation, MUFG Bank, Ltd., and Pavilion Private Equity Co., Ltd., and with a total size of USD 744 million, it is one of the largest climate tech investment funds in Asia. Through our investment in this fund, we aim to co-create with startups that possess groundbreaking ideas and technologies, accelerate the decarbonization of our business, and generate new businesses that deliver added value to society.

Advocacy at International Conferences

● NYK Participates in COP29 in Azerbaijan

NYK Group management discussed international shipping and the Group's specific initiatives to address climate change in discussions at various events during the 29th Conference of the Parties to the United Nations Framework Convention on Climate Change ("COP29") held in Baku, Azerbaijan, from November 11 to 22, 2024.

At COP29, many side events were hosted by national governments and related industry organizations to disseminate information on efforts to address climate change, and various panel discussions were held to encourage active discussion among participants.

An NYK representative director and executive vice president appeared as a panelist at the Japan Pavilion, where he actively communicated the Group's decarbonization initiatives and issues facing the international shipping industry.



NYK Participates in COP29

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GHG Emissions by Scope

Scope	Subcategory	FY2021 (base year)	FY2022	FY2023	FY2024
Scope 1	Ships	10,708,996	10,123,951	10,239,136	9,939,832
	Aircraft	1,721,397	964,063	1,048,651	1,091,449
	Others	248,301	167,029	136,779	108,955
	Total	12,678,695	11,255,044	11,424,566	11,140,236
Scope 2 - Market basis		45,391	76,255	63,342	82,420
Scope 2 - Location basis		49,010	77,710	67,375	89,402
Scope 3	Category 1	1,887,367	1,486,233	1,347,827	5,265,086
	Category 2	255,143	197,887	482,457	386,218
	Category 3	1,730,934	1,552,422	1,587,687	2,258,724
	Category 4	—	—	—	1,321,450
	Category 5	16,379	19,827	29,792	30,235
	Category 6	678	7,404	9,877	86,282
	Category 7	157	247	183	2,271
	Category 8	—	—	—	0
	Category 9	—	—	—	49
	Category 10	—	—	—	0
	Category 11	—	—	—	792,906
	Category 12	—	—	—	0
	Category 13	—	—	—	4,798,628
	Category 14	—	—	—	0
	Category 15	—	—	—	5,404,127
Total		3,890,661	3,264,023	3,457,823	20,345,980
Emissions from biofuels (B100 basis)	Ships	—	—	1,027	37,758
	Land	—	—	—	444

 (ton-CO₂e)

Note 1: The data is gathered from the head office and consolidated subsidiaries. Until fiscal 2023, the Scope 3 data collection targeted only the head office and selected group companies. Beginning fiscal 2024, the scope has been expanded to include all major consolidated subsidiaries and equity method affiliates, and emissions have been collected from all categories of Scope 3. The investigation found that there were no relevant GHG emissions for Scope 3 Categories 8, 10, 12, and 14.

Note 2: t-CO₂e: tons of CO₂ equivalent. All GHG emissions are converted into carbon dioxide equivalents.

Note 3: GHG emissions data for Scope 1, Scope 2, Scope 3, biofuel and energy consumption has been verified by a third-party organization. Verification Report (<https://www.nyk.com/english/sustainability/pdf/environment009en.pdf>)

Note 4: In fiscal 2022, a renewable energy certificate was used to offset the electricity used at the Yokohama Branch and the NYK Maritime Museum (234,641 kWh).

Note 5: We mainly use bio-blended fuel, which is a mixture of biofuel (B100) and fossil fuel emissions from the biofuel portion are counted as out of scope, while emissions from the fossil fuel portion fall under Scope 1 (tank-to-wake) and Category 3 of Scope 3 (well-to-tank). GHG emissions related to biofuels for fiscal 2023 have been recalculated using the same methodology as fiscal 2024, and the figures have been accordingly updated.

Note 6: For each fiscal year, CO₂ emissions from electricity usage in Japan are calculated using emission coefficients provided by the electricity provider and published by Japan's Ministry of the Environment, based on the actual data from the previous year.

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■ Group's Energy Consumption (GHG-related)

Category	Subcategory	Unit	FY2021	FY2022	FY2023	FY2024
Fossil fuels	Heavy oil A (MDO) - ships	Tons	30,415	27,219	144,025	214,908
	Heavy oil C - ships	Tons	3,184,649	2,979,644	2,976,617	2,850,119
	Gas oil - ships	Tons	159,484	173,779	69,341	6,873
	Jet fuel	KL	699,024	391,486	423,584	440,872
	Gasoline	KL	71,860	9,058	3,602	2,894
	Kerosene	KL	52	49	32	39
	Diesel	KL	23,285	49,408	41,418	32,857
	LPG	Tons	511	375	2,547	1,281
	Natural gas	m ³	8,624,448	7,460,194	7,834,651	5,187,515
	Alternative fuels	LNG - ships	Tons	5,620	14,387	41,530
Ammonia - ships		kg	—	—	—	45,709
Hydrogen		kg	—	—	—	6,913
Biofuel	Bio diesel (blended fuel basis) - ships	Tons	—	—	6,287	251,017
	Bio diesel (blended fuel basis) - land	KL	—	—	—	12,466
	HVO (blended fuel basis) - land	KL	—	—	—	393
	Bio gas - land	MWh	—	—	—	2,220
Energy prepared from other companies	Electricity	MWh	119,880	162,030	146,029	163,276
	Electricity derived from renewable energy	MWh	—	—	15,722	23,353
	Heat	MWh	2,148	1,422	290	587
	Steam	MWh	1,250	1,150	1,097	1,096
Power generation at land	Private power generation derived from renewable energies	MWh	—	5,970	8,874	16,206
Others	Waste (office)	Tons	5,679	6,831	10,142	11,069

Note 1: The biofuel represents the activity level based on blended fuel, but the activity level of fossil fuels contained in the biofuel blend is included in the fossil fuel figures as well.

Note 2: Starting from fiscal 2024, the aggregation method has been revised. The data for fiscal 2023 has also been recalculated using the same method as fiscal 2024, and the figures have been updated accordingly.

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- Forest Maintenance and Conservation Activities
- Co-creation with External Stakeholders

Preservation of Marine Environment and Biodiversity

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The NYK Group, which positions oceangoing shipping as one of its core businesses, recognizes its responsibility to protect the oceans and their inhabitants. Committed to environmental stewardship, the Group has identified “Preservation of Marine Environment and Biodiversity” as a key focus within its “NYK Group Environmental Vision,” and carries out related activities under the “NYK Group Environmental Policy.”

In December 2023, the Group participated in the Taskforce on Nature-related Financial Disclosures (TNFD) Forum, and in January 2024, the Group participated in the TNFD Early Adopters Declaration. In October 2024, we announced the “Nature Positive^{*1} Declaration,” and in November of the same year, we joined the “30by30 Alliance for Biodiversity^{*2},” actively promoting initiatives aimed at achieving Nature Positive.

Furthermore, in February 2025, the Group released the “NYK Group TNFD Report 2024 -A Passion for Planetary Wellbeing-” (“TNFD Report”). Based on the TNFD recommendations, this report focuses on the ocean going shipping business and adopts the TNFD-advocated LEAP approach^{*3} to assess nature-related issues. The report explains each of the disclosure items recommended by the TNFD, including governance, strategy, risk & impact management, and metrics & targets. Notably, the strategy section features a “priority area analysis” that all the ocean areas navigated by the Group’s vessels. By overlaying vessel location data from the past year with 16 indicators related to natural capital, the Group identifies sea areas that warrant special attention in the Group’s business activities. Additionally, as part of its “Giving Back to the Oceans” initiative, the Group introduces unique measures that contribute to the protection of natural capital.

The Group will continue to strive for the sustainable enhancement of corporate value by balancing corporate growth with the conservation of natural capital.

^{*1} Nature positive: Halting and reversing biodiversity loss to put nature on a path to recovery.

^{*2} 30 by 30 Alliance for Biodiversity: To achieve the 30by30 target, which aims to effectively conserve at least 30% of the land and sea as healthy ecosystems by 2030, Japan will expand the current protected areas (approximately 20% of land areas and 13% of sea areas) and promote efforts to certify areas that have been conserved by the private sector and others as OECMs. In addition, the 30by30 Alliance for Biodiversity was launched by a group of voluntary companies, local governments, and organizations to promote efforts to certify areas that have been conserved by the private sector as OECMs, as well as to expand the current protected areas (approximately 20% of land areas and 13% of sea areas) in Japan.

^{*3} LEAP Approach: An integrated methodology developed by TNFD for systematically assessing nature-related risks and opportunities. It consists of four phases: “Locate” (identify interface with nature), “Evaluate” (assess dependencies and impacts on nature), “Assess” (evaluate material risks and opportunities), and “Prepare” (prepare response and reporting).

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Please see “Environmental Management” and TNFD report for the governance structure of environment-related issues, including marine environment and biodiversity conservation.

For more information, click on the link below

P.030 Environmental Management

Link For more information, click on the link below.

▶ **NYK Group TNFD Report 2024 -A Passion for Planetary Wellbeing-**
<https://www.nyk.com/english/sustainability/pdf/environment017en.pdf>

Strategies and Risk Management

Relationship between the NYK Group and Biodiversity

The NYK Group is aware of potential risks to biodiversity throughout the entire lifecycle of a vessel—from procurement to operation and disposal—and is working to prevent marine pollution and manage biodiversity-related risks by implementing measures such as adopting environmentally responsible technologies and promoting sustainable ship recycling practices.

The Group recognizes the importance of assessing nature-related risks and opportunities, as well as understanding how these may affect its business strategy and performance. In its TNFD Report, the Group has identified and disclosed nature-related risks and opportunities in its ocean going shipping business that are considered moderate or greater in magnitude. While risks and opportunities are closely linked, the Group has focused primarily on disclosing risks, including only notable opportunities. Additionally, the assumed timeframes for risk realization are set as medium-term (2030) and long-term (2050).

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Preservation of Marine Environment and Biodiversity

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■ Key Nature-Related Risks and Opportunities

Risk Category	Nature-Related Dependencies and Impacts	Business Impact	Key Financial Impacts, etc.	Degree of Risk	Time Frame		Key Measures	
					Medium Term	Long Term		
Physical Risks	Acute	Dependencies Climate regulation, Storm mitigation, Rainfall pattern regulation	Frequent and severe abnormal weather and sea conditions could impact ship operations, cause damage to and loss of cargo, and damage port infrastructure.	Expenses Increased hours of operation, higher insurance premiums, etc. Reputation Damage to reputation due to cargo that is damaged or lost overboard	Medium	○	○	<ul style="list-style-type: none"> •Formulation of business continuity plan (BCP) •Optimal shipping route selection using the Group's proprietary ship management system •Implementation of training for responding to serious accidents •Real-time updates of ships' operational status
	Chronic	Dependencies Climate regulation	Long-term and chronic changes in ocean conditions stemming from climate change could lead to the deterioration of port environments and restrictions on their use, as well as changes in cargo supply and demand locations.	Expenses Increased hours of operation Earnings Changes in the movement of cargo due to changes in supply and demand locations	Medium		○	
		Dependencies Water purification Impacts Climate change, Water pollution	Rising seawater temperatures and marine eutrophication could lead to the damage of onboard equipment at a greater frequency and an increase in the number of organisms that attach to ship hulls.	Expenses Increased ship maintenance costs	Medium		○	<ul style="list-style-type: none"> •Proper management of organisms attached to ship hulls, application of anti-fouling paints on ship bottoms, etc. •Collection of the latest information regarding international and local regulations and ensuring compliance •Participation in river restoration projects in the Philippines
		Dependencies Water supply, Water flow regulation, Climate regulation	Water shortages could impact ship operations in canals.	Expenses Increased hours of operation	Medium	○		<ul style="list-style-type: none"> •Engage with government agencies that manage canals
Transition Risks	Regulations	Dependencies Climate regulation Impacts Climate change, Ecosystem disturbances	Changes in the habitats of large marine organisms could pose an increased risk of collisions.	Expenses Increased hours of operation Reputation Damage to reputation if not addressed	Medium		○	<ul style="list-style-type: none"> •Collection of information regarding key habitats for large marine organisms •Participation in a vessel speed reduction program
		The expansion of protected marine areas and areas deemed to be important for biodiversity could lead to stricter navigational rules, such as designating areas as off-limits and imposing speed restrictions.	Expenses Increased hours of operations and expenses to address changes	Major	○		<ul style="list-style-type: none"> •Collection of the most up-to-date information on protected areas, etc. •Participation in the IMO's Marine Environment Protection Committee (MEPC) •Identification of sensitive locations and assessment of risks •Implementation of safety management in line with the NYK Group's proprietary standards 	
		Stricter international, national, and regional regulations could be adopted, including: <ul style="list-style-type: none"> •Regulations for the management of biological fouling on ship hulls •The International Convention for the Control and Management of Ships' Ballast Water and Sediments •The International Convention on the Control of Harmful Anti-fouling Systems on Ships •Guidelines for the Reduction of Underwater Radiated Noise •The Ship Recycling Convention •Regulations for ship scrubbers •Regulations for invasive alien species, etc. 	Expenses Increased hours of operations and expenses to address changes Earnings Market instability due to changes in ship supply and demand	Major	○		<ul style="list-style-type: none"> •Implementation of measures based on international, national, and regional regulations (e.g., proper management of ballast water, speed reduction in designated waters, management of organisms attached to a ship's hull, etc.) •Participation in the IMO's regulation formulation process •Management of ship dismantling in advance of the Ship Recycling Convention's coming into force. 	
			Expenses/Reputation Fines and sanctions if not addressed	Medium	○			

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■ Key Nature-Related Risks and Opportunities

Risk Category	Nature-Related Dependencies and Impacts	Business Impact	Key Financial Impacts, etc.	Degree of Risk	Time Frame		Key Measures
					Medium Term	Long Term	
Transition Risks	Regulations/Market/Reputation Impacts Climate change, Air pollution	Stricter regulations could lead to a surge in demand for sustainable fuels, rising prices, and heightened competition for resources.	Expenses Increased fuel costs and operational expenses Expenses/Reputation Fines and damage to reputation if not addressed	Medium	○		<ul style="list-style-type: none"> Dispersal of fuel procurement areas and reduction of fuel consumption Research and development into the use of alternative fuels
	Technology Impacts Climate change, Air pollution, Ecosystem disturbances	Development and ordering of ships with a lower environmental impact could lead to higher costs.	Expenses Increased R&D expenses and ship procurement costs	Medium	○		<ul style="list-style-type: none"> Research and development into the use of alternative fuels Increase in the number of ships built that utilize alternative fuels Adoption of the Group's proprietary bilge system and other technologies to prevent marine pollution
	Reputation Impacts Land and marine area usage, Water pollution, Air pollution	Environmental issues in the supply chain could become apparent, including at the dismantling and fuel procurement stages, leading to stricter regulations.	Reputation Damage to reputation due to social criticism	Medium	○	○	<ul style="list-style-type: none"> Appropriate management during the scrapping stage Development and publication of NYK Group Supplier Code of Conduct Consideration of nature-and human rights-related risks in areas where fuel is procured
	Reputation/Liability for Compensation Impacts Marine area usage, Water pollution	Oil pollution, cargo spills, and other marine accidents could lead to criticism from society and liability for compensation.	Reputation Damage to reputation due to criticism from society and decline in employee morale Expenses Fines, pollution removal costs, damage compensation for delays or inability to transport cargo, and higher insurance premiums	Medium Major	○ ○	○ ○	<ul style="list-style-type: none"> Implementation of assessments in line with the NYK Group's proprietary safety standards Adoption of highly safe hull structures Implementation of safety promotion campaigns
Opportunity Category	Nature-Related Dependencies and Impacts	Business Impact	Key Financial Impacts, etc.	Degree of Opportunity	Time Frame		Key Measures
Business Performance	Impacts Overall	The Group could increase its market competitiveness due to greater customer demand for sustainable transportation services.	Earnings Increased transport share Reputation Increase	Major		○	<ul style="list-style-type: none"> Addressing climate change and other natural capital-related issues by procuring LNG-fueled ships, developing ammonia-fueled ships, and other measures Dissemination of the Group's environment-related information Building relationships with various stakeholders through engagement with governments and participation in a variety of initiatives
	Impacts Overall	Changes in the way financial institutions make investment and lending decisions could improve the Group's fundraising capabilities.	Procurement of capital and funds Increased fundraising capabilities	Medium		○	
	Impacts Overall	There could be structural changes in industries, product supply and demand, etc., accompanying the transition to a nature-positive economy.	Earnings Increased profits due to changes in cargo movement and capturing new business opportunities	Major		○	<ul style="list-style-type: none"> Enhancement of existing businesses and development of new growth businesses based on forecasts of future changes in cargo movement

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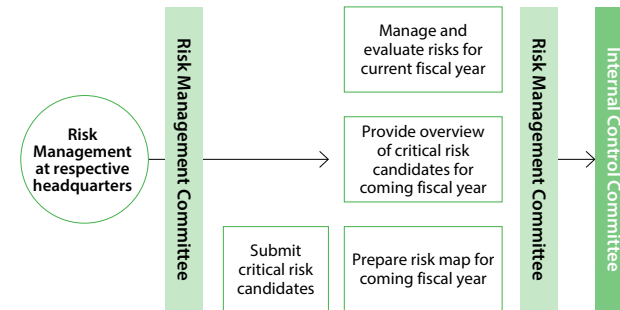
Preservation of Marine Environment and Biodiversity

Risk Management

Nature-related risks are treated as important issues and managed accordingly. In keeping with its risk management policy and rules, the NYK Group convenes meetings of the Risk Management Committee twice a year.

The committee, which is chaired by the president and comprises chief executives assesses and receives reports regarding progress in managing critical risks that could have a significant impact on the Group's business management and reports findings to the Board of Directors.

■ Enterprise Risk Management System



The Group recognizes that one of its core businesses—ocean-going shipping—may pose a risk of marine pollution, either through accidents or the discharge of pollutants. It also acknowledges that oil pollution or other pollutant discharges resulting from maritime accidents can threaten business continuity, not only due to the burden of environmental restoration costs but also because of the potential loss of stakeholder trust.

To address these risks, the Group strictly complies with environmental laws and regulations and strives to prevent

environmental pollution. The Group also has a system in place to deal with major emergencies and accidents.

For more information, click on the link below.

P019 No Growth Without Safety

The NYK Group also manages the environmental impact of pollutants and waste generated by ship operations, as well as the cross-border movement of aquatic species in accordance with international rules.

Initiatives

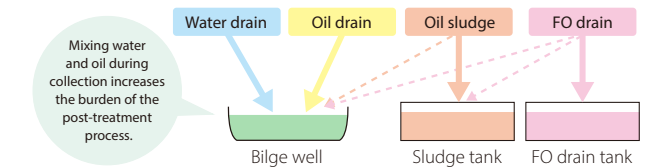
Dealing with Effluents and Waste from Ships

● Lobbying for the establishment of international guidelines for bilge systems

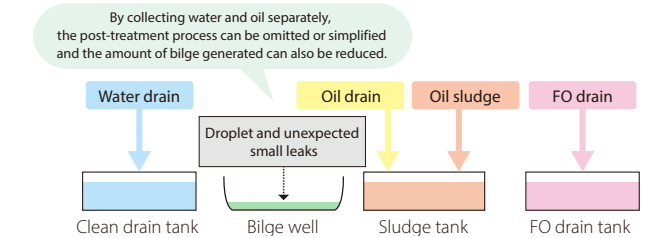
As a result of ship operations, oily bilge water containing a mixture of water, oil, and other liquid accumulate at the bottom of engine rooms, etc. In 1996, NYK developed a system that separates water and oil for collection in distinct streams, thereby enabling the simplification of the bilge post-treatment process. This system has since been implemented across the Group's owned vessels and contributes to a substantial reduction in the amount of bilge generated.

As a company that promotes environmental initiatives in the shipping industry, NYK worked with the Japanese government to expand this concept globally. The Japanese government then proposed it to the International Maritime Organization (IMO), and it was adopted as an international guideline in March 2006.

■ Conventional bilge treatment



■ NYK Standard Bilge System: IBTS (Integrated Bilge Treatment System)



● Prevention of marine pollution caused by human waste

Under Annex IV of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention), ships engaged in international voyages are required to install sewage treatment plants, and the Annex also designates waters where the discharge of untreated sewage is prohibited. However, it was reported to the IMO that the sewage treatment plants installed on ships were not performing to the level stipulated in the convention, raising concerns about a possible negative impact on the marine environment. Consequently, discussions are currently underway to revise the convention and its guidelines.

NYK is a member of the working group of the Japan Ship Technology Research Association, and the company cooperates in collecting data on effluent from sewage treatment plant on the ships the Group operates. The NYK Group also express its opinions at working group meetings. In addition, as a representative of the

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members of the Japanese Shipowners' Association, NYK participates in the Marine Environment Protection Committee (MEPC), which is an IMO committee.

Preventing the Transfer of Invasive Aquatic Species

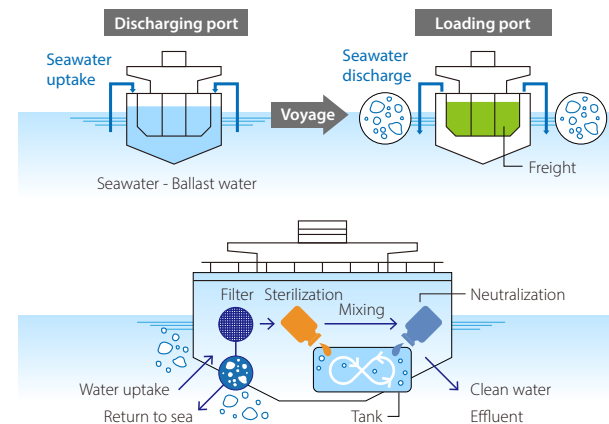
● Preventing the transfer of invasive aquatic species through ballast water

In the international shipping industry, the IMO is taking the lead in creating a framework for addressing biodiversity preservation, just as it has for GHG reduction, and the most focused effort has been on preventing the transfer of in invasive aquatic species associated with the uptake and discharge of ballast water into and from ships. Since the adoption of the "International Convention for the Control and Management of Ships' Ballast Water and Sediments" in February 2004, the NYK Group has been working on the issue of ballast water in anticipation of the convention coming into force.

In September 2017, the convention officially came into force, aiming to prevent the transfer of invasive aquatic species that affect the marine environment, for all ships engaged in international shipping around the world. Under this convention, all ships are required to install a "ballast water management system,"* which is a device that sterilizes aquatic organisms that have entered the ballast water. The NYK Group has systematically installed ballast water management system, completing installation on all its ships in 2024.

* Ballast water management system: Seawater (ballast water) is used in ships to maintain ship strength and stability, but oceangoing vessels transport not only the ballast water but also the aquatic organisms within. When the cargo is unloaded, seawater is injected as ballast water and then discharged when the cargo is loaded. Sterilizing ballast water prevents disruption of the ecosystem.

■ Image of ballast water



At present, the convention is being revised, and as a member of the Japan Ship Technology Research Association, NYK is cooperating various surveys such as the collection of data on ballast water discharge from the ships the Group operates.

● Preventing the transfer of in invasive aquatic species due to biofouling

To prevent the impact on ecosystems caused by the transfer of invasive aquatic species accumulated on ship hulls, the Guidelines for the control and management of ships' biofouling to minimize the transfer of invasive aquatic species was approved for the first time at the 62nd Marine Environment Protection Committee (MEPC 62) held by the IMO in 2011. Since then, reviews have been carried out to improve practicality and effectiveness, and the NYK Group has expressed our opinions as a member of the working group of the Japan Ship Technology Research Association, and have participated in the MEPC as a representative of the members

of the Japanese Shipowners' Association. At MEPC 80, held in July 2023, the guidelines were revised to include the frequency of in-water inspections of each part of the hull in accordance with the application of an anti-fouling system (AFS), and the implementation of underwater cleaning* based on the results of these inspections.

Following the approval of the IMO Guidance on in-water cleaning of ships' biofouling at MEPC 83 in April 2025, discussions have begun at IMO on establishing a legally binding framework for biofouling management. As a member of the working group of the Japan Ship Technology Research Association, NYK is actively participating in these rule-making discussions.

* By cleaning and removing aquatic organisms that have attached to the underwater parts of the hull while the ship is docked at the port, the transfer of in invasive aquatic species can be minimized.

Prevention of Adverse Effects from Underwater Radiated Noise and Collisions with Whales

● Management of underwater radiated noise

At MEPC 66 in 2014, the IMO approved the "2014 Guidelines for the Reduction of Underwater Noise from Commercial Shipping to Address Adverse Impacts on Marine Life" for the first time to reduce underwater noise and address the adverse impacts on marine life. Since then, reviews have been carried out to improve practicality and effectiveness, and NYK has expressed its opinions as a member of the working group of the Japan Ship Technology Research Association, and cooperated with the collection of data on underwater noise. At MEPC 80, held in July 2023, revised guidelines were adopted, including a recommendation to prepare a plan for management of underwater radiated noise.

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● Participation in the U.S. West Coast Vessel Speed Reduction Incentive Program

In ocean areas including the coasts of the United States and Canada, vessels are required to reduce speed to avoid collisions with whales. NYK participates in the Protecting Blue Whales and Blue Skies Vessel Speed Reduction (VSR) Incentive Program, which covers the southern and central California coast. This collaborative effort is sponsored by the California Marine Sanctuary Foundation*, among others. In 2025, NYK once again demonstrated its commitment to marine environmental protection by reaching the Sapphire tier, the highest ranking, for a third consecutive year.

For more information, click on the link below.

P.064 [Prevention of Air Pollution](#)

Forest Maintenance and Conservation Activities

In April 2022, the NYK Group concluded a forest development partnership agreement with Gotemba City in Shizuoka Prefecture, and in May 2024, the Group launched "Yu no Mori" as a reforestation project. The Group aims to restore the functions of forests by keeping them rich in biodiversity through mixed forestation based on the idea that "rich forests nurture rich oceans."

For more information, click on the link below.

P.105 [The Challenge to Solve Social Issues](#)

Co-creation with External Stakeholders

● Efforts to Address Marine Microplastics

In 2020, the NYK Group signed a memorandum of understanding with the Chiba Institute of Technology to use ships to collect and analyze microplastics in oceans around the world in an effort to create a solution to marine plastic pollution, a global environmental issue. Since March 2020, the Group has collected marine microplastic samples annually from the ocean using its vessels, providing approximately 200 samples to date.

For more information, click on the link below.

P.105 [The Challenge to Solve Social Issues](#)

● The River Cleanup Project in the Philippines

NYK supported the river cleanup project initiated by San Miguel Corporation, a major conglomerate in the Philippines, by donating a total of USD 1.5 million over five years, with USD 1.4 million already contributed by fiscal 2024.

The funds were used to purchase and operate excavators for river restoration activities aimed at reducing marine pollution and flood damage.

For more information, click on the link below.

P.105 [The Challenge to Solve Social Issues](#)

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The NYK Group is advancing its initiatives by striving to collaborate with diverse stakeholders throughout the value chain, working to conserve resources and energy, reduce waste and recycle, encouraging responsible ship recycling in a transparent manner that takes safety, the environment, and human rights into consideration in ship recycling, and stipulating our commitment to the circular economy in the "NYK Group Environmental Policy."

Organization

Please see "Environmental Management" for the governance structure of environment-related issues.

For more information, click on the link below.

[P.030 Environmental Management](#)

Strategies and Risk Management

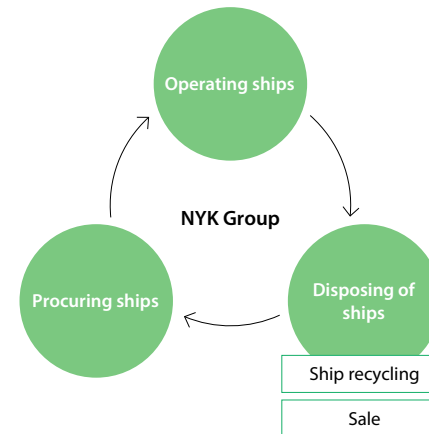
In our marine transportation business, we are pursuing initiatives with an eye on the circular economy at every stage of our operations, including "procuring ships," "operating ships," and "disposing of ships."

Ships contain a large amount of high-quality steel materials, and more than 90% of the medium or large sized ships are recycled on a weight basis. Appropriate disposal of these valuable recyclable resources is important for the realization of a circular economy.

Ahead of entering the Ship Recycling Convention, we have incorporated the convention's standards and created a list of hazardous substances used on board our ships. In addition, we are

working on ship recycling in certified yards that meet our standards, taking into consideration environmental measures, occupational health and safety, and respect for human rights.

Image of the Circular Economy



Flow of Ship Recycling



For more information, click on the link below.

[P.061 Ship Recycling](#)

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Ship Recycling

• Towards Enactment of Hong Kong Convention

Environmental pollution and industrial accidents in India, Bangladesh, and other countries in which vessels are dismantled, became an international concern in the 1990s. Subsequently, as a major shipbuilding and shipping nation, Japan focused on creating an international framework for solving this issue under the International Maritime Organization (IMO), resulting in the adoption of the Hong Kong Convention in 2009.

Since then, to build momentum for the early entry into force of the Convention, we have been a pioneer in incorporating the Convention's standards and working to establish the Convention as a standard among all stakeholders in ship recycling. With the expectation that Bangladesh, the world's largest vessel dismantling country, will ratify the convention, we began dismantling a vessel owned by our group at a yard in Bangladesh, and became the first Japanese shipping company to do so. Dismantling of the vessel was successfully completed in June of that year.

In June 2023, the conditions for the treaty's entry into force were met following ratification by Bangladesh and Liberia, a country with a large number of flag-of-convenience ships.

India has also ratified the Hong Kong Convention in 2019. Prior to this, in 2016, Japan Marine Science Inc., a member of the NYK Group, had provided consulting services to 70 ship-recycling yards in India. The consulting included civil engineering work for renovation, selection of equipment such as waste incinerators and hazardous material treatment equipment, assistance in bidding, and assistance in construction management in the "Preparatory Survey on the Ship Recycling Yard Improvement Project in India" conducted by JICA.

Although the Ship Recycling Convention came into effect in

June 2025, we continue to regularly visit recycling countries as we have done in the past. Through on-site inspections of yards, we seek to promote understanding of our certification standards, while working to maintain the quality of our certified yards and expand the number of yards certified by our company.

*Flag-of-convenience ship: A ship registered in a flag-of-convenience country (such as Panama or Liberia) that allows ships owned by foreign individuals or corporations to be registered.

For more information, click on the link below.

P.062 Bangladesh Ship Recycling Yard Added to NYK's Certified Yards

• Our Ship Recycling Policy

We implemented the following ship recycling policy prior to the Convention's ratification, and we continue to enhance our efforts by conducting ship dismantling at our certified yards and monitoring the process to exceed the Convention's standards.

Ship Recycling Policy

- An inventory of hazardous materials (IHM*) is to be prepared for all ships owned by NYK and its group companies and kept on board.
- We will visit yards that have been issued a Document of Authorization to Conduct Ship Recycling (DASR*) and assess them based on the presence of a Statement of Compliance under the convention issued by the classification society, as well as ISO 14001/9001/30000/45001 certifications. Yards will be certified by us only if they meet our own standards.
- We will periodically visit our certified yards to confirm that the level of occupational safety and health, environmental protection, and respect for human rights is maintained in accordance with our standards.
- We will fully monitor the entire ship recycling process after delivery to the yard to ensure that safety, environmental, and human rights measures are properly implemented in accordance with our own contract format.

*1 IHM (Inventory of Hazardous Material): A list detailing the location and approximate quantities of hazardous materials, waste and stockpiles on board

*2 DASR (Document of Authorization to Conduct Ship Recycling): A certificate that verifies a yard's compliance with the Ship Recycling Convention.

Link For more information, click on the link below.

- ▶ **List of our certified yards**
<https://www.nyk.com/sustainability/pdf/environment012.pdf>
- ▶ **NYK's Ship Dismantling Performance**
<https://www.nyk.com/sustainability/pdf/environment013.pdf>

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Circular Economy

● Bangladesh Ship Recycling Yard Added to NYK's Certified Yards

NYK has added the PHP Ship Recycling Facility (hereinafter "PHP Yard"), a ship recycling yard operated by PHP Ship Breaking and Recycling Industries Ltd. in Bangladesh, to the list of certified yards that meet NYK's standards for environmental measures, occupational health and safety, and respect for human rights in December 2022.

The NYK Group deploys supervisors to ship recycling yards that have been issued a certificate of compliance under the Convention by Nippon Kaiji Kyokai or other organizations. If the yard passes an audit based on NYK's own stricter standards, it is certified as an NYK-approved yard, and NYK Group-owned vessels are dismantled at that facility. While yards in India and Turkey have previously been certified, PHP Yard is the first ship recycling yard in Bangladesh to become our certified yard.

In March 2023, NYK Group's NYK Bulk & Projects Carriers Ltd. brought its heavy lifter named "Kamo," to the PHP yard, and successfully completed the dismantling of the ship in June of the same year. The Bangladesh government ratified the Hong Kong Convention on June 26 of the same year, and this is the first time a Japanese shipping company has conducted vessel dismantling at a yard in the country that meets the standards of the Hong Kong Convention.

In addition to supervisors from NYK SHIPMANAGEMENT PTE LTD, a member of the NYK Group, NYK dispatched navigation officers and engineers to oversee the recycling of the vessel. They ensured that hazardous substances, including bunker oil, were properly managed and that safety procedures for ship recycling were strictly followed, while also providing guidance for continuous improvement. As a result, the recycling was completed without any accidents or incidents. We also confirmed that human rights were thoroughly respected through human rights due diligence

conducted by a third party, following the UN Guiding Principles on Business and Human Rights.

● Future-Oriented Green Ship Recycling Project

The NYK Group is working in collaboration with Ohno Development Co., Ltd., a company engaged in onshore dismantling and industrial waste treatment, to study the "Future-Oriented Green Ship Recycling" project.

Amid the global shift toward green transformation—transitioning from fossil fuels to clean energy—the steel industry is moving from blast furnaces that use iron ore to electric furnaces that use steel scrap. As a result, global demand for steel scrap is expected to increase, and there are concerns about a future shortage of high-quality scrap with clear traceability and low impurity levels.

This project aims to provide an integrated service from ship dismantling to industrial waste treatment, with full consideration for occupational health and safety, environmental protection, and human rights. In 2024, NYK and Ohno Development signed a memorandum of understanding to jointly explore the commercialization of ship recycling at a dry dock owned by Ohno Development in Chita City, Aichi Prefecture. The facility is capable of handling vessels and large structures of all sizes. After operations begin in 2028, the project aims to dismantle 20 vessels annually and supply approximately 300,000 tons of high-quality steel scrap per year. This would represent a processing capacity about seven times greater than that of existing ship recycling operators. The project also aims to achieve zero environmental pollution through strict waste management during the dismantling process and to contribute to sustainable energy supply by installing a high-efficiency waste-to-energy incineration facility that uses waste as a power source.

While the project faces many challenges, NYK will continue to work with partners across various industries to realize a circular

economy for ships and contribute to building a sustainable society for future generations.

Circular Economy in Space

Satellites have become essential for communications and data collection, and the development of satellite constellations that cover the entire Earth is rapidly progressing. To meet the growing demand for satellite launches, the reuse of rockets has become a critical challenge. The NYK Group was the first shipping company selected for the Space Strategy Fund project by the Japan Aerospace Exploration Agency (JAXA), and is currently engaged in the development of vessel technologies that enable the recovery of rocket first stages at sea. Reusing recovered rockets will help reduce both manufacturing costs and lead times.

At the same time, the increase in satellites has led to a growing concern over space debris. Currently, tens of thousands of large debris objects are orbiting Earth, posing a significant collision risk to satellites. To address this issue, Astroscale Japan Inc. is developing satellites for debris removal. Through its partnership with Astroscale, NYK Group company Yusen Logistics Co., Ltd. supported the transport of a commercial debris inspection demonstration satellite. This effort ensured high-quality logistics and the management of complex customs procedures, contributing to the advancement of a circular economy in space.

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Initiatives to Reduce Waste and Resource Usage Charges

Honma Corporation, one of our Group companies, is working to reduce waste and resource consumption through intermediate treatment and recycling of waste collected mainly in Tokyo and Yokohama. In addition to intermediate processing of industrial waste, the company has been engaged in the recycling of household plastic containers and packaging since 2006 on behalf of the city of Yokohama. In addition, the company manufactures and delivers RPF* (solid fuel) made from waste plastics and wood waste to paper manufacturers and other customers.

* RPF fuel (Refuse derived paper and plastics densified fuel): Solid fuel made primarily from wastepaper and plastics generated from industrial waste that are difficult to recycle. With its high calorific value, it is used as a substitute for fossil fuels such as coal and coke. RPF fuel reduces GHG emissions by about 33% compared to coal, and Kayama Kogyo Co., Ltd. further contributes to the reduction of GHG emissions by using renewable energy sources for electricity used in the production of the fuel.

[Link](https://www.hnm.co.jp/business/environment/) For more information, click on the link below.

Co-creation with External Parties

Participation in Ship Recycling Information Disclosure Platform

With the aim of achieving a circular economy through appropriate recycling of recyclable resources and preventing industrial accidents and environmental pollution, in May 2021, NYK became the first Japanese shipping company to join the “Ship Recycling Transparency Initiative” (SRTI), which is organized by the Sustainable Shipping Initiative, an international non-profit organization that conducts cross-industry activities to contribute to a sustainable maritime industry.

SRTI, which consists of shipping companies, shippers, and investment institutions from around the world, is a platform for disclosing information on ship recycling policies and practices of shipping companies to stakeholders. Through information disclosure with SRTI, NYK strives to improve transparency in the ship recycling process and promote responsible ship recycling that takes into consideration safety, the environment, and human rights in the maritime shipping industry.

Recycling of Used Vehicle Lashing Belts on Pure Car and Truck Carriers Commenced

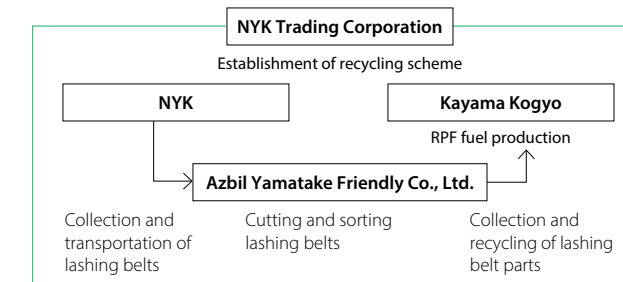
In April 2024, NYK and its group company, NYK Trading Corporation, together with Azbil Yamatake Friendly Co., Ltd. and Kayama Kogyo Co., Ltd., began recycling old vehicle lashing belts used on pure car and truck carriers.

We collect lashing belts that have reached the end of their service life from NYK-operated vessels. Azbil Yamatake Friendly separates the belts into metal parts and plastic components, and Kayama Kogyo manufactures RPF fuel from the plastic belts. Previously,

lashing belts that exceeded NYK's proprietary safety standards were either disposed of as industrial waste or sold as used products. Through this initiative, discarded lashing belts are now recycled into RPF fuel and reused as an energy resource.

Since the start of the recycling initiative in April 2024, approximately 80,000 used lashing belts have been collected and converted into around 8 tons of RPF fuel.

■ Recycling Scheme



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- Recovery and Treatment of Exhaust Gas from Pure Car and Truck Carriers
- Vessel Speed Reduction
- Related Data

Prevention of Air Pollution

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The NYK Group has identified “prevention of air pollution” as one of the three environmental issues that should be particularly addressed in the “NYK Group Environmental Vision.”

Please see “Environmental Management” for the governance structure of environment-related issues, including prevention of air pollution.

For more information, click on the link below.

[P030 Environmental Management](#)

Strategies and Risk Management

The NYK Group follows international and regional regulations regarding air pollutant emissions, and operates vessels and air cargo in accordance with the same.

In addition to procuring vessels that meet environmental regulations, we are steadily reducing air pollutants by ensuring that the vessels are operated with the appropriate fuel that is in compliance with rules and regulations (low-sulfur bunker oil), and by using clean, sulfur-free LNG fuel. Moreover, the Group ensures that its use of regulation-compliant fuel oil is controlled through ongoing analysis of bunker oil.

Initiatives

Recovery and Treatment of Exhaust Gas from Pure Car and Truck Carriers

NYK has signed an agreement with STAX Engineering Pty Ltd., a U.S. company leading in maritime emissions capture and control, emissions capture and control technology and service to recover exhaust gases from ships.

This initiative comes in response to the California Air Resources Board’s (CARB) extended regulations on exhaust emissions for ships and vessels making port calls in the U.S. state of California. Emission regulations by CARB currently require oceangoing container and passenger ships calling at California ports to reduce their emissions of nitrogen oxides (NOx), reactive gases (ROG), carbon dioxide, particulate matter (PM), and diesel particulate matter (DPM) emissions while at berth. Because pure car and truck carriers and tankers will also be subject to these regulations in 2025, there is an urgent need to address this issue. Since January 2025, NYK has been using this emissions capture and control technology to collect and treat exhaust gas emitted by its pure car and truck carriers while at berth.



Image of exhaust gas recovery and treatment using emissions capture and control technology

Vessel Speed Reduction

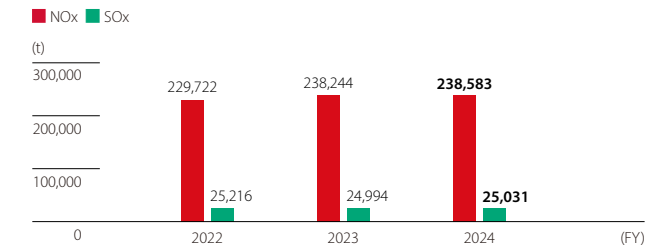
NYK participates in the Protecting Blue Whales and Blue Skies Vessel Speed Reduction (VSR) Incentive Program, which covers the West Coast of North America, is a collaborative effort sponsored by the California Marine Sanctuary Foundation,* among others. In 2025, NYK has once again demonstrated its commitment to marine environmental protection by reaching the Sapphire tier, the highest ranking, for three consecutive years. This program encourages voluntary vessel speed reduction in the Santa Barbara Channel and the San Francisco Bay area to protect whale populations and minimize air pollution. An analysis of Automatic Identification System (AIS) data from May 1 to December 31, 2024, indicated that our vessels maintained an impressive compliance rate of over 90% in the designated zone.



The Sapphire tier trophy

Related Data

NOx, SOx Emissions (from ships)



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Raising Awareness Among Group Employees

Raising Awareness Among Group Employees

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- Obtaining GHG Emission Data from Domestic and Overseas Group Companies
- Group-wide Environmental E-learning

Strategies and Risk Management

To achieve our GHG reduction target of “Net Zero Emissions by 2050,” it is important to raise the environmental awareness of all employees. In order to foster a corporate culture in which each and every member of our group sees environmental issues as their and takes proactive action, we have repeatedly conducted en-vironmental education and awareness-raising activities, and established and are operating a system in which personnel from each group company and department are involved in the collection and compilation of GHG data.

Initiatives

Obtaining GHG Emission Data from Domestic and Overseas Group Companies

Grasping the environmental data is a first step to reducing GHG emissions. We collect data on GHG emissions such as electricity usage, fuel consumption, industrial waste, and so on from domestic and overseas consolidated subsidiaries companies in an effort to comprehensively assess the environmental impacts throughout all our group companies and promote further reductions at the individual company level.

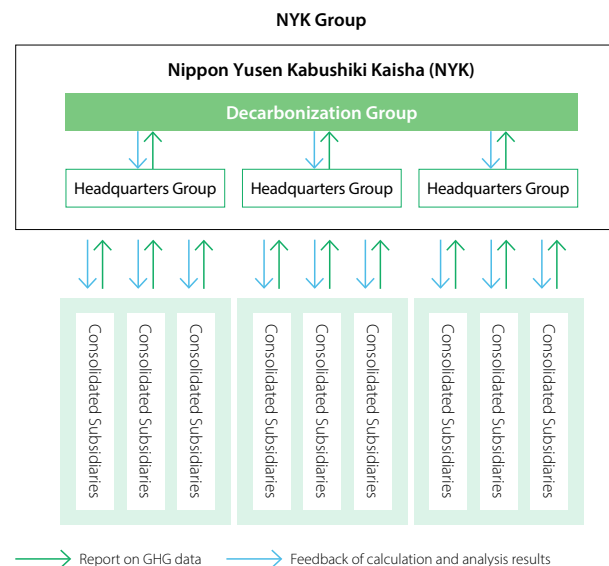
Since 2007 for domestic operations and 2008 for overseas operations, we have initiated data collection from all major consolidated subsidiaries and equity-method affiliates. In fiscal year 2023, we enhanced our internal structure by assigning GHG data aggregation personnel to each group within the headquarters. This allowed for more precise and comprehensive data collection and aggregation across Scope 1, Scope 2, and Scope 3 emissions, in close collaboration with consolidated group companies. This network not only facilitates data visualization and collection but

also serves as an effective communication tool among group companies.

From fiscal 2024 onward, the Scope 3 data collection—previously limited to the headquarters and select group companies—has been expanded to include all major consolidated subsidiaries. As a result, we now collect Scope 1, 2, and 3 GHG emissions data from all major consolidated subsidiaries and equity-method affiliates both domestically and internationally. (Number of domestic sites: 194; Number of overseas sites: 419)

We will continue to work toward more effective GHG emission reductions through ongoing analysis.

Image of GHG emissions tabulation



Group-wide Environmental E-learning

We conduct environmental education through e-learning every year to maintain and improve the environmental awareness of our employees. The environmental e-learning program primarily incorporates global efforts to address global warming, the Group's decarbonization initiatives, and the strengthening of environmental regulations that are progressing in international shipping as part of the educational material. This training is conducted as a mandatory program and is attended by our Group employees from all over the world. We also hold study sessions on decarbonization from time to time to foster decarbonization awareness among our Group employees and promote decarbonization activities.

Environment

Sustainable Finance

Policy

Strategy and Risk Management

- Strategy
- Background
- Environmental Awareness Risk Management

Initiatives

Sustainable Finance

Policy

We have been a pioneer in sustainable finance by issuing the shipping industry's first green bond in 2018 and Japan's first transition bond in 2021. To continue supporting business sustainability from a fundraising perspective, we will further promote sustainable finance and aim to raise awareness of our growth strategy based on Sustainability Management among a wide range of stakeholders.

*sustainable finance: A framework for financing and investment that takes into account environmental, social, and governance (ESG) factors. Companies and investors fulfill their social responsibilities by aiming to realize a sustainable society through instruments such as green bonds and ESG investments.

Strategy and Risk Management

Strategy

We will raise funds in line with the "Green/Transition Finance Framework"* issued by our company in February 2025 and steadily promote decarbonization by supporting fuel conversion of vessels and improvements in operational efficiency from a financial perspective.

* We are promoting sustainable finance based on the "NYK Line Green/Transition Finance Framework" formulated in February 2025. DNV Business Assurance Japan Co., Ltd. has provided a second-party opinion confirming that this framework is aligned with the Green Bond Principles 2021 (ICMA), Sustainability-Linked Bond Principles 2023 (ICMA), Green Bond and Sustainability-Linked Bond Guidelines 2024 (Ministry of the Environment, Japan), Green Loan and Sustainability-Linked Loan Guidelines 2024 (Ministry of the Environment, Japan), Green Loan Principles 2023 (LMA and others), Sustainability-Linked Loan Principles 2023 (LMA and others), Climate Transition Finance Handbook 2023 (ICMA), and the Basic Guidelines on Climate Transition Finance (May 2021) issued by the Financial Services Agency, Ministry of Economy, Trade and Industry, and Ministry of the Environment, Japan.



For more information, click the link below
<https://www.nyk.com/english/sustainability/envi/esg-finance/>

> Green Finance

- Proceeds from green finance are allocated to green projects*¹ (Project example) Ammonia-fueled ammonia transport vessel

> Transition Finance

- Proceeds from transition finance are allocated to transition projects*² (Project examples) LNG-fueled vessel, LPG-fueled vessel

*1 Green project: Project with clear environmental improvement effect

*2 Transition projects: Projects that follow a long-term transition strategy toward decarbonization

Background

The practical use of next-generation fuels such as hydrogen and ammonia is essential for achieving net-zero emissions by 2050. In line with the "Ship Fuel Conversion Scenario for 2050," we are promoting worldwide efforts to decarbonize ships by spearheading the development of an ammonia-fueled tugboat (scheduled for completion in 2024) and an ammonia-fueled ammonia carrier (targeted for completion in 2026).

We recognize that, in order to achieve effective emissions reduction, it is essential not only to pursue zero-emission next-generation fuel vessel projects, but also to advance projects aligned with our transition strategy toward decarbonization—such as promoting energy efficiency and introducing LNG-fueled vessels.

For more information, click the link below

P033 Decarbonization Strategy

Environmental Awareness

In May 2023, Japan enacted the Act on Promotion of Smooth Transition to a Decarbonized Growth-Oriented Economic Structure (GX*¹ Promotion Act), which incorporates the government's decarbonization strategy. By investing more than JPY 150 trillion in GX between the public and private sectors over the next 10 years, we aim to achieve net zero emissions by 2050, strengthen industrial competitiveness, and achieve economic growth at the same time.

In December of the same year, the "Field-specific Investment Strategy" was announced, which specifies measures to promote investment toward the realization of GX. Based on this strategy, the "Growth-Oriented Carbon Pricing Initiative" has made progress, including the implementation of measures to promote investment and the operation of the GX League*², and companies are steadily considering and implementing GX investments. In relation to the Group's business, "ships," "hydrogen, etc.," "next-generation renewable energy (floating offshore wind energy)," and "CCS"*³ have been designated as priority areas.

In this environment, the use of green/transition finance and other finance will enable the Group to accelerate investment while reducing fundraising costs.

*1 GX: Green Transformation

*2 GX League: GX League is a platform where companies and organizations present and share their environmental initiatives, aiming to achieve carbon neutrality and drive social transformation.

*3 CCS: Carbon dioxide Capture and Storage

Environment

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Strategy

Background

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— Risk Management

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Sustainable Finance

Risk Management

Sustainable finance, which is a financial method to promote the shift to a new industrial and social structure and realize a sustainable society, is expected to become increasingly popular in the future. However, if green/transition finance, which is a type of sustainable finance, cannot be utilized, there is a risk that it may be difficult to procure funds on an appropriate scale based on procurement plans, or that the Company may be forced to procure funds under less competitive terms than its competitors. To that end, we actively communicate the importance of the international shipping industry's contribution to decarbonization through our website and integrated report (NYK Report), while promoting sustainable finance to support related funding initiatives.

Initiatives

For details about our track record, please refer to our website "Sustainable Finance."

 For more information, click the link below
<https://www.nyk.com/english/sustainability/envi/esg-finance/>