



Mitsui O.S.K. Lines

# Sustainability Fact Book 2023

# CONTENTS

<b>Introduction</b>	<b>1</b>
Editorial Policy	2
<b>Management</b>	<b>3</b>
Message from the CESO	3
MOL Group's Sustainability Management	4
Sustainability Issues	5
Sustainability Promotion Structure	7
Stakeholder Engagement	8
Sustainable Finance	11
Participation in Initiatives	14
External Recognition	17
 <b>Safety &amp; Value</b>	
<b>Provide added value through safe transportation and our social infrastructure business</b>	<b>19</b>
Safety Levels	20
Creation of New Added Value	32
 <b>Environment</b>	
<b>Conservation for marine and global environment</b>	<b>35</b>
Environmental Strategy	36
Climate Change Countermeasures	41
Natural Capital/Biodiversity	53
 <b>Human &amp; Community</b>	
<b>Contributing to the growth and development of people and communities</b>	<b>58</b>
Human Resources Strategy	59
Promotion of Diversity, Equity and Inclusion	63
Mutually Empowered	67

Highly Engaged	70
Growing Together with Local Communities	80



## Innovation

### Innovation for development in marine technology **83**

Technology Innovation	84
Digital Transformation (DX)	91



## Governance

### Governance and compliance to support businesses **95**

Corporate Governance	96
Risk Management	104
Information Security	110
Responsible Procurement	112
Human Rights	116
Compliance	121

## Data **125**

Environmental Data	125
Social Data	130
Governance Data	138
Corporate Profile	141

### Navigation aids

Links are included to help navigate within the report or to visit a specific reference URL.



## Editorial Policy

### Approach

The “Sustainability Fact Book” aims to be a comprehensive medium to introduce MOL group’s sustainability information to all our stakeholders.

We sincerely hope this book will help our stakeholders to deepen their understanding of our various sustainability initiatives and promote dialogue with them, thereby enabling management to receive better feedback and further enhancing disclosure.

Data Reporting Period	Quantitative data is mainly reported for FY 2022, and some qualitative data is also included for FY 2023.
Scope of Reporting	Initiatives and cases in the operations of Mitsui O.S.K. Lines, Ltd. (“MOL”) and its consolidated subsidiaries, equity-method and other affiliates Note: If the subject of activities or data are limited, this is indicated by notes in the report.
Reporting Cycle	Published annually
Third-party Verification	For some environmental and social data for which third-party verification has been obtained, this is noted in the relevant section.

### Communication Map





## Message from the CESO

### Tatsuro Watanabe

Executive Officer  
Chief Environment Sustainability Officer (CESO)

**By putting sustainability  
at the core of our management strategy,  
we aim to solve social issues and create new value**

Based on the MOL Group Corporate Mission “From the blue oceans, we sustain people’s lives and ensure a prosperous future,” the MOL Group Vision states: “We will develop a variety of social infrastructure businesses in addition to traditional shipping businesses, and will meet the evolving social needs including environmental conservation, with innovative technology and services. MOL Group aims to be a strong and resilient corporate group that provides new value to all stakeholders and grows globally.”

The business environment surrounding our group is undergoing major changes, and we must continually develop a range of social infrastructure businesses that go beyond shipping businesses using a constructive approach, while addressing social issues ranging from climate change and biodiversity to human rights.

In this context, the corporate management plan BLUE ACTION 2035 starting in FY2023 seek to further integrate sustainability into management, centering initiatives to address “Sustainability Issues” (Materiality) as our key issues for sustainable growth with society through realization of the Group Vision. Under the plan, recognizing that it is essential for us to develop and grow along with society if the Group is to grow sustainably, we strive to improve our group’s corporate value, while at the same time giving a positive social and environmental impact through our business activities, by placing greater importance on sustainability issues, and by accelerating and reinforcing related initiatives.

In facing various social issues and seeking to find solutions for them through business, rather than acting in isolation, I believe it is important for us to build partnerships across the entire value chain, both in the shipping industry and with other sectors. By making further progress in terms of sustainability management, we hope to be the company selected in different business situations by varied stakeholders—from business partners to the next generation—and, in doing so, that we contribute to realize a sustainable society, in turn leading to improve our corporate value.

Since our founding, the MOL Group has been committed to the social responsibility of promoting the growth of local industries and enriching people’s lives through ocean transport, and our aspirations and spirit remain unchanged today. Looking ahead, to continue fulfilling this social responsibility, we plan to build and maintain dialogues with a range of stakeholders—not only customers and suppliers, but shareholders, investors, government bodies, communities, NGOs and others as well. We will deliver new value to all the Group’s stakeholders.

In closing, I humbly ask for your continued understanding and support for the MOL Group.



# MOL Group's Sustainability Management

In order to take the leap to becoming a global social infrastructure company, we have formulated a new group management plan "BLUE ACTION 2035" as the roadmap to what we want to be, based on our long-term strategy we have re-set following our strong performance since FY2021 and the resulting improvement in our financial position.

We have put an end to our single-year management plan, which had been in place since FY2017, and have positioned our Group Vision as our "Vision for FY2035," and have presented a 13-year management plan to achieve it.

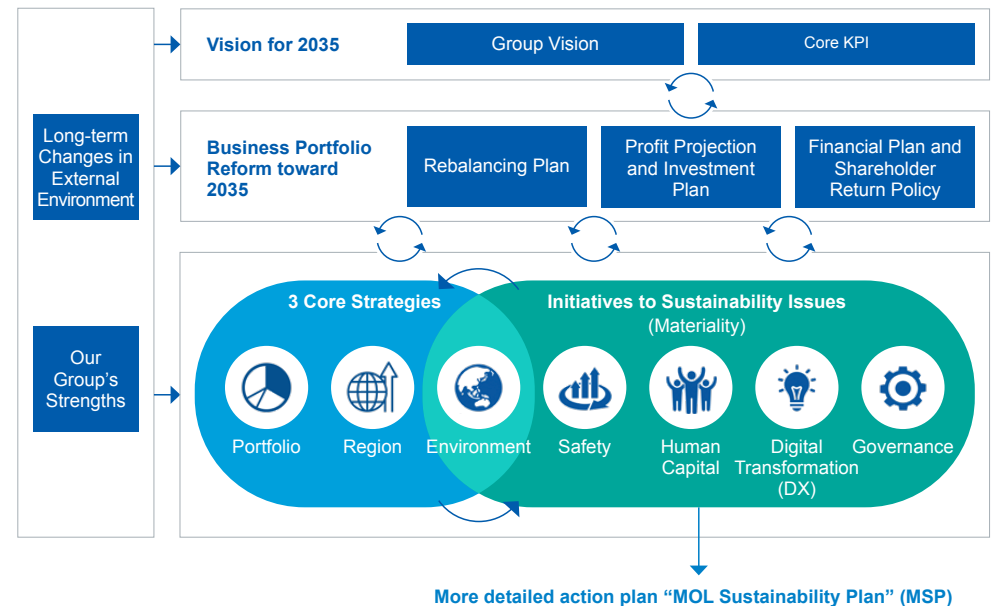
MOL Group's sustainability management is based on a long-term strategy and aims to achieve sustainable growth that is acceptable from both social and environmental perspectives. We will address sustainability issues and create new and greater corporate value, ultimately leading to the realization of the Group Vision through commitment to "BLUE ACTION 2035" in accordance with the spirit of its shared values, set out in MOL CHARTS.



Group Corporate Mission	From the blue oceans, we sustain people's lives and ensure a prosperous future.
Group Vision	We will develop a variety of social infrastructure businesses in addition to traditional shipping businesses, and will meet evolving social needs, including environmental conservation, with innovative technology and services. The MOL Group aims to be a strong and resilient corporate group that provides new value to all stakeholders and grows globally.
Values MOL CHARTS	Challenge / Honesty / Accountability / Reliability / Teamwork / Safety

"BLUE ACTION 2035" incorporates the elements of management plan and "MOL Sustainability Plan (MSP)", which we have positioned as two core business activities for realization of the Group Vision, to boldly express the group's stance toward sustainability management.

3 core strategies (Portfolio, Region and Environment) and 5 most important items (Environment, Safety, Human capital, DX and Governance) in the "Initiatives to Sustainability Issues" will be placed at the center of BA2035.



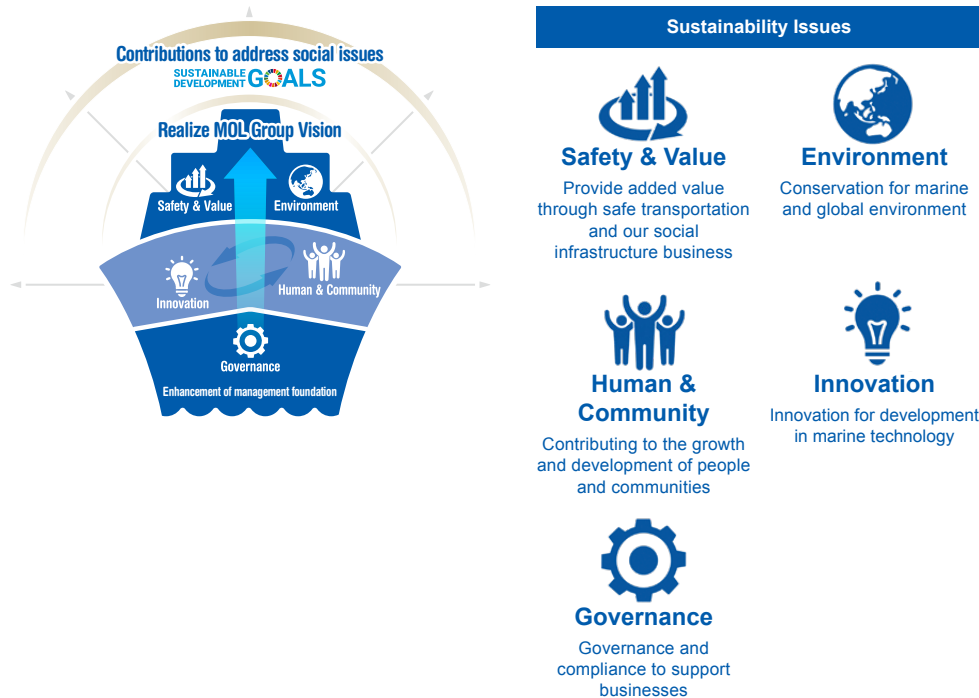
# Sustainability Issues

## Our Sustainability Issues (Materiality)

The MOL Group identifies “Sustainability Issues” (Materiality) as our key issues for sustainable growth with society through realization of the Group Vision. Based on enhancement of “Governance,” which is foundation of MOL Group management, the group addresses issues of “Safety & Value” and “Environment,” while “Innovation” and “Human & Community” are closely inter-related.

We strive to enhance the group’s corporate value and contribute to realizing a sustainable society by moving forward with these initiatives.

Note: The Board of Directors has approved the sustainability issues-related content and reviews, along with related targets, KPIs and action plans (☐☐ MOL Sustainability Plan ▶ P.6).



## Identification and Review

### Identification process (FY2019)

We formed the Sustainability Promotion Project Team to identify Sustainability Issues for the first time. This is an internal team with a cross-divisional membership that formulates our positions on social issues after studying both negative and positive social impacts of our business activities. Then, based on two axes of the importance to stakeholders and the importance to the MOL Group, we combine them under five topics.



### Review (FY2021)

Two years have passed since the first Sustainability Issues were identified, and we reviewed them while referring to the opinion of external stakeholders (external experts, investors, NGOs, etc.), considering the changes in the business environment around the MOL Group, in addition to changes in the social environment, such as climate change, human rights issues.



## Sustainability Issues

### MOL Sustainability Plan

In order to accelerate its efforts to resolve Sustainability Issues, we have set targets, KPIs, and action plans for each of these issues, and formulated the MOL Sustainability Plan.

From FY2023, we reviewed the positioning of the “MOL Sustainability Plan” in the establishment of the “BLUE ACTION 2035” management plan and incorporated it as part of the “BLUE ACTION 2035” as an action plan to realize the Group Vision by resolving Sustainability Issues, thus further integrating the Sustainability Plan with the management

plan. Accordingly, we made a partial revision of initiative focus, targets and KPIs, and changed the Action Plans to correspond with the content of the three-year plan for FY2023 to FY2025 in line with the management plan.

Through the steady implementation of MOL Sustainability Plan, we will strengthen our efforts to resolve Sustainability Issues, measure the effectiveness of our efforts, and implement appropriate improvement activities.

'MOL Sustainability Plan' FY2022 Results

[https://www.mol.co.jp/en/sustainability/management/issues/pdf/MOL\\_Sustainability\\_Plan\\_2022.pdf](https://www.mol.co.jp/en/sustainability/management/issues/pdf/MOL_Sustainability_Plan_2022.pdf)

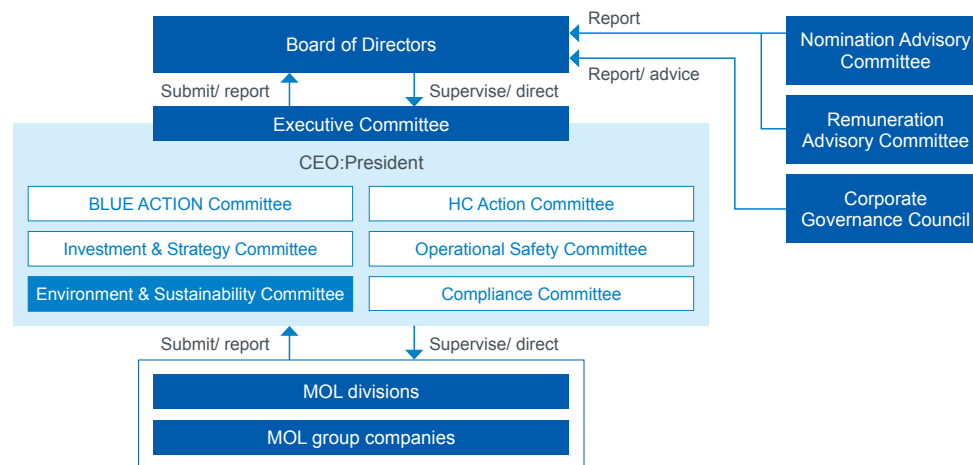




## Sustainability Promotion Structure

To promote sustainability management throughout our group, we have established a management structure with the CEO as the highest responsible person.

Each committee, which is a subordinate under the Executive Committee, mainly deliberates on individual issues. Among them, the Environment & Sustainability Committee (Chairperson: Vice President, Vice Chairperson: Chief Environmental Sustainability Officer) mainly deliberates on issues related to sustainability in general. In addition, the Board of Directors is responsible for oversight of sustainability initiatives and makes decisions on matters such as particularly important policies and strategies.



### Main agenda items for Environment & Sustainability Committee

#### FY2023

- Value chain management initiatives (ship recycling yard selection)
- Compliance with the European Union Emissions Trading system (EU-ETS)
- Report on GHG emissions and emissions intensity, etc.

#### FY2022

- Updating of Environmental Vision, alternative fuels strategy
- Human rights due diligence, value chain management initiatives
- Review of MOL Sustainability Plan
- Report on TCFD, etc.

## Stakeholder Engagement

### Approach

As one of the world's leading multi-modal companies actively involved in a variety of social infrastructure businesses around the world, the MOL Group aims to provide new value to all stakeholders through the increase of corporate value.

With that aim, the group states highly transparent dialogue with all of our stakeholders in “MOL Group Three Basic Principles of Corporate Governance (Article 3)” ( [P.96](#) ) and has established a policy for dialogue with our main stakeholders listed below in “MOL Group Corporate Governance Policy (Article 3)” ( [P.96](#) ).

The group develops business activities in line with social needs by expanding opportunities for dialogues, mainly with our stakeholders listed below, and making use of the valuable insights gained through dialogues in our business management. And then, through these efforts, we will contribute to solving various social issues.

Main stakeholders	Responsibility fulfilled by MOL	Main dialogue methods (frequency)*
Shareholders/ investors	We expand corporate value by sustainable growth and return appropriate profit. We disclose financial and non-financial corporate information in a fair and equitable manner, through a wide variety of communication methods, so it can be properly evaluated by our shareholders and investors.	<ul style="list-style-type: none"> <li>Annual General Meeting of Shareholders (once a year), financial results briefing sessions (4 times a year)</li> <li>IR meetings in Japan and overseas (about 200 times/year), SR meetings (about 20 times/year)</li> <li>Exhibit at IR events for individual investors (irregular: held in Sep. 2022, Sep. 2023, Nov. 2023)</li> <li>Small meetings with president (general version: 2 times/year)</li> <li>Small meetings of ESG Directors (once a year)</li> <li>Small meetings with outside directors (irregular, held in January 2023)</li> <li>Sponsorship and presentation at overseas ESG conferences (irregular)</li> <li>Various reports (Securities Report, Corporate Governance Report, MOL Report, Investor Guidebook, etc.) (once a year)</li> </ul>
Customers	We comply with laws and international rules, make relentless efforts to improve our technological capabilities, and offer high-quality, environmentally conscious services. We provide necessary information for customers in a timely and appropriate manner, and strive to improve services and build sustainable value chains for our customers, based on requests we receive from them.	<ul style="list-style-type: none"> <li>Business activities (routine)</li> <li>Web site, SNS (routine)</li> <li>MOL Service Website/Inquiry desk (routine)</li> <li>Ship visits (Cargo handling tours etc.) (anytime)</li> <li>Various seminars/exhibitions/international conferences (irregular)</li> </ul>

Main stakeholders	Responsibility fulfilled by MOL	Main dialogue methods (frequency)*
Business partners	We procure in consideration of fair trade, legal compliance, the environment, human rights, safety, and so on, and build sustainable value chains. In asking our business partners for their cooperation in the MOL Group's initiatives, we strive to expand communication methods with them to further deepen our partnerships.	<ul style="list-style-type: none"> <li>Shipowners meeting (once a year)</li> <li>Safe operation liaison meeting with shipowners (once a year)</li> <li>Agency/stevedore meetings (one-twice a year)</li> <li>Various seminars/exhibitions (irregular)</li> </ul>
Employees/ Seafarers	We strive to develop workplace environment in consideration of industrial safety and health and human rights, and cultivate corporate culture that every employee and seafarer can fully demonstrate their capabilities and play active roles. We lead to growth of both company and them, by providing opportunities of diverse education and challenge, and exchanging opinions about direction of management for all employees and seafarers.	<ul style="list-style-type: none"> <li>Personnel evaluation meeting (several times a year)</li> <li>Engagement Survey (more than once a year)</li> <li>Labor-management consultation (any time)</li> <li>Advisory service desks (any time)</li> <li>In-house magazines (printed, web site, etc.) (any time)</li> <li>Business performance/management workshop (4 times/year)</li> <li>Dialogue between management and employees (more than 10 times/year)</li> <li>Seafarer Family Day (once a year)</li> <li>Safety Conference (3 times/year)</li> <li>Safety Campaign (annual)</li> </ul>
Administrative organs	We fulfill obligations as good corporate citizen for legal compliance and tax payment, and contribute to smooth administrative operation and development of maritime industry. We make deeper understandings of policies and measures through opportunities to exchange opinions with countries and local governments to reflect them to our business activities in an appropriate manner, and proactively continue to involve in formulation of transport policies, which contribute to reduction of the environmental impact and sustainable growth.	<ul style="list-style-type: none"> <li>Exchange opinions with government offices and local governments (any time)</li> <li>Cooperate for various surveys and questionnaires (any time)</li> </ul>
Local communities/ NGOs	As a globally growing corporate group, we strive on sustainable growth and promotion of local communities in which the MOL Group involves. We provide opportunities for two-way communication with communities and NGOs to promote businesses and social contribution activities that meet their needs.	<ul style="list-style-type: none"> <li>Exchange opinions with NGOs and external organizations (several times per year)</li> <li>Social contribution activities in Mauritius (full year)</li> <li>Beach cleanup activity (several times a year)</li> <li>Cargo loading/terminal tour (irregular)</li> <li>Accept students' workplace visit, event to introduce business (any time)</li> <li>Send instructors to lectures and training programs (any time)</li> </ul>

\* Currently, some of our activities are suspended or held online in consideration of the need to prevent COVID-19 infection.

## Stakeholder Engagement

### Initiatives

#### Communication with shareholders and investors

##### [IR meeting/SR meeting](#)

MOL holds IR meeting with investors and analysts about 200 times a year, and SR/engagement meetings with persons of our major shareholders in charge of investment about 20 times a year. In addition, we hold a regular annual event to discuss issues with MOL executives overseeing ESG matters. We also hold IR meetings overseas where the management themselves hold direct dialogue with investors-about twice a year mainly in Asia and Europe. Based on opinions from investors and shareholders, we carry forward shifting to management, which weighs more on capital cost and cash flow, review measures for shareholders return, eliminate parent-child listing, strength the governance, reduce cross-shareholdings, and so on.

We are also working to enhance disclosure along with shareholders' opinions, such as disclosure along with TCFD and disclosure of skill matrix ([□□ P.99](#)).

 [Climate Change Countermeasures/Task Force on Climate-related Financial Disclosures \(TCFD\)](https://www.mol.co.jp/en/sustainability/environment/tcfcd/)  
<https://www.mol.co.jp/en/sustainability/environment/tcfcd/>

#### Communication with customers

##### [Web marketing](#)

As part of web marketing for customers, MOL operates a marketing Web site "MOL Service Web site" to provide information on our group services. We have also received inquiries about transport and accompanying services from customers in Japan and overseas, via SNS and newsletter we regularly stream. Besides business talks, we also receive requests writing for academic journals, or feedbacks about interesting initiatives and projects of our group. Thus, this is an opportunity for our business partners to recognize MOL as "trusted partner."

 [MOL Service Site](https://www.mol-service.com/en/)  
<https://www.mol-service.com/en/>

#### Communication with business partners

##### [Shipowners' meeting](#)

MOL holds "Shipowners' meeting" annually as a place of dialogue and social gathering.

In FY2023, in addition to a lecture by an outside expert on world affairs, we gave presentations on the Wind Challenger Project, one of our environmental initiatives, and had meaningful exchanges of opinions.

#### Communication with employees and seafarers

##### [Business performance/management workshop](#)

MOL quarterly holds a workshop for Group executives and employees to explain the business environment and performance, and management policy for fiscal year. At the workshop, we explain details of business environment and performance and also explain results of questionnaire to executives and employees. We also explain focus field and business we picked up based on the times at every workshop.

In addition, this workshop is an opportunity that employees can directly communicate with management including the president. The president himself frankly answers questions and comments from employees.

##### [Labor-management communication](#)

Through proactive dialogue with labor unions (at sea/on land), MOL engages in workstyle reforms and provision of good benefits for employees, and so on.

In the spring labor-management negotiations of 2023, in addition to wage improvements such as raising monthly salaries, increasing position allowances, and expanding the individual performance addition system, we also implemented measures to improve job satisfaction, such as expanding the short-time work shift for childcare and introducing volunteer leave.

In April 2023, we also formulated and announced HC Vision/HC Action 1.0, and in accordance with the three principles of "Diversity, Equity & Inclusion", "Mutually Empowered", and "Highly Engaged" stated therein, we have been working on personnel system reform and work style reform (reduction of working hours), while maintaining close communication with labor unions.



## Stakeholder Engagement

### [Safety Conference](#)

MOL holds “MOL Safety Conference” for seafarers on our operated vessels in the group’s major seafarer supply countries including Japan.

In FY2022, MOL was able to hold the event face-to-face for the first time in 4 years. By discussing on the causes of actual accidents and injuries and measures to prevent their recurrence, and by sharing information on our company’s efforts to improve living quarters, use ICT, and DX, the participants’ safety awareness and engagement were enhanced.

📖 [Safety Conference](#) ▶ P.28

### Communication with local communities and NGOs

#### [NGO roundtable](#)

In September 2022, MOL held a roundtable meeting with the attendance of NGOs and experts from a total of nine companies and organizations. MOL held the event in a hybrid format with both in-person and online participation, and explained our efforts to protect and restore the environment in Mauritius and contribute to local communities, and took the opportunity to introduce the “MOL Sustainability Plan”, which was announced in April 2022. We received a wide range of useful opinions from the participants.

Based on their opinions, we have upgraded disclosure about our initiatives in Mauritius on our website. We will make use of the valuable advice we received, and will continue to seek advice from a wide range of experts to continue to support the environment and people of Mauritius. We also continually seek out opinions from experts in local communities and NGOs and make every effort to reflect them in our business.

#### [Collaboration with local governments](#)

Working in collaboration with various local governments, MOL is actively involved in the sustainable development and promotion of the regions.

📖 [MOL Signs Collaboration Deal with Nagasaki Prefecture for Shipbuilding-Related Industries and Renewable Energy Projects —Raising Nagasaki Prefecture’s Profile/Creating New Value for Local Companies through Public-Private Collaboration—](https://www.mol.co.jp/en/pr/2023/23011.html)  
<https://www.mol.co.jp/en/pr/2023/23011.html>

📖 [MOL Concludes MoU to Revitalize Regional Industries by Utilizing Overseas Personnel in Oarai-machi, Ibaraki Prefecture](https://www.mol.co.jp/en/pr/2022/22095.html)  
<https://www.mol.co.jp/en/pr/2022/22095.html>

📖 [Corporate citizenship activities](#) ▶ P.80–82

📖 [Support activities for Republic of Mauritius](#) ▶ P.82

# Sustainable Finance

## Initiatives

MOL is actively involved in sustainable finance to capitalize on growing awareness of the environment and sustainability in terms of financing.

### 1. Framework

#### Formulation of Sustainable Finance Framework

- In December 2023, MOL formulated a comprehensive framework for green finance and transition finance.

#### Sustainable Finance Framework

[https://www.mol.co.jp/en/sustainability/management/finance/pdf/sustainable\\_finance\\_framework.pdf](https://www.mol.co.jp/en/sustainability/management/finance/pdf/sustainable_finance_framework.pdf)

#### Formulation of Blue Bond Framework

- In December 2023, we formulated a framework for Blue Bonds, which is a type of green bonds and is issued with the use of proceeds limited to projects related to the prevention of marine pollution, sustainable marine resources, and so on.

#### Blue Bond Framework

[https://www.mol.co.jp/en/sustainability/management/finance/pdf/blue\\_bond\\_framework.pdf](https://www.mol.co.jp/en/sustainability/management/finance/pdf/blue_bond_framework.pdf)

### 2. Funding Initiatives

#### Green finance

#### Financing via Blue Bond issuance

- In January 2024, we issued ¥20 billion in blue bonds.

#### MOL Issues Blue Bond (26th Series Unsecured Corporate Bonds)

<https://www.mol.co.jp/en/pr/2024/24008.html>

#### Financing via Green Loans

- In December 2019, we signed a green loan agreement to finance the construction of one of the world's largest LNG bunkering vessels, which we own and manage.

#### MOL to raise funds as Green Loan

— MOL finances World's Largest LNG bunkering vessel for Total with Green Loan —  
<https://www.mol.co.jp/en/pr/2019/19086.html>

#### Financing via Green Bond issuance

- In Aug–Sep 2018, we issued ¥10 billion in green bonds.

#### Fund allocation report

Sub-groups	Projects categories	Amount (100 million yen)
Regulation response	Ballast Water Treatment System	55
	SOx Scrubber	22
LNG related	LNG Bunkering Vessels	14
	LNG-fueled Vessels (Tugboat)	7
Upgraded PBCF and Wind Challenger Project	Upgraded Propeller Boss Cap Fins	2
	Wind Challenger Project	0
Total		100

#### MOL to Issue Japan's 1st Green Bonds Aimed at Individual Investors

“MOL Blue Ocean Environmental Bonds”  
<https://www.mol.co.jp/en/pr/2018/18053.html>

#### Transition finance

#### Financing via Transition Loans

- In December 2023, we signed transition loan agreements to finance the construction of LNG dual-fueled ferries, LNG dual-fueled pure car and truck carrier (PCTC), and bulk carrier equipped with Wind Challenger.


#### MOL Establishes Sustainable Finance Framework; Using it for 5 Loan Deals — Part of Ongoing Environmental Strategy Initiatives —

<https://www.mol.co.jp/en/pr/2024/24011.html>

## Sustainable Finance

### ○ Funding via Transition Linked Loans

- In December 2023, we signed transition linked loan agreements to finance the construction of LNG dual-fueled very large crude carrier (VLCC) and LNG dual-fueled very large gas carrier (VLGC).

 [MOL Establishes Sustainable Finance Framework; Using it for 5 Loan Deals — Part of Ongoing Environmental Strategy Initiatives —](https://www.mol.co.jp/en/pr/2024/24011.html)  
<https://www.mol.co.jp/en/pr/2024/24011.html>

- In March 2023, we signed a “global credit facility agreement” (also known as a “commitment line contract”) with MUFG Bank, Ltd.

 [MOL Expands Financing Base through Transition Linked Loan to Promote Environmental Strategies](https://www.mol.co.jp/en/pr/2023/23040.html)  
<https://www.mol.co.jp/en/pr/2023/23040.html>


- In December 2022, we signed a commitment line agreement with Sumitomo Mitsui Banking Corporation. This is Japan’s first global commitment line agreement using a transition-linked loan.

 [Japan’s First: MOL Concludes Global Commitment Line Agreement through Transition Linked Loan — Expanding Financing Base and Promoting Environmental Strategies —](https://www.mol.co.jp/en/pr/2022/22148.html)  
<https://www.mol.co.jp/en/pr/2022/22148.html>


- In October 2022, we signed a transition linked loan agreement with Sumitomo Mitsui Banking Corporation to finance the construction of the Shofu Maru, the world’s first bulk carrier equipped with the Wind Challenger jointly led the development with Oshima Shipbuilding Co., Ltd.

 [MOL Finances Second Ship through Transition Linked Loans — ESG Financing for Bulk Carrier SHOFU MARU, Featuring Wind Challenger Sail System —](https://www.mol.co.jp/en/pr/2022/22111.html)  
<https://www.mol.co.jp/en/pr/2022/22111.html>

- In November 2021, we signed a transition linked loan agreement to finance the construction of the Gas Vitality, the second in a series of world’s largest LNG bunkering vessels.

 [MOL Concludes a Transition linked loan to finance for TotalEnergies –Chartered LNG Bunkering Vessel, “Gas Vitality”](https://www.mol.co.jp/en/pr/2021/21096.html)  
<https://www.mol.co.jp/en/pr/2021/21096.html>

- In September 2021, we signed a syndicated “Transition Loan” for Japan’s first LNG-fueled ferries, which will be operated on the Osaka-Beppu route by our group company MOL Sunflower Ltd.

 [MOL Concludes ‘Transition Loan’ Contract for 2 LNG-fueled Ferries — First Use of Transition Loan in Japan, Selected as Model for METI Climate Transition Finance —](https://www.mol.co.jp/en/pr/2021/21078.html)  
<https://www.mol.co.jp/en/pr/2021/21078.html>


### Sustainability finance

#### ○ Financing via Sustainability Bond issuance

- In June 2019, we issued ¥20 billion in sustainability bonds.

#### Fund allocation report

Sub-groups	Projects categories	Amount (100 million yen)
Social-Related	Establishment of Philippine University of Merchant Shipping	44
	Workplace Reform	2
Regulation response	Ballast Water Treatment System	40
	SOx Scrubber	92
LNG related	LNG Bunkering Vessels	20
	LNG-fueled Vessels (Tugboat)	1
Upgraded PBCF and Wind Challenger Project	Upgraded Propeller Boss Cap Fins	1
	Wind Challenger Project	0
Total		200

 [MOL Sets Conditions for Issue of ‘Sustainability’ Bonds](https://www.mol.co.jp/en/pr/2019/19041.html)  
<https://www.mol.co.jp/en/pr/2019/19041.html>



## Sustainable Finance

### [Positive impact finance](#)

- Financing based on agreement through Positive Impact Finance
  - In April 2023, we signed a commitment line agreement through “Positive Impact Finance” with Mizuho Bank, Ltd. The KPIs based on MOL’s sustainability issues were evaluated by Mizuho Bank, Ltd. as having an impact on the achievement of the SDGs. MOL was deemed eligible for the loan and the contract was concluded.

 [MOL Signs Positive Impact Finance Loan Deal with Mizuho Bank — Addressing Sustainability Issues by Expanding Fundraising Base —](https://www.mol.co.jp/en/pr/2023/23058.html)  
<https://www.mol.co.jp/en/pr/2023/23058.html>

## Participation in Initiatives

### Environment

#### First Movers Coalition

It is an initiative launched by the US government at COP26 in collaboration with the World Economic Forum. We joined the CDR (Carbon Dioxide Removal) sector as the first Japanese company in May 2022, and in January 2023, we became the first Japanese company to participate in the shipping sector. In September 2023, we became a “Sector Champion” to represent the shipping sector and lead the discussion on promoting zero-emission fuels.



 [MOL Appointed as “Sector Champion” of First Movers Coalition — Leading the Discussion to Promote Zero-Emission Fuels —](https://www.mol.co.jp/en/pr/2023/23113.html)  
<https://www.mol.co.jp/en/pr/2023/23113.html>

#### Getting to Zero Coalition

It is an international syndicate that aims for ship operation with zero carbon energy power sources, and establishment of zero carbon energy source production/ distribution/ storage/ bunkering systems by 2030. In addition to its membership, MOL is also a signatory to the Coalition’s call for “Call to Action for Shipping Decarbonization.”

 [MOL signs “Call to Action for Shipping Decarbonization” toward decarbonization of international shipping](https://www.mol.co.jp/en/pr/2021/21081.html)  
<https://www.mol.co.jp/en/pr/2021/21081.html>

#### MAKING NET-ZERO AMMONIA POSSIBLE

MOL signed the Sector Transition Strategy “Making Net-Zero Ammonia Possible,” prepared by a public-private partnership “Mission Possible Partnership” aimed at promoting decarbonization in industry involving the WEF.



 [MOL Signs “Making Net-Zero Ammonia Possible” Proposal from Public-Private Partnership for Decarbonization in which World Economic Forum Participates](https://www.mol.co.jp/en/pr/2022/22106.html)  
<https://www.mol.co.jp/en/pr/2022/22106.html>

#### NextGen CDR Facility

MOL is one of the founding buyers in the NextGen CDR Facility, an initiative led by leading Swiss-based global climate change solutions provider South Pole to purchase technical CDRs (carbon dioxide removal) with third-party verification, which aim to proliferate and promote CDR technologies.




#### Global Maritime Forum

It is an international NPO seeking to address ESG issues including decarbonization centered on the shipping industry to increase sustainable long-term economic development and human wellbeing.



#### TCFD (Task Force on Climate-related Financial Disclosures) Consortium

It provides a forum for discussions between companies that agree with TCFD Recommendations, which aim to ensure companies factor in climate-related risks and opportunities in their disclosures to investors.

 [MOL to Join Consortium on TCFD \(Task Force on Climate-related Financial Disclosures\) — Aims at Effective Disclosure of Climate-related Risks and Opportunities —](https://www.mol.co.jp/en/pr/2019/19029.html)  
<https://www.mol.co.jp/en/pr/2019/19029.html>

#### Japan Climate Initiative

It is a network committed to strengthening communication and exchange of strategies and solutions among companies, local government bodies, NGOs and other entities that are implementing climate actions in Japan.

#### Japan Hydrogen Association

It is a cross-sectional organization with a wide range of business sectors, to address various issues in the establishment of a hydrogen society.



## Participation in Initiatives

### Clean Fuel Ammonia Association (CFAA)

The Japan Science and Technology Agency established the CFAA to further technology development/assessment, economic feasibility studies, policy proposals, and international cooperation. CFAA's goal is to develop a value chain for CO<sub>2</sub>-free ammonia from supply to use.

### Methane Abatement in Maritime Innovation Initiative (MAMII)

It is an environmental initiative led by the NPO Safetytech Accelerator Limited whose aim is to reduce methane emissions across the global shipping industry.

 [MOL to Participate in the Methane Abatement in Maritime Innovation Initiative \(MAMII\) toward reducing maritime methane emissions](https://www.mol.co.jp/en/pr/2023/23050.html)  
<https://www.mol.co.jp/en/pr/2023/23050.html>

### Global Centre for Maritime Decarbonisation (GCMD)

In August 2023, we joined GCMD, a Singapore-based NPO promoting decarbonization of shipping industry, as an Impact Partner.

 [MOL Joins GCMD as Impact Partner to Accelerate Decarbonisation in Maritime Industry](https://www.mol.co.jp/en/pr/2023/23100.html)  
<https://www.mol.co.jp/en/pr/2023/23100.html>

### Blue Visby Consortium


It aims to reduce GHG emissions from vessels by developing a digital technology-based platform "Blue Visby Solution" to optimize vessels' arrival times at their destinations.

 [MOL Joins Blue Visby Consortium — Utilizing Digital Technology to Reduce CO<sub>2</sub> Emissions from Vessels —](https://www.mol.co.jp/en/pr/2022/22107.html)  
<https://www.mol.co.jp/en/pr/2022/22107.html>

### GX League

METI established the GX League as a forum for cooperation between a group of companies and the government, universities, and academic institutions in order to meet GHG reduction targets and increase industrial competitiveness by using Japan's goal of carbon neutrality by 2050 as an opportunity for economic growth, social reforms and develop new markets.



 [MOL Joins Ministry of Economy, Trade and Industry's "GX League"](https://www.mol.co.jp/en/info/article/2023/0612.html)  
<https://www.mol.co.jp/en/info/article/2023/0612.html>

### TNFD Early Adopters

The Task Force on Nature-related Financial Disclosures (TNFD) is a global initiative to construct a framework for the appropriate assessment and disclosure of risks and opportunities linked to natural capital and biodiversity. We registered as a "TNFD Early Adopter," a commitment to disclose in accordance with the TNFD recommendations and aim to disclose FY2024 information.




 [MOL Registers as "TNFD Early Adopter" — Aiming for a World in Harmony with Nature —](https://www.mol.co.jp/info/article/2024/0119.html)  
<https://www.mol.co.jp/info/article/2024/0119.html>

### 30by30 Alliance for Biodiversity

MOL is one of 17 founding members of this alliance, which includes Japan's Ministry of the Environment and other organizations in the public and private sectors. The goal is to make effective progress on achieving the "30by30" target to preserve 30% of the land and sea by 2030.



 [Participation in the "30by30 Alliance for Biodiversity"](https://www.mol.co.jp/en/pr/2022/22063.html)  
<https://www.mol.co.jp/en/pr/2022/22063.html>



## Participation in Initiatives

### International Society for Mangrove Ecosystems (ISME)

As an institutional member, we support this organization's efforts to promote restoration and conservation of mangroves forests worldwide.

### "Plastics Smart" Forum

It is a platform for promoting dialogue and exchanges between companies and organizations interested in addressing the issue of marine plastic waste by promoting smart ways to deal with them.



### Social

#### All Aboard Alliance

This alliance of business partners working in the shipping industry is cooperating on initiatives aimed at promotion of diversity, equity, and inclusion (DEI) across every shipping-related occupation at sea and land to ensure the sector can be sustainable, innovative and attractive for future generations.



The Alliance for a Diverse, Equitable, and Inclusive Maritime Industry

### Women's Empowerment Principles (WEPs)

The WEPs are a set of seven principles for promoting women's advancement that were jointly developed by the UN Global Compact and the UN Development Fund for Women (UNIFEM, now UN Women).

MOL Signs 'Women's Empowerment Principles (WEPs)'  
<https://www.mol.co.jp/en/pr/2022/22117.html>

In support of

#### WOMEN'S EMPOWERMENT PRINCIPLES

Established by UN Women and the UN Global Compact Office

### #Here We Go 203030

This Keidanren-led initiative aims to raise the proportion of female executives\* within Japanese company to at least 30% by 2030.

\*Based on officers under the Companies Act of Japan (may include executive officers and the equivalent).



### "Male Leaders Coalition for Empowerment of Women"

It is a gathering of business executives and others to promote initiatives in line with the "Declaration of Action" to promote gender equality and women's advancement, which was formulated at the direction of the Cabinet Office, and to accelerate corporate efforts by building a network among participants and sharing initiatives and issues.



MOL CEO Joins Japanese Government-led 'Male Leaders Coalition for Empowerment of Women'  
<https://www.mol.co.jp/en/pr/2022/22116.html>

## External Recognition

### Sustainability

- Selected for FTSE4Good Index Series for 21st consecutive year
- Selected to FTSE Blossom Japan for 7th consecutive year
- Selected for FTSE Blossom Japan Sector Relative Index for 2nd consecutive year
- Selected for S&P Global “Dow Jones Sustainability Asia/Pacific Index” for 2nd consecutive year
- Selected for “Yearbook Member” of S&P Global “The Sustainability Yearbook 2024”
- Certified as 4.0 Stars in the Fifth Nikkei SDGs Management Survey
- Selected for “Sompo Sustainability Index” in FY2023



FTSE4Good

FTSE Blossom  
JapanFTSE Blossom  
Japan Sector  
Relative IndexMember of  
**Dow Jones  
Sustainability Indices**  
Powered by the S&P Global CSANIKKEI  
**SDGs**  
経営調査 2023 ★★★★★2023  
Sompo Sustainability Index

### Safety/Quality

- ‘Sunflower Kurena’ wins Grand Prize in ‘2023 Nikkei Excellent Products and Services Awards’
- Japan’s 1st LNG-fueled Ferry, the ‘Sunflower Kurenai’, Wins Grand Prize in ‘2023 Nikkei Excellent Products and Services Awards’  
<https://www.mol.co.jp/en/pr/2024/24002.html>

- ‘Sunflower Kurenai’ and ‘Sunflower Murasaki’ win Good Design Award 2023

Japan’s 1st LNG-fueled Ferries, MOL Group’s ‘Sunflower Kurenai’ and ‘Sunflower Murasaki,’ Win Good Design Award 2023  
<https://www.mol.co.jp/en/pr/2023/23125.html>

- ‘LNG Venus’ recognized for Excellence in Weather Observation and Reporting for 8th Consecutive Year

MOL Group-managed Vessels Recognized for Excellence in Weather Observation and Reporting for 8th Consecutive Year — LNG Venus Receives 2023 Director-General Award from Japan Meteorological Agency —  
<https://www.mol.co.jp/en/pr/2023/23073.html>

- ‘Shofu Maru’ and ‘Sunflower Kurenai’ win awards in ‘Ship of the Year 2022’

MOL Group Earn 2 Awards in ‘Ship of the Year 2022’ — World’s 1st Coal Carrier Equipped with Wind Challenger, Shofu Maru, Named Ship of the Year 2022; Japan’s 1st LNG-fueled Ferry Sunflower Kurenai Wins in Large Passenger Ship Sector —  
<https://www.mol.co.jp/en/pr/2023/23065.html>

- ‘LNG SATURN’ and ‘TAIYO’ earn 2021 ‘Best Quality Ship Awards’

2 MOL-operated Vessels Earn 2021 ‘Best Quality Ship Awards’ — Japan Federation of Pilots’ Association Honors Safe Operation Measures —  
<https://www.mol.co.jp/en/pr/2022/22083.html>

- “LNG EBISU,” ‘LNG MARS’ and ‘EMINENT ACE’ earn awards from Minister of Land, Infrastructure, Transport and Tourism and Director-General of Japan Meteorological Agency

3 MOL Group-managed Vessels Recognized by Japan’s Ministry of Land, Infrastructure, Transport and Tourism and Meteorological Agency — For Contributing to the Development of Meteorological Service through Ongoing Efforts to Report Ocean and Weather Data —  
<https://www.mol.co.jp/en/pr/2022/22073.html>

## External Recognition

### Environment

- Certified as “A” in CDP Climate Change Report 2023
- Selected as a “CDP2022 Supplier Engagement Leader” in the Supplier Engagement Rating (SER) by CDP
- Selected for S&P/JPX Carbon Efficient Index



- GUINNESS WORLD RECORDS™ title awarded in 2021 to Propeller Boss Cap Fins (PBCF) as Best-selling Energy-Saving Ship Appendage Brand (Cumulative)

A GUINNESS WORLD RECORDS™ title for Best-selling Energy-Saving Ship Appendage Brand (Cumulative) was certified for Propeller Boss Cap Fins (PBCF)  
<https://www.mol.co.jp/en/pr/2021/21120.html>

- PBCF receives Environmental Technology Award recognizing environmental impact reduction in 2020

Propeller Boss Cap Fins (PBCF) Wins Environmental Technology Award from Japan Association for Logistics and Transport  
<https://www.mol.co.jp/en/pr/2020/20032.html>

- Ishin, Sunflower Kurenai and Sunflower Murasaki all top-rated for energy efficiency for coastal ships in 2020

LNG-fueled Ishin, Sunflower Kurenai and Sunflower Murasaki Earn Top Energy Conservation Rating for Japanese Coastal Ships  
<https://www.mol.co.jp/en/pr/2020/20036.html>

### Diversity/Health and Productivity Management

- Awarded NADESHIKO Brand for 3rd consecutive year
- Selected for FY2023 “MSCI Japan Female Empowerment (WIN) Index”
- Selected as Health and Productivity Stock Selection for 3rd consecutive year
- Selected as the 2023 Certified Health & Productivity Management Outstanding Organization (Large Enterprise Category) for the 5th year in a row, and recognized as ‘White 500’, one of the top 500 enterprises in 2023.

\* The inclusion of Mitsui O.S.K. Lines, Ltd. in any MSCI index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Mitsui O.S.K. Lines, Ltd. by MSCI or any of its affiliates. The MSCI indexes are the exclusive property of MSCI. MSCI and the MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.



2023 CONSTITUENT MSCI日本株  
女性活躍指数 (WIN)



### DX

- Selected as “Digital Transformation Stocks (DX Stock) 2022”
- Selected as DX-certified business operator in 2021



# Safety & Value

Provide added value through safe transportation and our social infrastructure business



## Core Objective

MOL aims to promote sustainability and prosperity in people's everyday lives and in industries around the world, by transporting energy, commodities, and finished products safely, reliably, and cost-effectively.

The MOL Group continuously aims to expand its social infrastructure business, centered primarily on marine transport.

## Contributing to SDGs:



## Initiative Focus

### Value through Our Core Business

#### ● Targets

- Provide sustainable value through marine transport and social infrastructure business

#### ● KPIs

- Transport volume (ton-mile)

#### ● Targets

- Rigorously ensure safe operation and eliminate accidents

#### ▶ Numerical Targets

- 4 ZEROS
  - Zero serious marine incidents
  - Zero serious cargo damage
  - Zero oil pollution
  - Zero fatal accidents

- SPI (FY2025, 2030, 2035 targets)\*1

Indicator / Fiscal Year	2025	2030	2035
Lost time injury frequency**2	≤0.50	≤0.40	≤0.30
Average downtime (hours per ship per year)**3	≤24.00	≤22.00	≤20.00
Downtime frequency rate (incident per ship per year)**4	≤1.00	≤0.80	≤0.60

#### ● KPIs

- Number of serious marine incidents
- Number of serious cargo damage
- Number of oil pollution
- Number of fatal accidents
- Lost time injury frequency
- Average downtime
- Downtime frequency rate

We plan to revise in line with Safety Vision.

### Creation of New Added Value

#### ● Targets

- Create services that meet social needs

#### ● KPIs

- Track record of new services that cater to society's sustainability-related needs
- Number of projects commercialized through the MOL Incubation Bridge, system for employee-inspired proposals for new businesses

## Fiscal 2023–2025 Action Plans

- Implement strategies set forth in the management plan

- Strengthen support of safe operation, including the use of ICT technology
  - Establish systems and structures that will help seafarers improve their skills and maintain their attentiveness, as well as increase their safety awareness
  - Onboard DX promotion and workstyle reforms
  - Enhance land-based support systems and functions
- Promote initiatives that lead to improved level of safety
  - Promote improvement activities/reforms through visits to group-operated vessels, ship management companies, and shipowners
  - Ongoing training to foster safety culture
  - Establishment of Safety Vision (scheduled for FY2023)

\*1 Safety Performance Indicator.

\*2 The number of work-related accidents per one million hours worked; the scope of calculation includes any workplace illness or injury that prevents a worker from resuming normal duties or light duties on the day the illness or injury occurs, regardless of whether the illness or injury requires disembarkation.

\*3 The amount of downtime due to mechanical malfunctions or incidents per vessel per year.

\*4 The number of mechanical malfunctions or incidents that result in downtime per vessel per year.

# Safety Levels

## Strategy

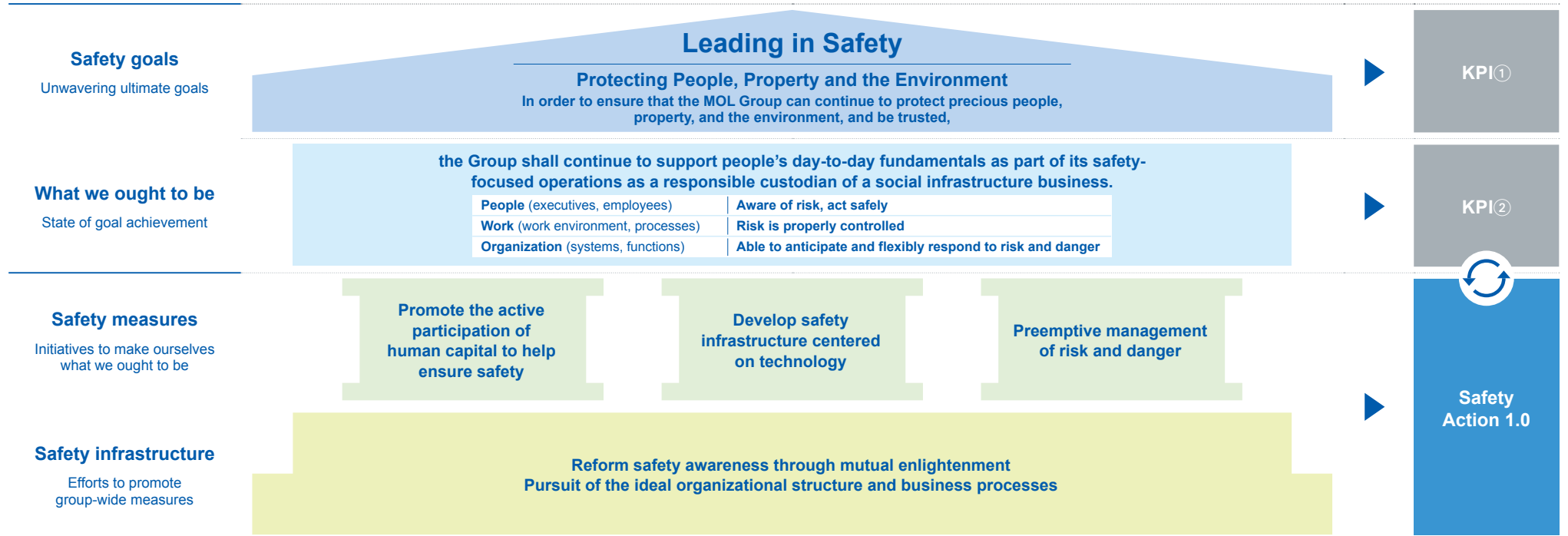
### Establishment of Safety Vision

The Safety Vision was established to both support “Safety & Value” as one of the sustainability issues for the MOL Group and to reinforce the ‘S (for Safety)’ aspect in the ‘MOL CHARTS,’ which sets out our values.

Moving forward, we will develop various social infrastructure businesses, primarily in the shipping business, with the aim of ensuring stable provision of services and delivering new growth. Safety will remain at the core of what we do. This Vision sets out the blueprint for safety in the MOL Group, under which we will undertake efforts to further reinforce our safety-related initiatives.

“Leading in Safety” embodies our commitment to driving forward safety levels across all industries by having each company within the MOL Group strive to ensure the world’s highest level of safety and quality in their respective business fields. Moreover, it signifies how our executives and employees will actively lead on safety issues, rather than adopting a passive stance.

 Details of Safety Vision:  
[https://www.mol.co.jp/en/pr/2024/img/MOLGroup\\_Safety\\_Vision.pdf](https://www.mol.co.jp/en/pr/2024/img/MOLGroup_Safety_Vision.pdf)





## Safety Levels

### Safety Action 1.0

What we ought to be for safety is to continue to support people's day-to-day fundamentals as part of our safety-focused operations as a responsible custodian of our social infrastructure businesses.

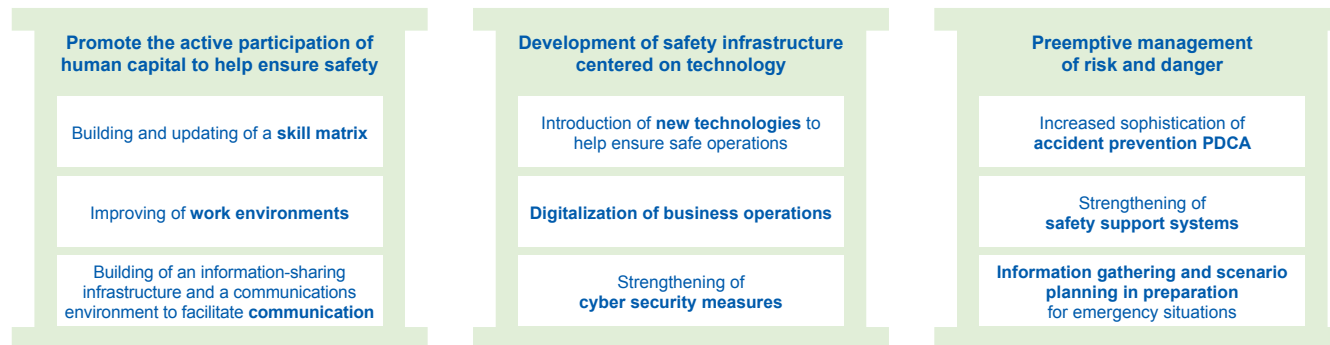
In addition, what we ought to be is subdivided into people (executives, employees), work (working environment, processes), and organization (systems, functions), which are the components of the company, and each state of goal achievement is defined (see the figure on the previous page).

We define initiatives to make ourselves what we ought to be as "safety measures" and efforts to promote group-wide measures as "safety infrastructure" (collectively, Safety Action 1.0).

Specifically, safety measures divide into "promote the active participation of human capital to help ensure safety," "development of safety infrastructure centered on technology," and "preemptive management of risk and danger." The two categories for safety infrastructure are "reform safety awareness through mutual enlightenment" and "pursuit of the ideal organizational structure and business processes."

### Primary action plan up to 2025

#### Safety measures Initiatives to make ourselves what we ought to be



#### Safety infrastructure Efforts to promote group-wide measures



## Safety Levels

### Indices and Targets

#### KPIs

We have set KPIs (and leading indicators) for the safety goals under the Safety Vision and KPIs for what we ought to be. This is predicated on the idea that our safety goals will ultimately be achieved by aiming to achieve KPIs for leading indicators and what we ought to be.

As KPIs for safety goals, group-wide KPIs for MOL group and safe operations KPIs are set respectively.

What we ought to be is also made up of the three elements of people (executives, employees), work (working environment, processes) and organization (systems, functions), which are the components of the company, and each with its own KPIs under the action plan.

[Historical data ▶ "MOL Sustainability Plan" FY2022 Results](https://www.mol.co.jp/en/sustainability/management/issues/pdf/MOL_Sustainability_Plan_2022.pdf)  
[https://www.mol.co.jp/en/sustainability/management/issues/pdf/MOL\\_Sustainability\\_Plan\\_2022.pdf](https://www.mol.co.jp/en/sustainability/management/issues/pdf/MOL_Sustainability_Plan_2022.pdf)

① Safety goal (protecting precious people, property, and the environment) KPIs	
KPI ①	<b>Group-wide KPIs for the MOL Group</b> 1) Number of fatal accidents : 0 2) Number of serious accidents*1 : 0  <b>Safe operations KPI = 4 ZEROS</b> 1) Number of serious marine incidents : 0 2) Number of ocean oil pollution : 0 3) Number of fatal accidents : 0 4) Number of serious cargo damage : 0
	<b>Leading indicators</b> 1) Lost-time injury frequency (LT1 *1)  <b>Leading indicators = SPI*2</b> 1) Lost-time injury frequency (LTIF) 2) Average downtime 3) Downtime frequency rate
② Thinking and approach to KPIs for what we ought to be: Up to the end of FY2025	
KPI ②	<b>People</b> Executives, employees <ul style="list-style-type: none"> <li>All executives and employees feel a sense of responsibility with regard to safety and are able to take the initiative</li> <li>A plan for improving work environments has been formulated and is being rolled out</li> </ul>
	<ul style="list-style-type: none"> <li>Safety Awareness Indicator: 95%</li> <li>Environment-improvement trial runs: 3 or more (e.g., improvements to on-board accommodation environment)</li> </ul>
	<b>Work</b> Working environment, processes <ul style="list-style-type: none"> <li>Key advanced technologies have been introduced to reduce remaining risk</li> <li>The impact of planned operations (conclusion of new projects, etc.) on safety is clarified and understood</li> </ul>
	<ul style="list-style-type: none"> <li>Trial runs of advanced technologies: 10 or more (e.g., engine diagnostic system)</li> <li>Establishment of systems driven method for visualizing risk</li> <li>Dissemination of visualized risk to the relevant departments and discussion of responses</li> </ul>
	<ul style="list-style-type: none"> <li>Organizational restructuring and completion of Group-wide emergency management system</li> <li>Completion of the expansion of preliminary inspection and accident investigation system</li> <li>Completion of scenario planning for responding to anticipated high-risk incidents</li> <li>Completion of emergency response evaluation indicators</li> </ul>
	<ul style="list-style-type: none"> <li>Inter-business safety management systems have been built</li> <li>A system for investigating accidents has been put in place, and an accident prevention cycle that includes planning operations has been implemented</li> <li>Response scenarios for major risks have been prepared, a system for evaluating our response to emergency situations has been established</li> </ul>

\*1 Define and set for each business segment in the MOL Group

\*2 Safety Performance Indicator. The current targets (FY2025, FY2030, FY2035) are as follows: 1) 0.5 or less/0.4 or less/0.3 or less; 2) 24 or less/22 or less/20 or less; 3) 1.0 or less/0.8 or less/0.6 or less.

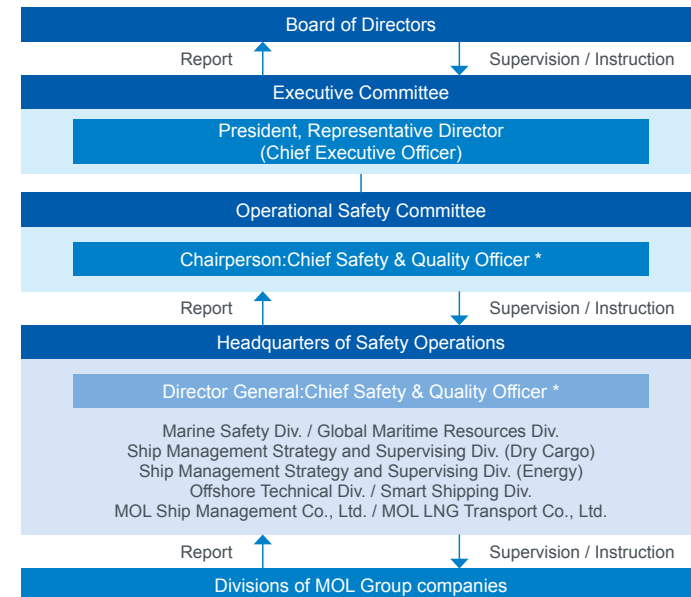
### System

#### Organization to Support Safe Operations

The Headquarters of Safety Operations, consisting of six in-house divisions and two group companies, plans, instructs, and supervises measures for all MOL group-operated vessels to ensure safe operation.

To ensure the various measures instituted by the Headquarters of Safety Operations are valid, they are reviewed and discussed by the Operational Safety Committee, a subordinate under the Executive Committee.

The Chief Safety and Quality Officer (CSQO), who oversees the strategic planning and promotion for ensuring safety and quality throughout MOL group, serves as the Director General of Headquarters of Safety Operations and the Chairperson of Operational Safety Committee to strive to achieve safe operations with consistency.

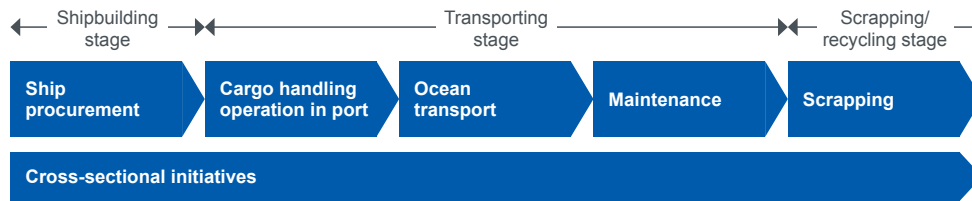


\* Mitsuhisa Tanimoto, Chief Safety & Quality Officer, currently serves as Chairperson of Operational Safety Committee and Director General of Headquarters of Safety Operations. (As of July 2023)

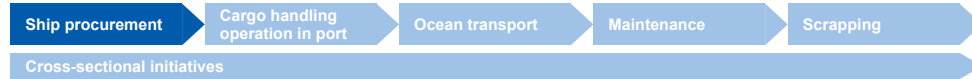
## Safety Levels

### Initiatives

To achieve the world's highest level of safety and quality, our group is undertaking a range of safety initiatives throughout the entire value chain from upstream to downstream, focused on marine transportation.



### Ship procurement initiatives



### Shipbuilding

#### Vessel specifications

We have set three types of specifications for vessel procurement to own and operate vessels of higher safety and quality.

#### ○ MOL Safety Standard Specifications

MOL Safety Standard Specifications are common standards required for all types of vessels to ensure safe operations. The specifications, which were established to draw upon the lessons of serious marine incidents in 2006, are applicable to long-term chartered vessels over a certain period of time, in addition to owned vessels. We set the specifications unique to MOL that go beyond regulations in laws and international treaties, aiming to prevent incidents with particularly large social impacts: "collision and grounding," "fire," "flooded and loss of stability," "oil leakage at sea and environmental pollution," and "workplace accidents."

#### ○ Vessel-Specific Standard Specifications

In addition to the MOL Safety Standard Specifications, Vessel-Specific Standard Specifications summarize the items required for each type of vessels and is applied to our newly built vessels. We have set items related to "prevention of cargo damage", "requests from shipowners and charterers", and "handling for cargo operations", etc., according to the characteristics of each type of vessel, aiming to ensure transportation quality and efficiency.

#### ○ MOL Design Practice (MDPs)

The MDPs are standard specifications for vessels that we have developed based on many years of technical know-how acquired from marine shipping operations. We apply them to newly built vessels after conducting technical or economic studies. Specifically, we have systematically compiled items such as countermeasures for inferior quality oil, which inhibits ship operation, maintenance of asset value, and policies that contribute to life saving, security, and environment.

### Shipyards Initiatives

Vessels used in our group's business are procured from domestic and overseas shipyards. For shipyards to be selected for the first time, we conduct a questionnaire based on our unique evaluation criteria and carry out shipyard inspections, in order to select the appropriate shipyard.

During construction, we send highly experienced supervisors from our 100% subsidiary MOL Ship Tech Inc. to check the shipbuilding process is fully consistent with the contracted specifications, approved drawings and relevant manuals. As well as checking the vessel complies with ship classification rules and safety standards, shipbuilding supervisors oversee the process to ensure workers can operate safely.

They also focus on process control to check the construction is progressing as scheduled, managing any unforeseen issues that could affect the delivery plan. In occupational health and safety management, they check before construction if each shipyard's safety guidelines differ from the MOL checklist and ensure the supervisors dispatched to the site are aware of safety.

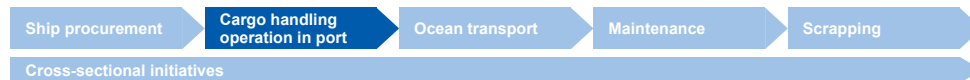
## Safety Levels

### [Charter Vessel Procurement](#)

Our group has fleets of over 800 vessels, more than half of which are chartered. To ensure safe operation, we have formulated safety quality standards for chartered vessels that we check during the procurement process. We have also established our ship maintenance policies to maintain the long-term quality of chartered vessels. Our seafarers undertake regular inspections and discuss with chartered vessel shipowners and ship management companies to confirm that charters are being managed in accordance with policies and standards, aiming to maintain and improve safety and quality.

[Responsible Procurement ▶ P.112–115](#)

### Initiatives Related to Cargo handling operations in port



### [loading/discharging](#)

Based on international rules, those made by industry bodies for each type of vessels, and information about incidents, we formulate and update various rules to support the safety of cargo and its loading/discharging.

We also formulate cargo loading plans to support safe loading/discharging of cargo and vessels with the systems, and cargo management plans for LNG carriers to manage tank temperature during voyages. In addition, we carry out cargo loading/discharging based on the shipboard operating procedures.

### [Bunkering](#)

Our main procurement strategy is to ensure that the vessel's fuel not only meets quality standards but also that we have its stable supply, so as not to disrupt the safe operation and schedule. By managing fuel suppliers based on trouble history and evaluation, we also review contracts on a semi-annual/quarterly basis.

MOL's practice is to propose fully optimized bunkering plans based on international rules and the latest information in each area that we have gathered. In addition, we strive to

collect the latest information on international rules and areas, and propose the appropriate bunkering plan. Particularly regarding fuel quality, since the supply of inferior oil is highly likely to cause serious trouble, we have set out our own standards, which are higher than general standards, and preferentially purchase from suppliers who can supply fuel that meets the standards.

### Ocean Transport Initiatives



### [Operational Support](#)

To ensure the safe operation, land staff, maritime operators and ship management companies provide daily support to our operated vessels.

### [Safety Operation Supporting Center \(SOSC\)](#)

The SOSC supports all MOL-affiliated vessels, with the motto, "Don't leave the captain alone."

Since its establishment in 2007, the SOSC has provided operational support on a 24/7 basis by on-duty personnel including experienced captains. In March 2023, the facility was renovated with the installation of a large video wall system and is now operating as the center of safety operations and crisis management for our fleet.

We keep track of the latest locations of all our affiliated vessels, weather and sea conditions, and other risk information related to safe operations, such as piracy and terrorist, and provide them to relevant parties in a timely manner.

The support provided by the SOSC is encouraging for captains, who are sometimes forced to make difficult decisions under the constantly changing conditions, and for operators giving instructions to vessels.

[Use of ICT, DX and new technologies ▶ P.29–30](#)



## Safety Levels

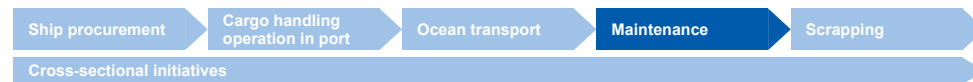
### Responses to Security Risks

Maritime security risks, such as piracy, terrorism, and conflict, are changing in complex ways and vary widely.

To respond appropriately to such situations, we are taking various measures in cooperation with risk consulting companies. These include setting operational rules based on objective risk assessment, formulating our navigation guidelines, establishing action guidelines for crews in emergencies, and conducting emergency drills.

When our operated vessels navigate through high-security risk areas, we share the latest information from the SOSOC to alert them, and pay special attention and constantly monitor the movements.

### Maintenance Initiatives



We maintain our ship maintenance policies and quality standards based on changes in international rules and incident information to achieve safety of operations, seafarers and cargo by maintaining the quality of vessels. In cooperation between vessels and the ship management companies, we formulate and review maintenance plans based on the priorities and deadlines for each vessel, and share them with the relevant parties in a timely manner. In addition, maintenance work is done based on vessel operating procedures and results are shared appropriately.

### Ship Inspections

We conduct regular ship inspections, targeting all MOL group-operated vessels, regardless of whether they are owned or chartered.

These inspections are carried out to check that the vessels are properly maintained and can operate safely. With chartered vessels, we communicate closely with the shipowners and

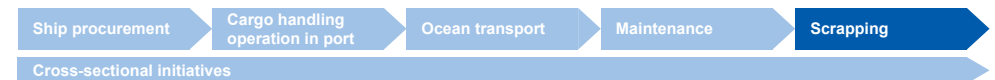


assigned ship management companies, to make sure they have a full understanding of the safety standards we require. We also cooperate with them to pursue safety measures while building mutually trusting relationships.

Two ship inspectors, who have a thorough knowledge of MOL's safety standards through onboard experience as captains or chief engineers, personally visit ships and conduct detailed investigations based on a checklist of about 600 items, such as the vessels' operational and maintenance status of the vessel, ship management status, and so on. If they spot an unsafe or non-conforming condition, they make sure the vessel and its ship management company take appropriate corrective measures so the ship meets MOL's strict safety standards. In the case of chartered vessels, the shipowner receives any corrective guidance through the business division. Their completed report, which covers the entire inspection and is illustrated with photographs, is circulated among relevant divisions including the responsible business division. Thus, the quality of the vessel is confirmed.



### Scrapping Initiatives



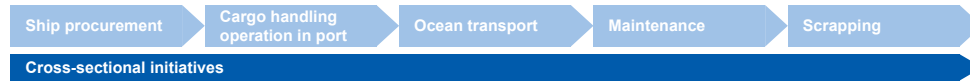
Vessels that must be scrapped for technical or economic reasons are dismantled at a ship recycling yard. After dismantling, around 90% of a vessel can be recycled or reused in an appropriate form as scrap steel, non-ferrous metal, fixtures, marine equipments, pumps, engines, generators, etc. To select ship recycling yards that take into consideration the safety and health of workers, environment, human rights, and anti-corruption, we have set our own standards and checks whether dismantling is being carried out in accordance with them.

[Initiatives for ship recycling ▶ P.114–115](#)



## Safety Levels

### Cross-sectional Initiatives



### Top-quality Seafarers Recruitment and Training

Recruiting top-quality seafarers is a critical element for safe operations.

Based on long-term seafarer resourcing plan, we select and recruit talented seafarers and students to develop using our own educational programs.

#### MOL Magsaysay Maritime Academy (MMMA)

We inaugurated a new maritime academy, MOL Magsaysay Maritime Academy Inc. (MMMA), in Dasmariñas City, Cavite State, in August 2018. Filipino seafarers serve as the core of the workforce serving aboard our operated vessels, and we expect them to play an even more critical role as technology advances. The academy will provide continuous training programs to develop top-quality seafarers who can hit the ground running through a four-year curriculum that encompasses basic education and specialized coursework.

MMMA is the first in the Philippines to introduce the Ship in Campus, which simulates an actual vessel. Equipped with the latest ship equipment and systems, it offers a realistic, and practical training environment.

We also adopt a coaching-style education at MMMA to instill the attitude of top-quality seafarers, enabling the students to think, understand, and take proactive actions. In addition, we focus on education that cultivates leadership and a sense of contribution by students themselves participating in local contribution activities.



### Six Seafarers Training Centers Worldwide

We have training centers around the world, which provide a variety of training, ranging from classroom lectures on theory to practice using real engines and various simulators.



### Safety Training

#### BRM/ERM Training

We have Bridge Resource Management (BRM) training for Master / Navigation Officer and Engine Resource Management (ERM) training for Chief Engineer / Engineers. The purpose of these trainings is to cultivate the abilities such as full utilization of available resources and teamwork, besides technical knowledge and skills. Nippon Kaiji Kyokai (ClassNK) has accredited our BRM training and ERM training as conforming to the IMO\* model course.

\*IMO: International Maritime Organization

## Safety Levels

These are offered at our training centers worldwide and taken periodically by seafarers. We also offer both of them to seafarers outside our group.



Bridge Simulator with 360-degree view



Engine Simulator equipped with actual control device

### ○ MOL Rank Skill Training & Evaluation Program (MOL Rank STEP)

We have established the “MOL Rank Skill Training & Evaluation Program (MOL Rank STEP),” a training and education program that sets skill and knowledge requirements for every front-line seafarer according to his/her position. Every MOL group seafarer must work through this program as a requirement for promotion. The efficacy of this proprietary program was recognized, receiving certification from Norway’s Det Norske Veritas AS (DNV) for conformance to the standards of its Competence Management System (CMS).



○ On-the-job Training (OJT) Instructor System  
The system involves experienced captains and chief engineers who understand MOL safe operation standards traveling onboard ships to identify unsafe practices and latent risks only discoverable on the ships in service, and order immediate improvements.

### ○ New Cadet Training Program

We developed a program that uses our actual operated vessels as training ships with the objective of training officers who will be ready to work immediately. Under this program, called “Cadet Actual Development for Education with Tutorial (CADET Training),” dedicated instructors provide guidance to cadets aboard vessels that are actually in service. As the number of cadets is small, they receive detailed guidance from the instructors. The aim of the program is to pass on the practical navigation and marine engineering skills required by MOL as well as the spirit of dedication toward safety. By interacting with the crew, cadets can visualize themselves performing the job in the future, and at the same time crew members can mentor the cadets, with whom they will share responsibility for safe operation in the future.



Employees are instructed on handling mooring ropes.



## Safety Levels

### [Incident Response](#)

#### Accident Response Drills

##### ○ On land

We conduct emergency response drills regularly in anticipation of serious marine accidents. The drills provide a valuable opportunity to strengthen the emergency response capabilities of the entire company, including the assumption of worst-case scenarios in an accident, the prioritization of responses, and the review and improvement of the cooperation system among related departments and group companies headed by the CEO.



Crisis Response Room during the drill



Press conference simulation

##### ○ On board

Given the limited means of response in an emergency at sea, we regularly conduct emergency response drills for fire, flooding, piracy and terrorism, to maintain and improve crisis response capabilities.

MOL group companies that operate ferries and cruise ships conduct regular emergency response drills including evacuation guidance in case of an emergency, as they put the highest priority on ensuring customer safety in both normal and emergency situations.



Evacuation drill on board

### [Cultivating a Safety Culture](#)

We are working to raise safety awareness and cultivate safety culture throughout our group, pursuing the world's highest level of safety culture.

#### Safety Conferences

“MOL Safety Conferences” is annually held in Japan, the Philippines, Croatia and India, which are major manning bases. We exchange opinions with seafarers through reviewing accidents occurred on our operated vessels and introducing our safety initiatives.



#### Safety Campaign

Safety Campaign is an annual event in which crewmembers serving aboard MOL Group-operated vessels and shore-based employees exchange opinions. In 2023, under the catchphrase “My Goal: Zero Harm,” it is held in person by visiting ships and online.

#### Operational Safety Workshops

We hold regular Operational Safety Workshops for land-based executives and employees. By reviewing accidents occurred on our operated vessels and exchanging opinions, we provide an opportunity for each employee, regardless of their department, to be reminded that they are involved in safe operation.

[Historical data](#) ▶ P.136 “Social Data”



## Safety Levels

### Beach Cleanup at Kashima-nada

As part of cultivating a culture of safety, MOL Group executives and employees take part in an annual beach clean-up in memory of the serious marine incident on the Kashima-nada coastline in 2006. To keep the memory and lessons of the serious marine accident that occurred in 2006 at Kashima-nada beach, we conduct an annual beach cleanup by executives and employees of our group. This effort is meant to share our safety consciousness, raise awareness of marine and global environmental protection, and contribution to the sustainable growth of the community.



### E-learning of Safety Culture

We conduct e-learning of safety culture for all executives and employees of our group. This provides the opportunity to learn initiatives such as current status of our safety operation, the lessons learned from past serious incidents and the measures to prevent any recurrence.

### Training by career level

We give lectures on “Cultivating a safety culture” at trainings for new employees and at trainings by career level for promotions. By discussing past accident cases and explaining the current status and importance of safe operations, we aim to raise participants’ safety awareness.

## Use of ICT, DX and New Technologies

### Advancing Safety Operation through FOCUS Project

The core of FOCUS project, which effectively utilizes big data related to navigation and engines of MOL group-operated vessels, is data collection, analysis, and advice through monitoring of vessels equipped with FOCUS.

The aim is reduce problems and minimize downtime by early detection of abnormalities. We constantly improve the system by FOCUS, with the ultimate goal of achieving automatic alerts without human intervention.

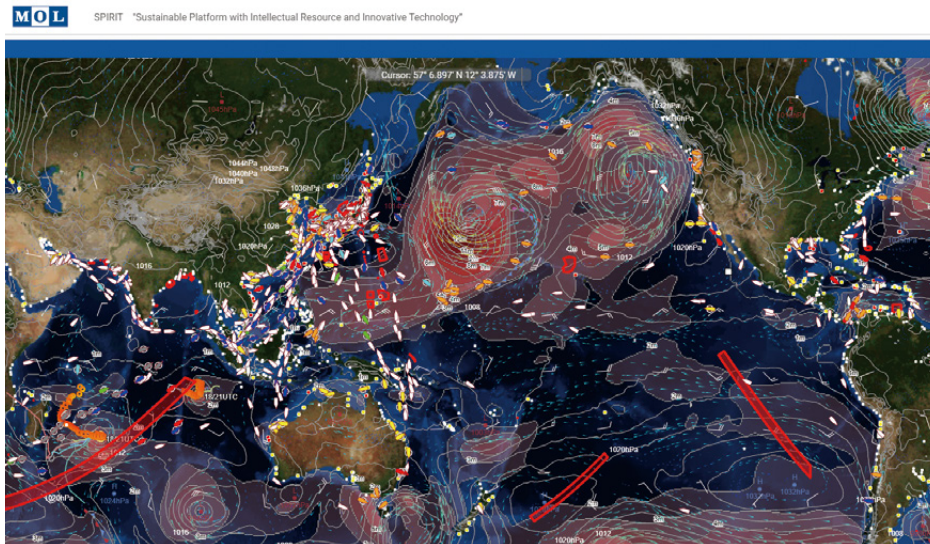
[FOCUS Project ▶ P.87–88](#)

### Vessel Movement Monitoring System “SPIRIT”

We released the vessel movement monitoring system “SPIRIT(Sustainable Platform with Intellectual Resource and Innovative Technology)” in January 2021 to strengthen support and monitoring of vessels.

This system can show where our operated vessels are around the world and in what kind of weather and sea conditions, and furthermore, monitor navigation plans, pirates, exercises, high risk areas (HRA), and other information while comprehensively assessing risks. In addition to monitoring at SOSOC, the system is also used by operators and related personnel to support the vessel.

## Safety Levels



### Navigational Risk Monitoring System: “Fleet Intelligence Navigational Risk Monitoring”

At the end of January 2022, we introduced a system called “Fleet Intelligence Navigational Risk Monitoring” to detect vessels’ grounding risk at an early stage.

This system combines a number of data sources, such as ship position, water depth, and chart information, to alert SOSOC operators when a vessel is judged to be entering an area with a high risk of grounding. We aim to reduce the risk of grounding accidents by utilizing this system.

 [Safe Operation Supporting Center \(SOSC\) ▶ P.24](#)

## Safety Initiatives at MOL Group Companies

### Initiatives: MOL Sunflower Ltd.

MOL Sunflower Ltd., which is engaged in the ferry and coastal RORO vessel business in Japan, has been implementing a new fire prevention plan for 4 ferries on the Hokkaido route since 2019, using CAFS (compressed air foam system) equipped

vehicle that has been approved for use by the Maritime Bureau of the Ministry of Land, Infrastructure, Transport and Tourism as a further measure to prevent vessel fires. It has also adopted mobile firefighting equipment that is effective for firefighting and strives to expand firefighting equipment. In addition to firefighting training based on the new firefighting plan, education and training with the cooperation of external specialized organizations are strengthened. To focus on preventing ignition from refrigeration power supply vehicles, it conducts further inspections and maintenance of the ship’s power supply equipment, and uses thermographic cameras during patrols to check the operations, including the heat generated. Regarding the handling of refrigeration power supplies, it strives to improve the knowledge of employees under the guidance of the manufacturer.

In October 2023, the Sunflower Shiretoko took part in a joint towed rescue drill with the 1st Regional Coast Guard Headquarters. The training exercise simulated an engine failure onboard leaving the ferry unable to navigate under its own power and requesting rescue. Four patrol boats and one helicopter from the Japan Coast Guard and a special fire-fighting helicopter stationed at the Hokkaido Disaster Prevention Air Squadron participated in the exercise, which, besides the towed rescue, included training in water-based fire-fighting, medical rescues at sea, and rescue airlifts.



CAFS equipped vehicle



Fire-fighting training drill



## Safety Levels



Towed rescue training drill  
(Provided by Japan Coast Guard)



Sunflower Shiretoko

### Initiatives: MOL Cruises, Ltd.

MOL Cruises, Ltd., which operates the cruise ship Nippon Maru, maintains a high level of hygiene control in line with the United States Public Health (USPH) standard.

Specifically, it follows guidelines in the Vessel Sanitation Program (VSP) that was compiled at the US Centers for Disease Control (CDC) for cruise ships to maintain the onboard health and safety of passengers, staff and crew. The VSP institutes standards for every aspect of everyday life, including managing the safety of food, drink and water; the sanitation in passenger cabins, bathrooms, pools, and facilities; the air-conditioning systems; sickness controls for people onboard; and OHS management relating to other facilities.



Nippon Maru

### Initiatives: DAIBIRU Corp.

DAIBIRU Corp., which operates real estate businesses, is pursuing disaster-resilient buildings.

In addition to meeting legal standards for earthquake resistance, some of Daibiru's buildings have a high level of earthquake resistance by adopting vibration control structures. Yaesu Daibiru, which is currently being rebuilt, uses an intermediate seismic isolation structure that is designed to significantly dampen shaking felt in an earthquake. Emergency power supplies are also being upgraded: emergency back-up power lasts 72 hours at Midosuji Daibiru, and has been designed to extend to a full seven days at Yaesu Daibiru.



Vibration control structure in Shin Daibiru under construction

## Creation of New Added Value

### Approach

Not only does the MOL Group add value continuously via the core marine transportation and social infrastructure businesses, but we are also striving actively to create new businesses that will add new value for society by leveraging the strengths and resources we have cultivated in shipping business. We aim to be a strong and resilient corporate group that grows globally, meeting the evolving social needs.

### Initiatives

#### Global HR Consulting

Based on our extensive experience and knowledge in developing foreign seafarers, we are building an HR consulting business to service companies trying to hire non-Japanese workers or expand recruitment across a wide range of sectors other than seafaring. Recruitment introductions typically derive from two sources: Filipinos coming to work in Japan and foreign residents of Japan.

Osaka Gas Network Co., Ltd.	
Personnel type	Technical intern trainees from overseas
People recruited	Filipino technical intern trainees (piping)
Background	Business partners (piping sector) facing HR issues Responding to the request of stable supply of human resources for long-term (10Y) projects
Tokyu Hotels & Resorts Co., Ltd.	
Personnel type	Technical trainees/cooks from overseas (skilled visa), Highly skilled foreign residents of Japan (Engineers/Specialist in Humanities/Intl. Services visa)
People recruited	Filipino technical intern trainees (accommodation), chefs, varied nationalities with language abilities (Japanese/English/Chinese)
Background	Demand of HR for resort and HR with language capabilities for urban hotels
MOL Logistics Co., Ltd.	
Personnel type	Highly skilled foreign residents of Japan (Engineers / Specialist in Humanities/Intl. Services visa)
People recruited	Refugees from Democratic Republic of Congo fluent in French/English
Background	Recruiting HR to expand operations in India/Africa










Japanese language lessons for technical intern trainees



Secure and recruit Diverse HR is possible

#### Other initiatives

- 
[MOL and Sawayama Marine Establish Joint Venture to Recruit Global Human Resources](https://www.mol.co.jp/en/pr/2023/23105.html)  
<https://www.mol.co.jp/en/pr/2023/23105.html>
- 
[MOL Concludes MoU to Revitalize Regional Industries by Utilizing Overseas Personnel in Oarai-machi, Ibaraki Prefecture](https://www.mol.co.jp/en/pr/2022/22095.html)  
<https://www.mol.co.jp/en/pr/2022/22095.html>
- 
[MOL Signs Service Agreement with NPO WELgee for Recruiting and Staffing Services](https://www.mol.co.jp/en/pr/2022/22132.html)  
<https://www.mol.co.jp/en/pr/2022/22132.html>
- 
[Business Alliance Agreement on Support for Global Human Resources for Hotel Business between MOL and Tokyu Hotels](https://www.mol.co.jp/en/pr/2022/img/22140.pdf)  
<https://www.mol.co.jp/en/pr/2022/img/22140.pdf>
- 
[Business Alliance Agreement on Support for Foreign Human Signed between MOL and NCB Research & Consulting](https://www.mol.co.jp/en/pr/2022/img/22119.pdf)  
<https://www.mol.co.jp/en/pr/2022/img/22119.pdf>
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[MOL Group Launches 1st Global HR Consulting Project — Training Filipino Plumbers for Osaka Gas Subcontractor —](https://www.mol.co.jp/en/pr/2021/21040.html)  
<https://www.mol.co.jp/en/pr/2021/21040.html>
- 
[MOL Establishes Human Resources Consulting Company MM Empower Corp. — Joint Operations in Global HR Consulting with Long-term Partner —](https://www.mol.co.jp/en/pr/2020/20063.html)  
<https://www.mol.co.jp/en/pr/2020/20063.html>

## Creation of New Added Value


### Ocean Thermal Energy Conversion (OTEC) and Secondary Use of Deep Ocean Water


To help realize a decarbonized society and regional circulating and ecological system, we are involved in an OTEC power generation project on Kumejima, Okinawa Prefecture.


OTEC is a form of renewable energy, where the temperature difference between warm surface ocean water heated by solar energy and cold deep ocean water circulating in the ocean is converted into electricity through turbine generators. Moreover, the deep ocean water can also be utilized for secondary purposes such as aquaculture, agriculture or air-conditioning due to its combination of low temperature, rich nutrients and cleanliness. In addition, OTEC could help to create jobs and stimulate economic activity.

MOL aims to promote the utilization of stable natural energy using the untapped potential of deep ocean water. Additionally, we aspire to build communities and foster a circular society centered around deep ocean water as a foundation.



 [Verification Research of Feasibility and Dissemination of Ocean Thermal Energy Conversion in Mauritius Selected for NEDO Project](https://www.mol.co.jp/en/pr/2022/22086.html)  
<https://www.mol.co.jp/en/pr/2022/22086.html>

 [Ocean Thermal Energy Conversion Demonstration Project in Okinawa Selected by Japan's Ministry of the Environment](https://www.mol.co.jp/en/pr/2023/23038.html)  
<https://www.mol.co.jp/en/pr/2023/23038.html>

 [Ocean thermal energy generation project \(Blue Action MOL\)](https://www.mol.co.jp/en/bam/005/)  
<https://www.mol.co.jp/en/bam/005/>

### Blue Carbon Project

MOL has teamed up with YL Forest Co., Ltd. and participated in a blue carbon project aimed to restore and protect mangroves in South Sumatra, Indonesia.

Over the course of 30 years, the project aims to remove/sequester CO<sub>2</sub> through afforestation of mangroves on approximately 9,500ha of wasteland.

As of December 2023, the project had planted a total of about 1,890,000 mangroves over an area of about 736ha while focusing on building relationships with locals.

In addition to further expansion of the afforestation area, we will jointly engage in mangrove restoration and conservation activities, and also adopt “the Silvofishery” to improve the livelihoods of local residents through sustainable fishery and forest management, aiming to create a society where people live in harmony with nature. Through this project, we will contribute not only to address climate change but also to other co-benefits, such as the protection of biodiversity and the improvement of livelihood of local communities.

 [MOL to Join Mangrove Restoration/Conservation Project in Indonesia — Aiming to Become a Nature-positive Company for Protecting Marine Biodiversity —](https://www.mol.co.jp/en/pr/2022/22002.html)  
<https://www.mol.co.jp/en/pr/2022/22002.html>



## Creation of New Added Value

### MOL PLUS

We established MOL PLUS in 2021 as the only corporate venture capital (CVC) fund in the Japanese shipping industry. Operating with a broad domestic/global investment perspective with a mission of “PLUS new value to the ocean shipping industry and society,” the fund support start-ups to gain a social foothold. The portfolio ceiling of ¥4.0 billion enables MOL PLUS to target a wide range of investments, from early-stage (Series A financing round onwards) to mid-stage start-ups. As of October 2023, the fund had made investments in 12 start-ups and three VC funds.



#### Three Domains and Examples

**Domain (1): Maritime**  
Reducing environmental and other impacts using digital/automated operations

Investments and Business collaboration

Oceanic wind measurement (joint study)

**Domain (2): Intermediate**  
Renewables and other decarbonization initiatives

Investments and Business collaboration

Field trials of water reuse hand-wash stand on passenger vessels

**Domain (3): New Frontiers**  
Space, food tech, healthcare, etc.

Investments and Business collaboration

Distribution of world-first gene-edited foods (bream, puffer fish)

#### ► Other initiatives

[MOL's CVC MOL PLUS, Daibiru Join Forces — MOL Group's Collective Strengths —](https://www.mol.co.jp/en/pr/2023/23132.html)  
<https://www.mol.co.jp/en/pr/2023/23132.html>

[AMOGY, MOL, MOL PLUS Sign MoU on Ammonia-To-Power System for Ships and Establishment of Ammonia Supply Chain — Promote the Spread of Environmentally Friendly and Efficient Power Source —](https://www.mol.co.jp/en/pr/2023/23036.html)  
<https://www.mol.co.jp/en/pr/2023/23036.html>

Note: The concept for MOL PLUS Co., Ltd. came from an idea proposed by a MOL Group employee through the “MOL Incubation Bridge”  
( Located in top right of this page).

### Column “MOL Incubation Bridge:” intrapreneurship program for new MOL Group businesses

We launched the “MOL Incubation Bridge” as a program for MOL Group employees to submit their own ideas for new businesses or services, as well as being involved in analyzing the commercialization potential when their ideas pass the screening. The portal has now been operating for five years since it was established in FY2019. As of FY2023, four business ideas have been commercialized and a further two are under verification.

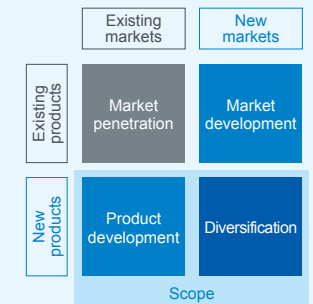
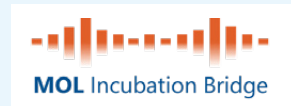
We aim to improve the corporate value of the MOL Group and realize the MOL Group vision by providing employees with opportunities to fully utilize their abilities and actively take on challenges voluntarily.

**KiliMOL**  
<https://www.mol.co.jp/en/pr/2021/21035.html>



**Blue Carbon project**  
<https://www.mol.co.jp/en/pr/2022/22002.html>

**MOL PLUS**  
<https://www.mol.co.jp/en/pr/2021/21003.html>



Local demonstration by KiliMOL



# Environment

## Conservation for Marine and global environment



### Core Objective

MOL aims to minimize the negative impacts of its business activities (marine environmental pollution, air pollution, reduction of biodiversity, climate change, etc.) and to ensure a sustainable world for everyone.

### Contributing to SDGs:



### Initiative Focus

#### Climate Change Countermeasures

##### ● Targets

- Achieve net zero GHG emissions for the entire Group by 2050

##### ▶ Numerical Targets

- Achieve **45.0%** reduction in the GHG emission intensity of transport by 2035 (compared to that of 2019)\*<sup>1</sup>
- Reduce GHG emissions by **23%** by 2030 (compared to that of 2019)\*<sup>2</sup>
- Reduce GHG emission intensity by **1.4%** per year (compared to that of 2019)\*<sup>3</sup>
- **90** LNG/methanol-fueled ocean-going vessels by 2030

##### ● KPIs

- GHG emissions and emission intensity
- Number of LNG/methanol-fueled ocean-going vessels
- Amount of environmental investment in climate change countermeasures

#### Preservation of Marine Environments

##### ● Targets

- Reduce negative impact on the marine environment and biodiversity

##### ● KPIs

- \*Planning to set KPIs based on international guidelines, etc.

#### Protection of Biodiversity

##### ● Targets

- Reduce air pollutants emitted from vessels

##### ▶ Numerical Targets

- Reduce SOx emissions intensity of transport by **14%** by 2030 (compared to that of 2020)

##### ● KPIs

- NOx emissions and emission intensity
- SOx emissions and emission intensity

### Fiscal 2023–2025 Action Plans

- Implement strategies set forth in the MOL Group Environmental Vision 2.2
  - Action 1: Adoption of clean energy
  - Action 2: Enhancement of energy-saving technologies
  - Action 3: Boost operating efficiency
  - Action 4: Building business models to enable net-zero GHG emissions
  - Action 5: Expanding low-carbon and decarbonization projects through use of the MOL group's concentrated strengths
- Enhance response to TCFD recommendations
- Strengthen cooperation with group companies

- Identify and analyze nature-related risks and opportunities
- Consider new KPIs and targets

\*1 Scope 1 and part of Scope 3 for MOL Group-operated ocean-going vessels.

\*2 Scope 1 and Scope 2 for the entire group (consolidated scope).

\*3 Scope 1 and part of Scope 3 for MOL Group-operated ocean-going vessels. Average through 2030.



## Environmental Strategy

### Policy

The MOL Group established the “MOL Group Environmental Policy Statement” for preservation of marine and global environments, which is common issue facing the group and society as a whole.

The contents of the policy statement shall apply to all business activities, including due diligence, M&A, and so on. We ask all our group employees to comply with the statement, and request the cooperation of our business partners, including our suppliers. The MOL Group Environmental Policy Statement has been approved at our Executive Committee.

#### MOL Group Environmental Policy Statement

##### Philosophy

As one of the world’s leading multi-modal companies actively involved in a variety of social infrastructure businesses in addition to its traditional shipping businesses, the MOL Group is committed to protecting and enhancing the health of our marine/global environment for future generations, and consequently promotes and supports the following policies:

##### Policy

1. Protect all aspects of the marine/global environment in all our business activities and foster safe transportation.
2. Comply with all environmental legislation and regulations required by law, and establish an environmental management system and set environmental protection measures based on our framework for setting and reviewing environmental objectives and targets. Take corrective action through active dialogue with internal and external stakeholders.
3. Be aware of the impact of our business on the ecosystem and seek to conserve the environment by taking measures against climate change, prevention of marine and atmospheric pollution, and protection of biodiversity, such as; energy conservation, resource conservation, recycling, reduction of waste, reduction of greenhouse gas emissions, effective effluents management and treatment, and control of toxic substances emissions.
4. Procure products, materials, ships, and ship recycling (shipbreaking) that take the environment, safety, and human rights into consideration.
5. Develop and use marine/global environmentally safe technology.
6. Educate and encourage group employees to focus on the protection of the marine/global environment through enhanced publicity efforts, and communicate our Environmental Policy to all group employees.
7. Publish our Environmental Policy Statement, monitor the proper disclosure of our environmental data and information is taking place, and regularly disclose environmental matters.
8. Always strive to ensure that our business practices contribute to and adequately support environmental protection activities, and build relationships of trust with stakeholders.

Established in September 2000  
Revised in March 2003  
Revised in April 2022

In addition, we have established “Supplier Procurement Guidelines,” which include the perspective of environmental conservation.

[Supplier Procurement Guidelines](#) ▶ P.112

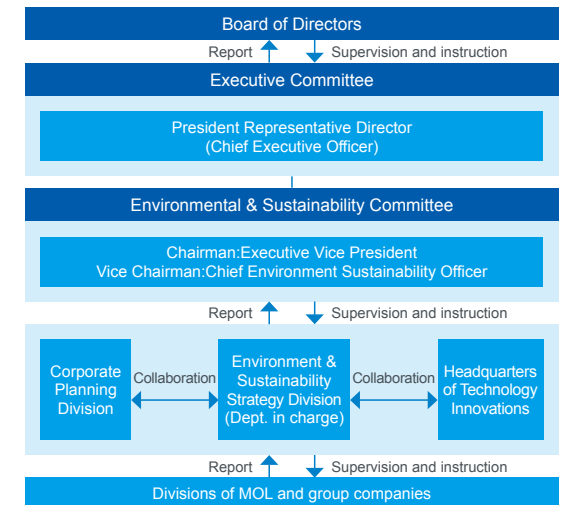
### System

#### Environmental Management System

We have established an environmental management system with the president & CEO as the chief executive officer.

The Environment and Sustainability Committee, which is a subordinate of the Executive Committee, serves as the main deliberative body on environmental initiatives, including not only climate change measures but also natural capital and biodiversity.

The Board of Directors is responsible for oversight of environmental initiatives and making decisions on particularly important matters.



#### Incorporation of Climate Change Factors into Executive Compensation

MOL’s executive remuneration system includes a mechanism for linking remuneration to climate-change related performance. The status of our measures to counter climate change and the degree of progress on other sustainability-related initiatives are reflected in part of the evaluation for determining the long-term contribution variable compensation portion (20% of the total) of remuneration for each executive director, including the CEO.

[Executive Compensation](#) ▶ P.101–103

## Environmental Strategy

### Environmental Audit

Under our group's environmental management system "MOL EMS21", which has been in operation since 2001, the division in charge of the environment conducts internal audits every year, and all offices and divisions within the scope of ISO 14001 certification are subject to the audits\*. This system defines the roles, authorities, and responsibilities of the Chief Executive Officer (President) and the person responsible for environmental management (the chairperson of Environment and Sustainability Committee), and defines methods to comply with laws, regulations, and requirements in ISO14001 standards, and so on.

It also uses the Plan-Do-Check-Action (PDCA) cycle to promote continuous improvement, and the audit results are reported to the Environment & Sustainability Committee, which confirms that this system is functioning effectively.

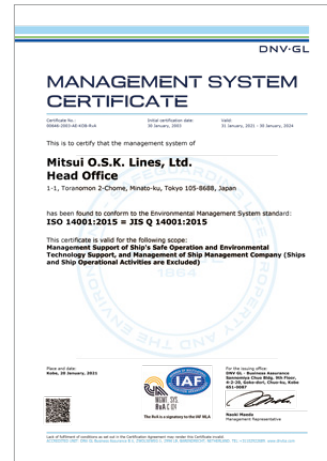
In addition, to confirm the appropriateness of the environmental management system, DNV Business Assurance Japan K.K., an external third-party auditing organization, has been conducting regular audits once a year and renewal audits once every three years since 2003, and we maintain ISO 14001 certification, the international standard for environmental management systems.

\* Scope of certification: Management of Ship's Safe Operation and Environmental Technology Support, and Management of Ship Management Company (ships and ship operational activities are excluded.)

Apply to Headquarters of Dry Bulk Business (including MOL Drybulk Ltd.), Headquarters of Energy Business, Headquarters of Product Transport Business and Corporate Organization

### Acquisition Status of ISO 14001 (FY2022)

The five MOL Group companies listed in the table on the right have acquired ISO 14001 certification, accounting for approximately 52% of our group-wide revenues.



ISO14001

Company name
Mitsui O.S.K. Lines, Ltd.
UTOO CORPORATION
SHOSEN KOUN CO., LTD.
MOL Logistics Co., Ltd.
MOL Ship Management Co., Ltd.

### Risk Management

Our company, which operates a wide range of businesses around the world, is exposed to various risks. As a company-wide risk management response system, each risk type has its own department in charge, and in accordance with prescribed rules and regulations, we take risk reduction measures, including identifying the amount of risk, reducing exposure through hedging, and transferring risk through insurance, etc. The status of risk management by each division is regularly reported to the Management Committee, and information is centrally managed and necessary decisions and actions are made.

Since climate change is positioned as one of the major risks, the Environment & Sustainability Division classifies and evaluates climate change-related risks identified by each department and conducts risk management on a group basis in accordance with the above process.

[Risk Management ▶ P.104–109](#)

[TCFD Disclosures ▶ P.38](#)

### Environmental communication

The MOL Group proactively disseminates information on the status of environmental impact reduction, environmental conservation activities, and other initiatives, and communicates with internal and external stakeholders. Feedback from stakeholders is reviewed internally and used to improve our initiatives.

[Stakeholder Engagement ▶ P.8–10](#)

#### Communication Examples

- Integrated Report "MOL Report"  
 <https://www.mol.co.jp/en/ir/data/annual/pdf/ar-e2023.pdf>
- Exchange opinions with NGOs and external organizations
- ESG small meetings for investors
- Exchange opinions with government agencies, etc.
- Participation in environment-related initiatives ( P.14–16)
- Environment & Sustainability Committee
- In-house study meetings (Results in FY2022: 18)

## Environmental Strategy

### Strategy/Indices and Targets

Climate change and other environmental issues are our top priorities in order to enhance our corporate value and realize our group vision. MOL has formulated the MOL Group Environmental Vision, a comprehensive policy for addressing environmental issues, and has become the first in the shipping industry to set a goal of net zero emissions by 2050 and disclose a specific roadmap in line with the Paris Agreement's 1.5-degree target.

As one of the first movers in marine transportation, which is indispensable to the global economy, we will contribute to the sustainable development of society and establish a competitive advantage in a low-carbon and decarbonized society by being among the first to provide transportation services with reduced GHG emissions.

#### Disclosure based on TCFD recommendations

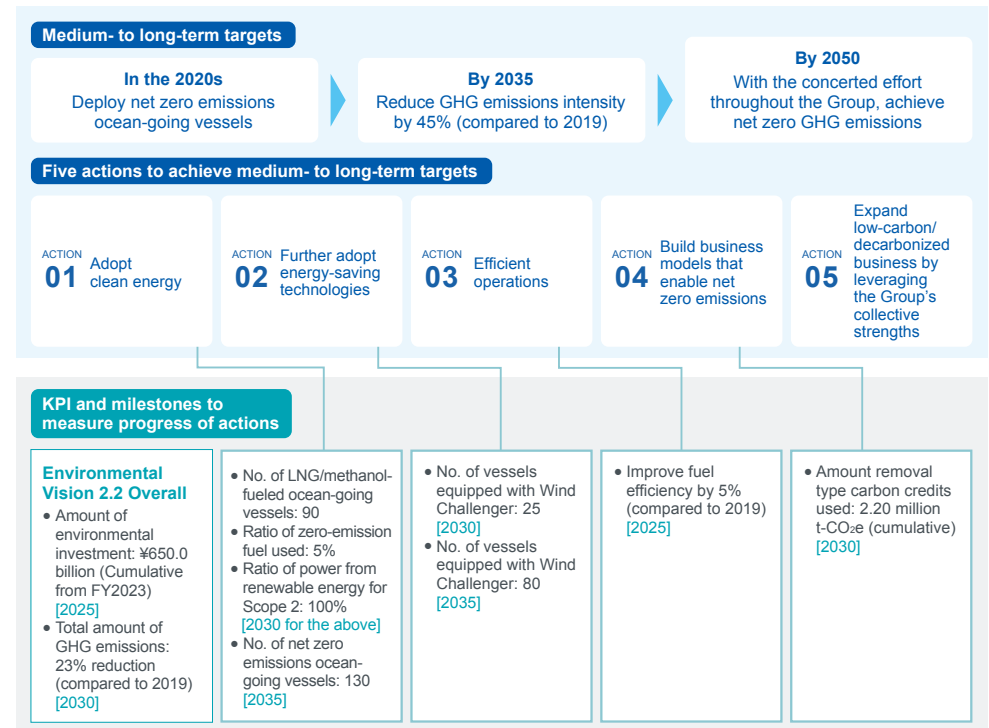
We are conducting scenario analysis using the TCFD framework for the ultra-long-term range up to 2050, and are striving to understand a range of possible risks and opportunities posed by climate change as well as proactively disclose information.

Disclosure based on TCFD recommendations  
<https://www.mol.co.jp/en/sustainability/environment/tcfid/>

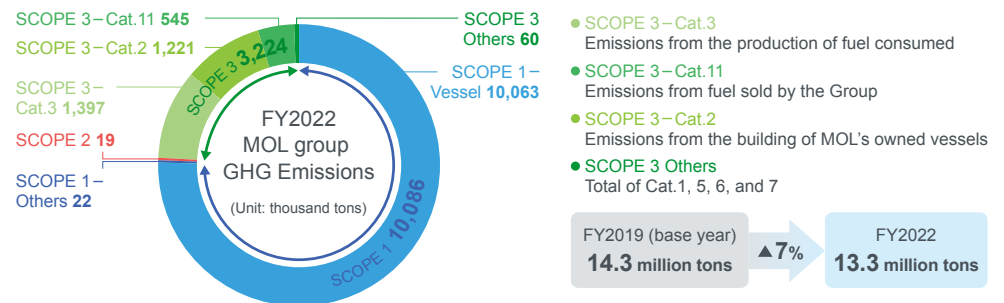
### Overview of Environmental Vision 2.2

In our Environmental Vision, we have set five actions to achieve our mid-to long-term targets and are steadily reducing GHG emissions and emissions intensity.

In April 2023, the MOL Group Environmental Vision 2.2 was updated to include the development of interim milestones and specific emission reduction pathways, and the progress of each action is quantified and visualized to enhance the effectiveness of our efforts.



#### Total GHG emissions



#### Details of MOL Group Environmental Vision 2.2

[https://www.mol.co.jp/en/sustainability/environment/vision/pdf/vision22/mol\\_group\\_environmental\\_vision\\_2.2.pdf?v=230428](https://www.mol.co.jp/en/sustainability/environment/vision/pdf/vision22/mol_group_environmental_vision_2.2.pdf?v=230428)

## Environmental Strategy

### Clarifying the “Pathway to Net Zero Emissions”

The Environmental Vision 2.2 has the resolution of the GHG emissions reduction pathway toward 2050 Net Zero improved from the previous version, and the contribution of each action is quantified.

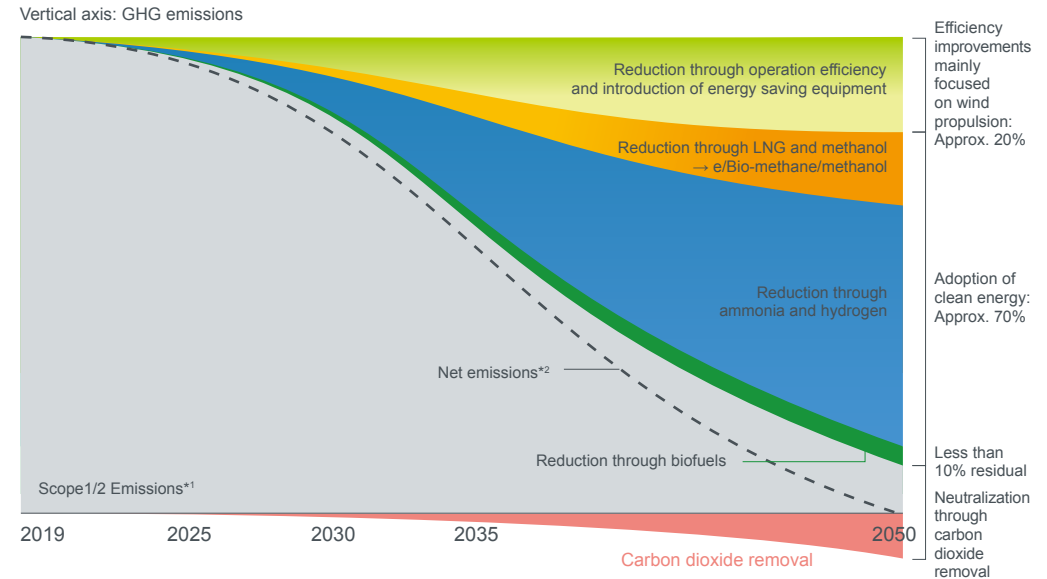
#### ● Efficiency improvements mainly focused on wind propulsion:

Wind, a clean and inexhaustible energy source, is used as the driving force. The Wind Challenger, a wind-powered propulsion auxiliary device developed by MOL, is expected to reduce emissions by approximately 5% to 8% on the first 100,000-ton bulk carrier, although the effect will vary depending on the size of the ship. It does not interfere with the mainstream underwater energy-saving devices that have been used in the past, and its effects can be maximized for GHG reduction by utilizing it in conjunction with measures to improve operational efficiency and fuel conversion. The first vessel has been operational since the fall of 2022, and we aim to equip a total of 80 vessels by 2035.

[Wind Challenger ▶ P.84](#)

#### ● Adoption of clean energy

The adoption of clean alternative ship fuels plays the most significant role in reducing GHG emissions. There is an upper limit to the amount of GHG emissions that can be emitted globally to limit temperature rise to a certain level, and there is not much carbon budget left to achieve 1.5 degrees. On the other hand, a stable global supply system for future zero-emission fuels such as ammonia and hydrogen has not yet been established to meet the demand in oceangoing shipping, which requires a large amount of fuel. In order to be carbon budget conscious and reduce cumulative GHG emissions by 2050, we will not postpone measures, but will aggressively shift to LNG and methanol fuels, which are low-emission marine fuels that can be utilized immediately, from the ground up to ensure emissions reductions until zero-emission fuels become widely available. (See previous page for clean energy deployment milestones.) In addition, we expect that promoting a quick transition to low-emission fuels will reduce the financial impact of carbon pricing, which is anticipated to spread further in the future.



\*1 Scope: MOL and all consolidated subsidiaries. Scope 3 emissions are also included in the 2050 net zero target.

\*2 For the calculation of emissions for years prior to the target year of 2050, emissions will not be offset with carbon dioxide removal.

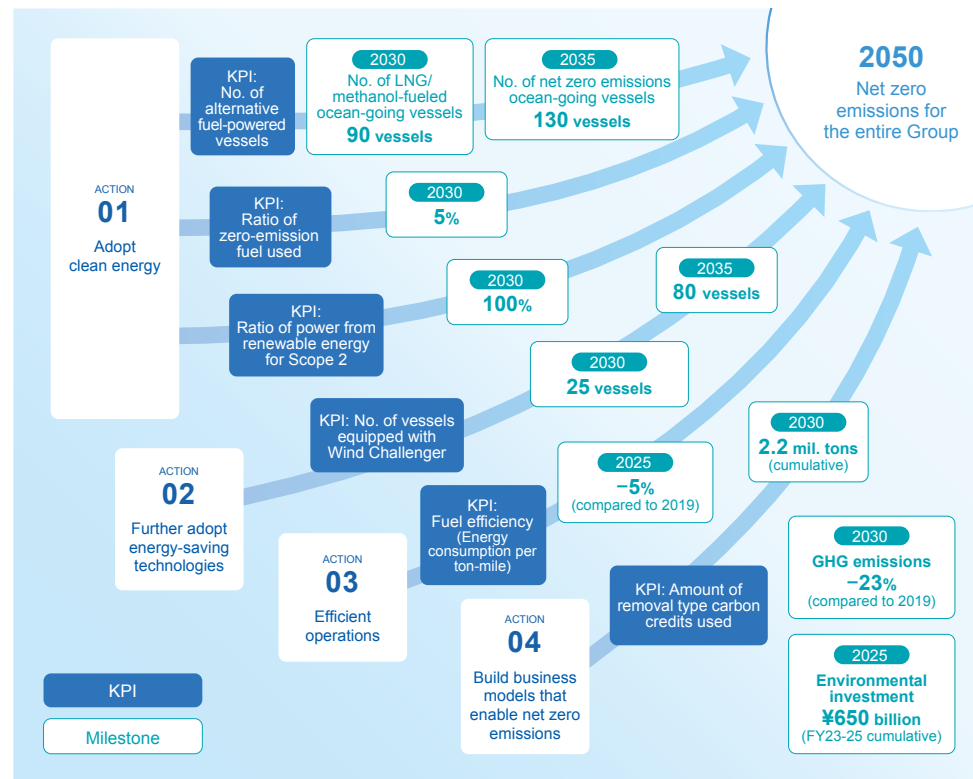
#### ● Neutralization through carbon dioxide removal

We aim to contribute to the removal of a cumulative 2.2 million tons of CO<sub>2</sub> from the atmosphere by 2030 by promoting negative emissions initiatives that remove and store CO<sub>2</sub> from the atmosphere through both nature-based approaches that increase CO<sub>2</sub> absorption by the nature, such as mangrove regeneration and conservation, and technology-based approaches that use chemical engineering techniques to remove CO<sub>2</sub> from the atmosphere. Furthermore, in accordance with the framework presented in the SBTi Corporate Net-Zero Standard, the Group will not offset emissions with carbon dioxide removal when calculating emissions in the years leading up to the net-zero target year (2050), but we will give priority to reducing our own emissions.

## Environmental Strategy

### Establishing KPI & Milestones to achieve net-zero emissions

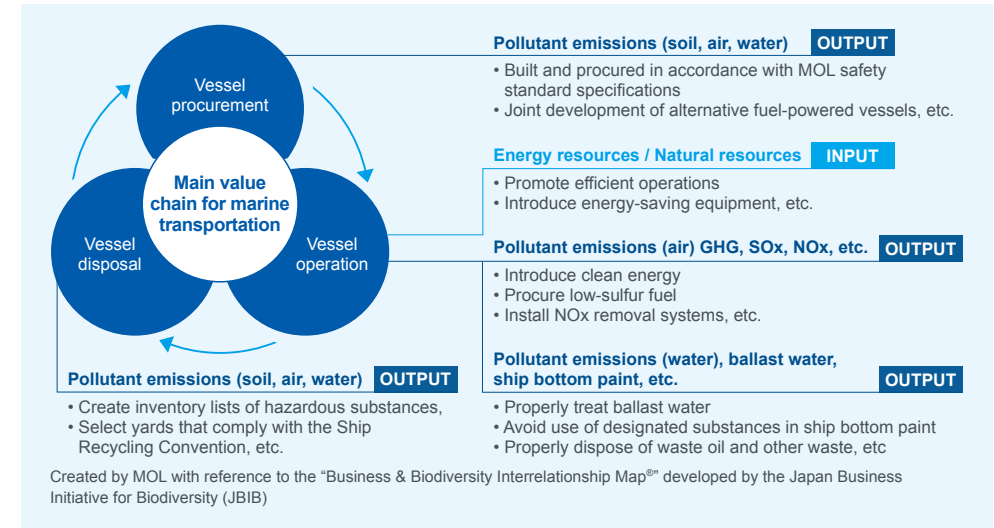
To ensure the achievement of net-zero emissions, we have set quantitative KPIs and milestones for measuring progress for each action.



### Approach to Natural Capital and Biodiversity

Recognizing the impact of our business on nature, we regard not only climate change but also biodiversity, air pollution, and the marine environment – which is closely tied to marine transportation, our primary business – as broad environmental issues.

### Map of the Relationship Between MOL Group and Biodiversity (marine transportation)



Our efforts to achieve net zero will not only contribute to GHG reductions, but also, for example, the introduction of alternative fuels will reduce SOx emissions, and improvements in fuel efficiency will lead to the efficient utilization of natural resources (fuels). We have set quantitative milestones relating to natural capital and biodiversity.

#### Reduction of air pollutants

**Reduce SOx emissions intensity by 14% by 2030 (compared to 2020)**  SOx emissions intensity results ▶ P.127

KPI: SOx emissions per ton-mile (g-SOx/ton-mile)

- In addition to complying with international regulations, we have voluntarily set a milestone for reducing air pollutants.
- We aim to achieve this by promoting the reduction of fuel consumption through efficient operations and by shifting to fuels with low sulfur content, such as LNG and ammonia.

#### Resource use and energy use efficiency

**Improve fuel efficiency by 5% by 2025 (compared to 2019)**  Fuel efficiency results ▶ P.45

KPI: Fuel efficiency (energy consumption per ton-mile)

- Recognizing that marine fuel is a valuable energy resource, we aim to effectively utilize fuel as an energy resource and improve energy efficiency through operation efficiency ( from P.45) and introducing energy-saving equipment ( from P.44).

#### Biodiversity index

- We manage the ratio of vessels equipped with ballast water management system, and disclose the progress on this on our website.
- As of FY2022, that ratio was 97%, and we will complete equipping 100% of MOL Group-owned vessels in FY2023.

Ballast water management system installation results ▶ P.56

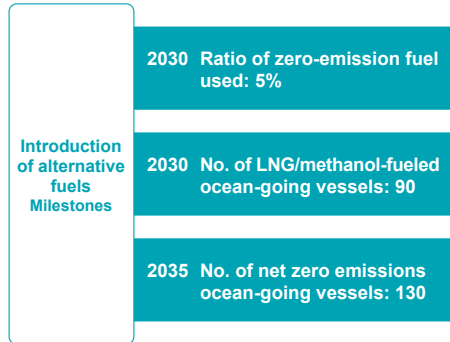


# Climate Change Countermeasures

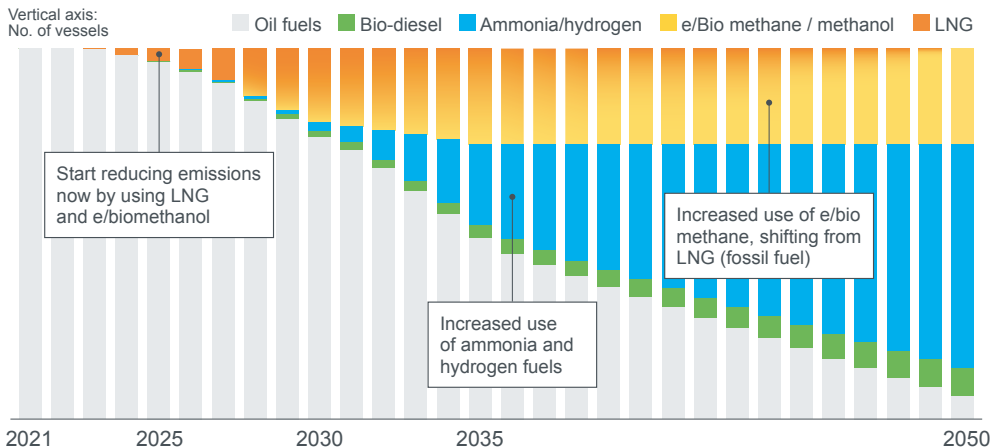
## Initiatives

### Action 1 Adopt clean energy

Aiming at adopting clean energy, we will phase out the usage of heavy oil, which is highly carbon-intensive, and shift to low-carbon and decarbonized fuels. Based on the premise that the optimal fuel differs depending on the type of vessel and shipping route, we have begun considering adopting a variety of fuels. In addition to preparing alternative fuel-powered vessels, we will take measures to procure clean-energy fuels.



Composition of MOL's Ocean-Going Fleet by Fuel Type



### Shift to Alternative Marine Fuels — Development and introduction of alternative fuel-powered vessels —

For a general shipping company such as MOL, which operates various types of vessels, there is no single solution for vessel fuel. We will promote the adoption of optimum fuels for each business on the premise of achieving net zero in 2050 and our interim milestones.

## LNG-fueled vessels

We engage in the use of LNG as an alternative fuel, which is selectable immediately.

As of January 2024, 33 LNG-fueled ocean-going vessels are planned, including those under construction. In terms of coastal ships, 1 tugboat, 2 LNG-fueled ferries and 1 coastal cargo vessel have commenced operation. We plan to enter two more LNG-fueled ferries into service in the future.

Fleet status of LNG-fueled vessels by ship type (as of Jan. 2024)

	Ship type	Number of vessels
Ocean-going	Bulk carrier	13 Capesize bulkers (2 already in service) + 2 other bulk carriers (1 already in service)
	Car carrier	14
	Tanker	4 VLCCs
Coastal	Tugboat	1 (already in service)
	Ferry	4 (2 already in service)
	Coastal cargo vessel	1 (already in service)
	Total	Ocean-going: 33, Coastal: 6

## LNG bunkering vessels

MOL owns LNG bunkering vessels. To encourage the spread of LNG fuel, we are also promoting the ownership of LNG-fueled vessels.

- Two LNG bunkering vessels for TotalEnergies

MOL and French oil major TotalEnergies signed a long-term charter contract for two 18,600m<sup>3</sup>-class LNG bunkering vessels. The first vessel delivered in April 2020 serves in Northern Europe, and the second one delivered in 2021 is now in service in France.



MOL and TotalEnergies Hold Official Launch Ceremony for France's First LNG Bunkering Vessel — Named 'Gas Vitality' — <https://www.mol.co.jp/en/pr/2021/img/21091.pdf>



## Climate Change Countermeasures

- One LNG bunkering vessel for Pavilion Gas Pte Ltd

MOL signed a long-term charter contract for a 12,000m<sup>3</sup>-class LNG bunkering vessel with Singapore's state energy company Pavilion Gas Pte Ltd. The vessel will be delivered and start service in the fourth quarter of FY2023 as the second LNG bunkering vessel in Singapore.



[Pavilion Energy and MOL Name Newbuild LNG Bunker Vessel: Brassavola](https://www.mol.co.jp/en/pr/2022/img/22108.pdf)  
<https://www.mol.co.jp/en/pr/2022/img/22108.pdf>

### ● Reducing methane slip

We are making multiple efforts to further reduce a trace amount of unburned methane emitted from LNG-fueled engines (methane slip). Together with Japanese companies, we are developing engines that can reduce the amount of methane slip itself and catalysts that can decompose methane slip with high efficiency, which will soon be installed on our operated vessels for testing. In addition, we are a member of The Methane Abatement in Maritime Innovation Initiative, a group which promotes the development of methane slip reduction technology through collaboration among global companies.

[Design Approved for World's First Methane Oxidation Catalyst System](https://www.mol.co.jp/en/pr/2022/img/22037.pdf)  
<https://www.mol.co.jp/en/pr/2022/img/22037.pdf>

### ● Methanol-fueled vessels

We are working to utilize methanol fuel, which can reduce emissions of CO<sub>2</sub>, sulfur oxides (Sox), and nitrogen oxides (Nox) compared to conventional heavy oil. Besides owning one of the world's largest fleets of five methanol-fueled transport vessels

(5 vessels), we are also expanding into other types of vessels with the conclusion of a basic agreement on time charter for a newbuilding methanol dual fuel bulk carrier.

[MOL Drybulk, Kambara Kisen Sign Basic Agreement on Time Charter for Newbuilding Methanol Dual Fuel Bulk Carrier — Moving Steadily toward KPI: '90 LNG/Methanol-fueled Vessels' by 2030](https://www.mol.co.jp/en/pr/2023/23114.html) —  
<https://www.mol.co.jp/en/pr/2023/23114.html>

### ● Use of biodiesel

MOL has been studying the introduction of bio fuels to power vessels. As a short-/medium-term measure for GHG reduction, we position biodiesel fuel as a promising option that fits the current ship fuel infrastructure without requiring engine modifications, and we are looking into ways to introduce bio fuels while collecting information on their properties and characteristics.



MOL completed the first biodiesel bunker operation for a vehicle carrier in Singapore.

[TotalEnergies Marine Fuels and MOL Group Complete First Biofuel Bunker Operation of a Vehicle Carrier in Singapore](https://www.mol.co.jp/en/pr/2022/img/22080.pdf)  
<https://www.mol.co.jp/en/pr/2022/img/22080.pdf>

### ● Ammonia-fueled vessels

We are developing multiple types of ammonia-fueled vessels. One of them is scheduled to be completed and put into operation in the 2020s as the first net zero emissions ocean-going vessel.

[Innovation/Ammonia ▶ P.85–86](#)

### ● Hydrogen-fueled vessels

Hydrogen is also attracting attention as an alternative fuel for ships, and MOL is carrying out studies of its use, including the construction of a coastal passenger ship propelled by hydrogen and biofuels and operational demonstration of hydrogen-fueled marine engine.

[Innovation/Hydrogen ▶ P.86–87](#)

## Climate Change Countermeasures

### ● Electric-powered vessels

MOL is also moving ahead with research into electric vessels as another next-generation energy source. We have forged ahead with projects to develop the world's first electric-powered tanker and promote its widespread use.

[Innovation/Electric Vessels ▶ P.87](#)

### [Shift to Alternative Marine Fuels — Efforts to Procure Alternative Fuels —](#)

In addition to working on the development and operation of vessels from the perspective of fuel users, we will work with diverse partners to urge upstream players of the fuel supply chain to join our efforts to expand the use of new fuels.

### ● e/Bio-methanol

With our long-standing partnership with Methanex, the world's largest methanol supplier, we conducted the world's first net-zero voyage of a methanol dual-fuel vessel fueled by bio-methanol. We will also pursue the viability of e-methanol in the future.

[Methanex and MOL complete first-ever net-zero voyage fueled by bio-methanol](#)  
<https://www.mol.co.jp/en/pr/2023/23021.html>

### ● e/Bio-methane

We promote efforts to procure e/bio-methane produced in Japan and overseas. In June 2023, based on an MoU signed with a Japanese firm, Air Water Inc., we successfully conducted a sea trial of a coastal LNG-fueled vessel for use of liquefied biomethane as marine fuel.

[Successful Sea Trial of Domestic LNG-Fueled Vessel for Use of Liquefied Bio-Methane as Marine Fuel — Achieving Net Zero Emissions in Ocean Transport —](#)  
<https://www.mol.co.jp/en/pr/2023/23082.html>

### ● Ammonia

Together with ITOCHU Corporation, Total Energies, Pavilion Energy, and Vopak, we are involved in a joint development project on the ammonia fuel supply chain in Singapore.

[MOL Acquires AIP for Ammonia Bunkering Vessel — Toward Realizing Ammonia Bunkering Business in Singapore —](#)  
<https://www.mol.co.jp/en/pr/2022/22003.html>

[MOL Joins Joint Development Study on Ammonia Fuel Supply Chain in Singapore](#)  
<https://www.mol.co.jp/en/pr/2021/21041.html>

### ● Participation in First Movers Coalition

In May 2022, MOL participated in the First Movers Coalition (FMC), which was established to boost demand for decarbonization technology. We are the first Japanese company to take part in FMC, a platform aimed at helping governments and major global companies cooperate to launch technologies needed to achieve “net zero emissions by 2050” and enhance cost competitiveness. As a member of the CDR sector of the FMC, we have committed to purchase at least 50,000 tons of technology-based CDR derived carbon credits in 2030.



In January 2023, we became the first Japanese company to join the shipping sector of the FMC. Shipping companies participating in the sector have committed to use zero-emission fuels for at least 5% of their ocean-going shipping by 2030. In addition, we became a “Sector Champion” to represent the shipping sector and lead the discussion on promoting zero-emission fuels in September 2023.

## Climate Change Countermeasures

### Utilization of Clean Energy Outside of Marine Shipping

We are also promoting the use of clean energy in businesses such as real estate and logistics.

#### ● Utilization of power derived from renewable energy

We will promote the use of renewable energy for power through the introduction of renewable energy generation systems, CO<sub>2</sub>-free power, the acquisition of environmental certificates, etc.

Power from renewable energy Milestone

**Increase the ratio of power from renewable energy for Scope 2 to 100% by 2030**  
KPI: Ratio of power from renewable energy for Scope 2

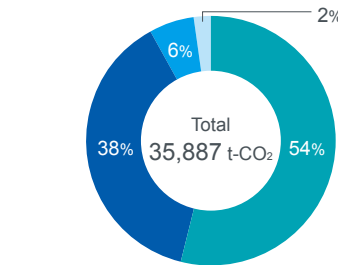


Solar power system at Tokyo International Container Terminal



Daibiru office building with solar power generation and CO<sub>2</sub>-free electricity

Ratio of Scope 2 Emissions by Segment



■ Real estate ■ Marine shipping ■ Logistics ■ Other

Scope: MOL Group consolidated

#### ● Utilization of hydrogen fuel for port cargo handling equipment

In anticipation of the proliferation of hydrogen supply infrastructure in the future, we introduced a “Near Zero Emission Transtainer<sup>®</sup>,” a port cargo handling machine that can achieve zero emissions by changing the power source from diesel engines to hydrogen fuel cell power units.



Image of “Near Zero Emission” Transtainer<sup>®</sup>, installed at the Kobe International Container Terminal and the Minami Honmoku Pier Container Terminal in Yokohama Port (Photo : Minami Honmoku Pier in Yokohama Port)

### Action 2 Further Adopt Energy-saving Technologies

We have worked to improve operational efficiency and reduce CO<sub>2</sub> emissions by adopting various types of energy-saving equipment to achieve zero GHG emissions by vessels.

#### ● Wind Challenger

We will focus on wind, a clean and inexhaustible form of energy that we can realize utilizing immediately. Under the banner of Wind Challenger, we aim to be the leader in the use of wind power for vessels.

📖 Wind Challenger ▶ P.84



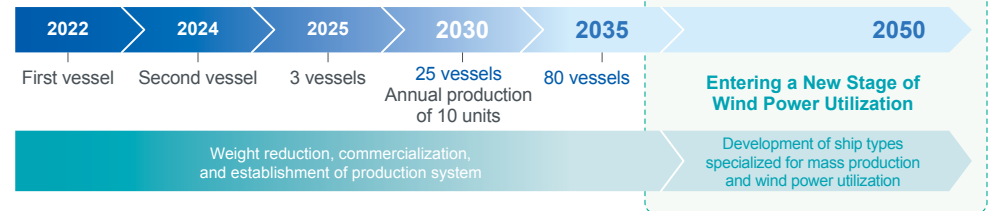
Innovative Sails for a Sustainable Future

Wind power utilization Milestone

**No. of vessels equipped with Wind Challenger**  
2030 : 25 vessels  
2035 : 80 vessels

#### What is Wind Challenger?

- A wind propulsion device developed by MOL
- First vessel to start operation in the fall of 2022
- Emissions reductions with first vessel almost in line with plan

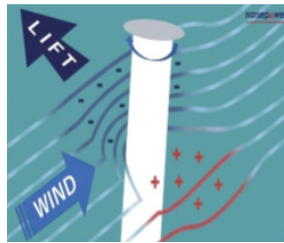


- We are considering installation on various sizes of bulk carriers, LNG carriers, tankers, and clean energy carriers.
- In addition to the Wind Challenger, we introduced optimal technology that includes other wind power devices such as rotor sails, taking into account the characteristics of each vessel.

## Climate Change Countermeasures

### ● Rotor Sail

The Rotor Sail™ is a wind propulsion system of Norsepower Oy Ltd., for which MOL Techno-Trade has an agency contract. It produces thrust as the wind generates differential pressure around the slewing rotor while the vessel is sailing. Reduction of fuel consumption and emissions is typically 5-20% on average depending on ship type, wind conditions, time at sea, and the number of Rotor Sails installed. In March 2023, we announced a partnership with Vale International SA to retrofit a 200,000-ton class bulk carrier with two rotor sails produced by Norsepower Oy Ltd.



The Magnus effect, which creates a pressure difference around the spinning cylindrical rotor when wind conditions are favorable.



The pressure difference causes a lift (thrust) force perpendicular to the wind direction.

MOL and VALE agree to install Two Norsepower Rotor Sails™ to an in-service Capesize Bulk Carrier  
<https://www.mol.co.jp/en/pr/2023/23026.html>

### ● PBCF (Propeller Boss Cap Fins)

PBCF is an energy-saving device attached to the vessel's propeller. It breaks up the hub vortex generated behind the rotating propeller, reducing the ship's fuel consumption and in turn cutting CO<sub>2</sub> emissions. It has been installed on over 4,000 vessels worldwide since its launch in 1987 and has been certified as the "Best-selling Energy-Saving Ship Appendage Brand (Cumulative)", by Guinness World Records.

In 2017, MOL jointly developed a new type of PBCF, which further improved the energy-saving effect, along with Akishima Laboratories (Mitsui Zosen) Inc. and MOL Techno-Trade, Ltd. Thanks to refinements in fin shape and height, the upgraded PBCF confirmed an energy savings of around 5% on vessels in service, compared to sister ships not equipped with PBCF, representing a significant contribution to lower CO<sub>2</sub> emissions. The new design has already been patented around the world. Furthermore,

the new PBCF reduces cavitation which limits underwater noise that can negatively affect marine mammals, and was selected as a technology to reduce underwater noise in the Vancouver Fraser Port Authority's Eco Action Program. Thus, PBCF is not only an energy-saving device, but also an "eco-friendly product."

We will also continue to improve the efficiency by aiming for a synergistic effect with the rudder with bulb fins. The hub vortex, which is generated behind the rotating propeller, causes energy loss due to the increased resistance of the ship, while the rudder with bulb fins rectifies the disturbed flow and the airfoil fin recovers the energy and converts it into propulsion. The rudder with bulb fins has been patented.



A GUINNESS WORLD RECORDS™ title for Best-selling Energy-Saving Ship Appendage Brand (Cumulative) was certified for Propeller Boss Cap Fins (PBCF)  
<https://www.mol.co.jp/en/pr/2021/21120.html>

### Action 3 Efficient Operations

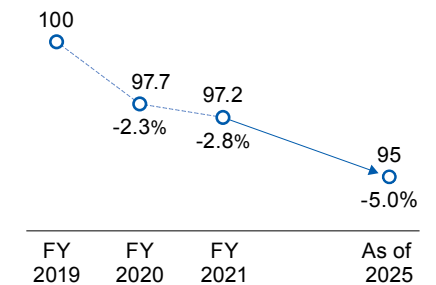
MOL is pursuing ways to further reduce fuel consumption in its operations. We will improve fuel efficiency by promoting operational efficiency (the DarWIN project) and pursue measures that we can take immediately to reduce GHG emissions.

Improve fuel efficiency Milestone

Improve fuel efficiency by 5% as of 2025 (compared to 2019)  
 KPI: Fuel efficiency (unit: megajoules/ton-miles)

Progress toward the milestone

Changes in Fuel Efficiency Improvement Index Progress with FY2019 as 100





## Climate Change Countermeasures

### ● Pursuit of optimal operations through the DarWIN Project

In 2022, we established the Efficient Operation & Environmental Data Management Team to exclusively handle initiatives for efficient operation. In addition, we will utilize our partnership with Akishima Laboratories (Mitsui Zosen), MOL Techno-Trade, and EcoMOL Inc., which was newly established in the Philippines, to promote safe and efficient operations and GHG reduction activities.

#### DarWIN Project Overview

#### Digital Approach to Reduce GHG With Integrated Network

This project was named after Darwin's theory of evolution in reflection of how our initiatives are constantly evolving and adapting to an environment that is dramatically changing.

#### Specific initiatives

- Pursuit of optimal operations
- Active investment in and installation of energy-saving technologies and equipment
- Steady promotion through collaboration with other companies
- Participation in Consortiums (Blue Visby Consortium)



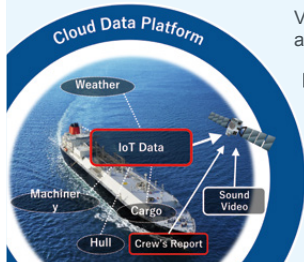
#### Systems

Obtain high-granular data through the FOCUS Project



Visualize vast amounts of fleet data

FOCUS Project  
▶ P.87-88



#### Structures

In addition to a dedicated team, we established a new company in the Philippines.

Analyze data and secure resources to put efficient operations into practice



#### Processes

Processes for achieving optimal operations

Promptly share and request action by the vessel to ensure optimal route and output



### ● Active investment and installation of energy-saving technologies and equipment

Combining a wide variety of measures that are expected to reduce GHG emissions by 1% to 10%, we will implement optimal improvement measures for each vessel. By 2025, we will invest approximately 10 billion yen in energy-saving technologies and equipment to reduce GHG emissions.

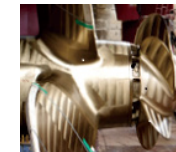
Example of measures	Hull attitude optimization during navigation	Fuel-efficient and environmentally friendly hull coatings
	Replacement with energy-saving propellers "Example 1"	Devices to improve propeller propulsion performance "Example 3"
	Improved propulsion performance via hull surface blasting treatment "Example 2"	Energy-saving steering system
	Improved propulsion performance by cleaning the vessel bottom and propellers	Other energy-saving propulsion equipment



Example 1



Example 2



Example 3

### ● Steady promotion through collaboration with other companies

Through collaboration of 11 companies and utilizing the strengths of each company, we systematically introduce and evaluate energy-saving equipment to improve fuel efficiency and reduce GHG emissions steadily.

#### Overall Supervision of DarWIN Project



商船三井

Advanced analysis capabilities utilizing vessel technology research and engineering methodologies



Technical resources backed by a wide variety of services



三井E&Sホールディングス  
株式会社三井造船昭島研究所

MOL MOL Techno-Trade, Ltd.

#### Provision of optimal measures for improvement

うごかす。とめる。  
Nabtesco

Fluid Techno Co., Ltd.

TOKYO  
KEIKI

C-LEANSHIP

総合船水企業  
國富株式会社

CMP MAP

NAKASHIMA

NAKASHIMA PROPELLER CO., LTD.

## Climate Change Countermeasures

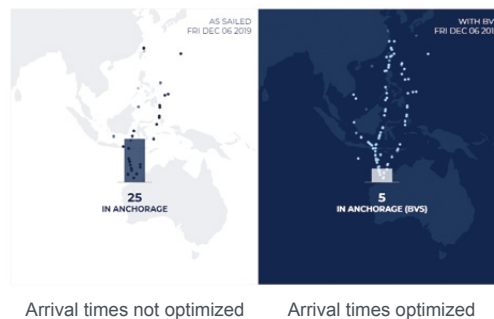
### ● Participation in Consortia

Contributing to the realization of a low-carbon society by working to reduce GHG emissions, we participate in the Blue Visby Consortium, which comprises 24 organizations (as of February 2023) from industry, government, academia, NGOs, NPOs, etc., in order to support the development of a system to optimize vessels' arrival times at their destinations.

By adjusting (slowing) the sailing speed of vessels, we aim to optimize and disperse the arrival times of vessels heading to the same destination port, thereby reducing fuel consumption and GHG emissions.\*

\* Analyzing 150,000 voyages made by 13,000 vessels in 2019, the Consortium found that waiting time could be reduced for approximately 87% of the voyages by adjusting (slowing) the sailing speed.

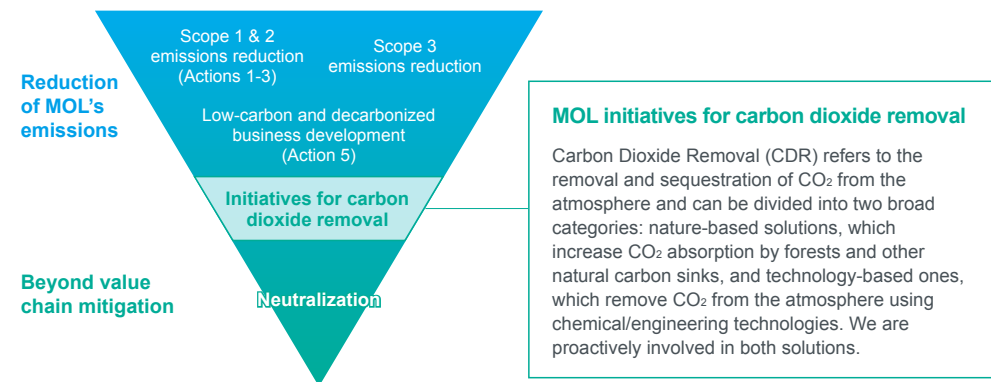
Simulation of the number of waiting vessels



In order for society as a whole to achieve net zero, CDR needs to be significantly scaled. Our direct involvement in CDR ensures the neutralization of our future residual emission\*<sup>2</sup> and contributes to the broader adaptation of CDR projects across our society.

\*1 Abbreviation of Beyond Value Chain Mitigation

\*2 MOL aims to reduce those emissions to less than 10% of those of 2019, the base year.



\* Created by MOL with reference to the "Corporate Net Zero Standards (Mitigation Hierarchy)" presented by SBTi

### Action 4 Build Business Models that Enable Net Zero Emissions

In addition to making every effort to reduce the Group's emissions (See Actions 1, 2 and 3.), creating mechanisms which enable net zero is highly meaningful for the purpose of enhancing the effectiveness of those actions. For this reason, we are pursuing a variety of initiatives for Action 4.

#### Carbon Dioxide Removal (CDR) Initiatives

In addition to reducing emissions from the value chain, including MOL, we engage with CDR to contribute to the mitigation actions beyond the value chain (BVCM\*<sup>1</sup>).

Given the limited remaining carbon budget, we believe it is important to engage with CDR from now, without delay, in order to support the scaling of CDR. Therefore, we have set an interim milestone to achieve by 2030 and will promote related initiatives.

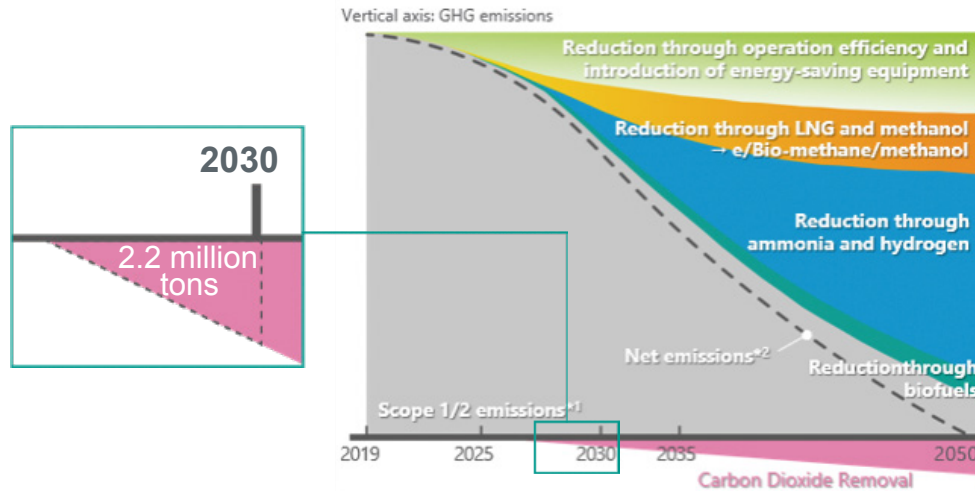
We will reduce our emissions based on the scientific abatement-curve. Additionally, we take the initiatives to contribute to the society's mitigation actions and do not use them to counter-balance our own emissions.

Carbon Dioxide Removal Milestone

We will contribute to the removal of a cumulative 2.2 million tons of CO<sub>2</sub> by 2030.  
KPI: Amount removal type carbon credits used



## Climate Change Countermeasures



### ● Nature-based Solutions

By supporting projects such as forest and mangrove restoration, we will contribute not only to decarbonization but also to other co-benefits, such as the protection of biodiversity and the improvement of livelihood of local communities.

#### [Mangrove Restoration & Conservation Project](#)

Since January 2022, we have been participating in a blue carbon project aimed at restoring and conserving mangroves in South Sumatra, Indonesia. The project aims to reduce CO<sub>2</sub> emissions by about 5 million tons through forest conservation activities and to absorb/store another 6 million tons of CO<sub>2</sub> through afforestation of mangroves and other plants on about 9,500ha of bare land in the next three decades.

[Blue Carbon Business ▶ P.33](#)

### ● Technology-based Solutions

By engaging with CO<sub>2</sub> removal technology projects now, we will contribute to innovation and cost reduction of underfunded elements of nascent technologies.

#### [Effort to scale up and catalyze the market](#)

In May 2022, we participated in the NextGen CDR Facility, which aims to proliferate and promote carbon removal technologies, as a founding buyer. We are committed to purchasing at least 50,000 tons of CO<sub>2</sub> removals utilizing CDR technologies by 2030.

# NextGen

[NextGen establishes world's largest diversified portfolio of permanent carbon dioxide removals to scale the market](#)  
<https://www.mol.co.jp/en/pr/2023/23057.html>

#### [Policymaker engagement and activities through industry organizations](#)

With regard to the formulation of common rules for the shipping industry by the International Maritime Organization (IMO), which is a policymaker for international shipping, MOL is continuously working to promote the decarbonization of the entire industry through the Japan Shipowners Association and the International Chamber of Shipping, such as by sharing opinions on the early introduction of an effective carbon price system and the introduction of strict fossil fuel regulations. We are also participating in global initiatives such as the Global Maritime Forum and Getting to Zero Coalition, which aim to realize early net zero emissions from shipping, and the First Movers Coalition of the World Economic Forum (WEF), which pioneered efforts to address climate change. Besides expressing a clear intention to decarbonize, we are making the highest level of commitment in the industry to promote decarbonization technologies. Our CEOs and others attend the WEF's annual meeting in Davos, where they discuss various topics with world leaders and corporate executives, including decarbonization, and continuously communicate our messages. When such various industry organizations make decisions on climate change-related policies, etc., we express our opinions in line with our corporate policies and strategies, including our environmental vision.

## Climate Change Countermeasures

### Appropriate Response to Carbon Pricing

#### ● Internal Carbon Pricing (Introduced in FY2021)

By quantitatively evaluating the impact of carbon prices and incorporating them into management decisions such as investments, we are promoting low-carbon and decarbonization projects as well as low-carbon/decarbonized services.

#### ● Compliance with EU-ETS (EU Emissions Trading System)

We quantitatively evaluate the financial impact of the introduction of the EU-ETS and disclose the results within the TCFD framework. In addition, we are collaborating with local subsidiaries in Europe to progress practical actions.

📖 [TCFD Disclosures](#) ▶ P.38

### Action 5 Expand low-carbon /decarbonized business by leveraging the Group's collective strengths

In addition to steadily reducing MOL Group's emissions (Actions 1, 2 & 3) and creating mechanisms to improve the effectiveness of those actions (Action 4), we will also contribute to the reduction of emissions in society through our business.

Responding to and leveraging the global shift in energy sources, we aim to realize a "Green Ocean Shift" and contribute to clean energy supply chains from upstream to downstream.

Global economic development driven by fossil fuels

Increased LNG use particularly in emerging countries / Increased use of renewable energy / Popularization of electric vehicles / Increased use of hydrogen / Higher percentage of electric furnaces and rise in hydrogen-reduced iron / Spread of carbon dioxide removal technologies

### Global shift in energy sources

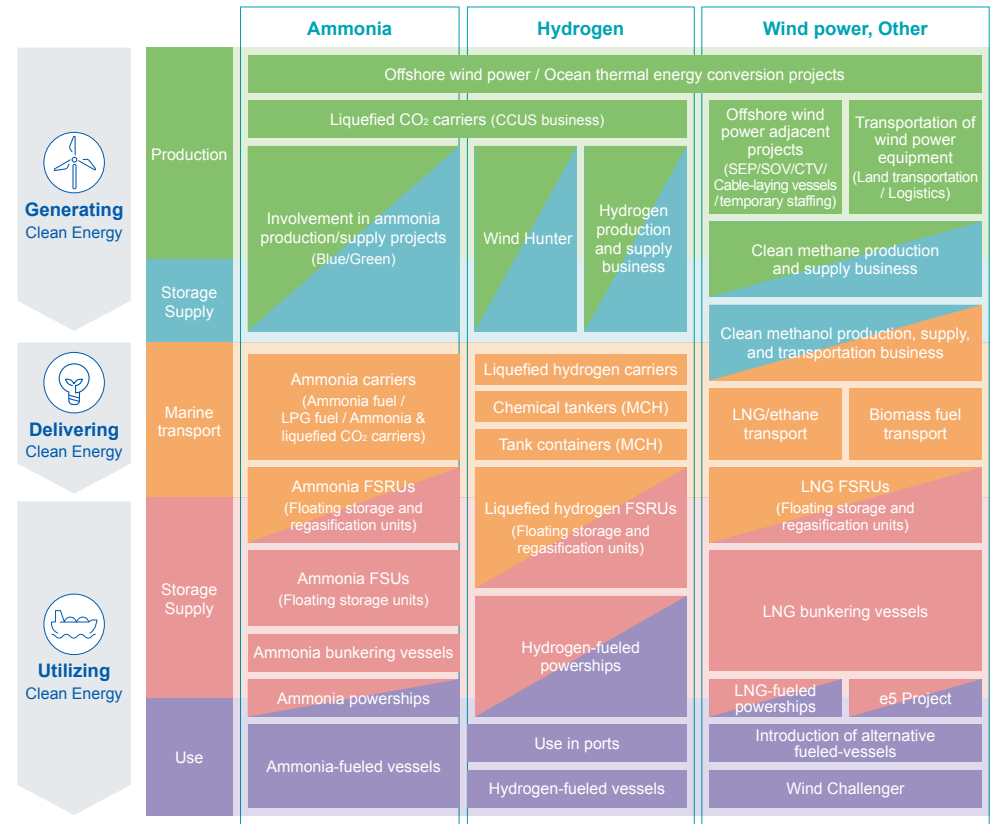
#### "Green Ocean Shift" of MOL

Existing marine transportation, etc.

#### + New business domains - Ocean Clean Energy Business

Building Ammonia & Hydrogen supply chains / Offshore wind power business / Involvement in CCS/CCUS projects / LNG powerships / Ocean thermal energy conversion, etc.





### Overview of Ocean Clean Energy Business



## Climate Change Countermeasures

### Constructing Supply Chains for Ammonia & Hydrogen

MOL participates in supply and transportation projects of clean alternative fuels such as ammonia and hydrogen. Also, MOL contributes to the upgrade of the clean energy supply chain from upstream to downstream.

 <b>Generating Clean Energy</b>	<p><b>MOL Concludes MoU on Building Hydrogen/ Ammonia Value Chain in Thailand</b></p> <p>Collaboration with the Electricity Generation Authority of Thailand, Mitsubishi Company (Thailand) and Chiyoda Corporation</p> <p><a href="https://www.mol.co.jp/en/pr/2023/23024.html">https://www.mol.co.jp/en/pr/2023/23024.html</a></p>	<p><b>MOL Demonstrates Ammonia Supply Chain Linking UAE and Japan</b></p> <p>Demonstrated power generation using clean ammonia that the UAE produced and exported to Japan</p> <p><a href="https://www.mol.co.jp/en/pr/2022/img/22081.pdf">https://www.mol.co.jp/en/pr/2022/img/22081.pdf</a></p>	<p><b>Offshore Hydrogen Production and Supply — SeaEra Project —</b></p> <p>Investigated the introduction of coastal ships that can use renewable energy to both produce and supply hydrogen offshore</p>
 <b>Delivering Clean Energy</b>	<p><b>MOL Teams up with JERA Co., Ltd. to Study Transport of Ammonia Fuel</b></p> <p>Considered developing large ammonia carriers and establishing a safe transport system</p> <p><a href="https://www.mol.co.jp/en/pr/2022/22131.html">https://www.mol.co.jp/en/pr/2022/22131.html</a></p>	<p><b>Started joint development on construction of a net-zero emission ocean-going vessel</b></p> <p>Began joint development for construction of an ocean-going liquefied gas carrier fueled with ammonia</p> <p><a href="https://www.mol.co.jp/en/pr/2022/img/22079.pdf">https://www.mol.co.jp/en/pr/2022/img/22079.pdf</a></p> <p><b>MOL Signs Deal for Construction of LPG Fueled CVLGCs for LPG/Ammonia Transport</b></p> <p><a href="https://www.mol.co.jp/en/pr/2021/21065.html">https://www.mol.co.jp/en/pr/2021/21065.html</a></p> <p><b>MOL to Start Development of Large-size Ammonia Carrier Powered by Ammonia Fuel</b></p> <p><a href="https://www.mol.co.jp/en/pr/2021/21098.html">https://www.mol.co.jp/en/pr/2021/21098.html</a></p> <p><b>MOL Completes Concept Study of 'Ammonia/Liquefied CO<sub>2</sub> Carrier'</b></p> <p><a href="https://www.mol.co.jp/en/pr/2022/22045.html">https://www.mol.co.jp/en/pr/2022/22045.html</a></p>	
 <b>Utilizing Clean Energy</b>	<p><b>MOL Participates in a Project to Explore Development of Infrastructure for Supplying Liquefied Hydrogen in Singapore</b></p> <p>Evaluated and considered an infrastructure project which includes liquefied hydrogen transportation, import terminals, storage units, regasification facilities, etc.</p> <p><a href="https://www.mol.co.jp/en/pr/2021/img/21039.pdf">https://www.mol.co.jp/en/pr/2021/img/21039.pdf</a></p> <div>  <p>Rendering of LPG/ammonia carrier Designed by Mitsubishi Shipbuilding Co., Ltd</p> </div>		

### Offshore Wind Power-Related Business

The value chain for offshore wind power generation consists mainly of the development and operation of power generation projects, and the MOL Group provides a wide range of services in peripheral business fields, from project startup to maintenance and operation. While refining the advantages we have cultivated through our long history in the shipping industry, we will strive to be recognized as an essential partner by the diverse players in this industry through our group-wide efforts in offshore wind power generation-related businesses.

#### Overview of the Offshore Wind Power Business Value Chain and MOL Group Initiatives

##### Personnel development and supply for wind power maintenance

Form a capital alliance with Hokutaku Co., Ltd., Japan's largest wind turbine maintenance company

##### Investment in power generation business

- Develop a floating offshore wind power project generating a total of 2GW (Collaborate with Flotation Energy)
- Acquisition of shares of the company operating the Formosa 1 offshore wind farm
- Made an investment related to the Kitakyushu Hibikinada offshore wind farm (Collaborate with Hokutaku)

##### Asia's first SOV business

This business is involved in the operation and maintenance support work for an offshore wind farm in Greater Changhua (Taiwan)

##### Ownership, management, and operation of CTV (crew transfer vessel)

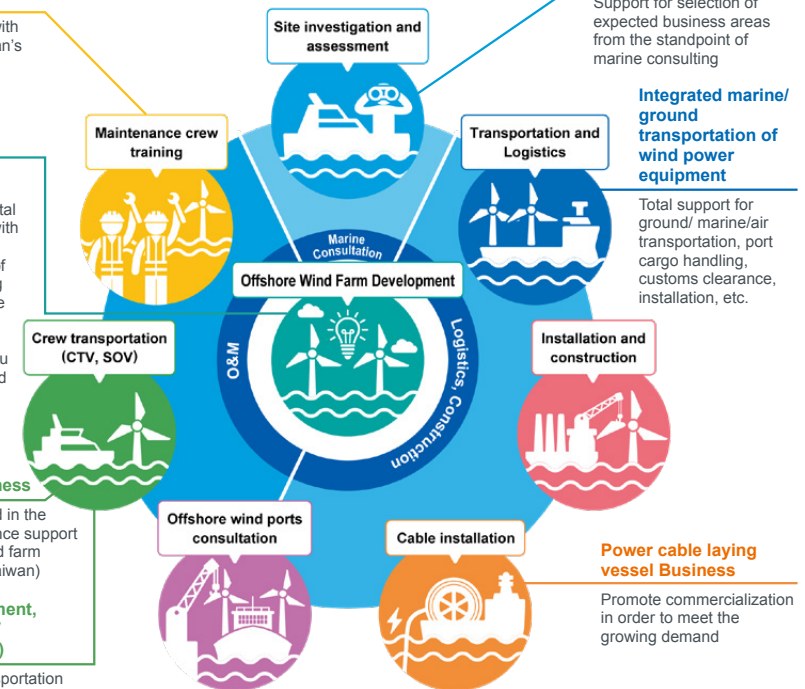
- Provide engineer transportation services adapted to sea and weather conditions unique to Japan
- CTV operation for offshore wind farm at Ishikari Bay New Port

##### Sea area survey & selection support

Support for selection of expected business areas from the standpoint of marine consulting

##### Integrated marine/ground transportation of wind power equipment

Total support for ground/ marine/air transportation, port cargo handling, customs clearance, installation, etc.



## Climate Change Countermeasures

### Involvement in CCS/CCUS Projects

Carbon dioxide Capture, Utilization and Storage (CCUC) is a business that collects CO<sub>2</sub> exhausted from power plants and other sources and then stores or uses it effectively. It is considered a key element in achieving a decarbonized society, so we have worked on the CCUS business from different aspects, examining ways to ship liquefied CO<sub>2</sub>, developing related technologies and collaborating to build CCUS value chain.


#### ● Move into Ocean Shipping of Liquefied CO<sub>2</sub>

-  MOL to Move into Ocean Shipping of Liquefied CO<sub>2</sub> Ocean Transport Business through Investment in Norway's Larvik Shipping AS  
<https://www.mol.co.jp/en/pr/2021/21020.html>

#### ● Cooperation with Companies to Establish a CCS Value Chain

-  MOL Working with Multiple Corporate Partners from Japan, Australia and Europe on Offshore CCS Hub Project "CStore1" to Store CO<sub>2</sub> in Australia (deepC Store Pty Ltd. web site)  
<https://www.deepcstore.com/cstore1-partners>
-  MOL, PETRONAS and MISC Set the Stage for the Development of Liquefied CO<sub>2</sub> Carriers  
<https://www.mol.co.jp/en/pr/2023/23115.html>
-  MOL and Chevron sign Joint Study Agreement to collaborate on development of liquefied CO<sub>2</sub> marine transport operations in the Asia-Pacific region targeting CCUS  
<https://www.mol.co.jp/en/pr/2022/img/22127.pdf>
-  MOL to Study Liquefied CO<sub>2</sub> Transport by Vessel in JOGMEC Call for Advanced CCS Projects  
<https://www.mol.co.jp/en/pr/2023/23103.html>
-  MOL and Cosmo Oil Sign MoU to Study Ocean Transport for Development of CCS Value Chain  
<https://www.mol.co.jp/en/pr/2023/23137.html>
-  MOL and KEPCO Sign Service Agreement on Development of Liquefied CO<sub>2</sub> Carrier Design for CCS Value Chain  
<https://www.mol.co.jp/en/pr/2023/23142.html>

#### ● Technology Initiatives on Liquefied CO<sub>2</sub> Carrier

-  MOL and Mitsubishi Shipbuilding Acquire AiP for LCO<sub>2</sub> Carrier from DNV under Joint Development  
<https://www.mol.co.jp/en/pr/2022/22099.html>
-  MOL Acquires AiP for Design of Large-scale Liquefied CO<sub>2</sub> Carrier through Research and Development Project from NEDO  
<https://www.mol.co.jp/en/pr/2022/22093.html>
-  MOL, PETRONAS and SDARI Acquire AiP for LCO<sub>2</sub> Carriers and FSO from Major Classification Societies  
<https://www.mol.co.jp/en/pr/2023/23085.html>
-  Australian Japanese partners execute R&D Project Agreement to develop safe and efficient solutions for industrial-scale shipping of CO<sub>2</sub>  
<https://www.mol.co.jp/en/pr/2023/23102.html>

### Diverse Ocean Clean Energy Business

We are involved in various ocean clean energy projects to contribute to reduce emissions from society through our business.

#### ● Ocean Thermal Energy Generation Project

Together with our partners, we are participating in the operation of an ocean thermal energy conversion (OTEC\*) demonstration test facility on the island of Kumejima, Okinawa Prefecture. OTEC is characterized by the fact that the deep ocean water used for power generation can be reused for purposes other than power generation, such as fisheries and agriculture. In addition to deploying the Kumejima Model, which combines OTEC with the reuse of deep ocean water, to the world, we aim to start operation of the world's first commercialized OTEC on a 1 MW scale by around 2027.

\* A method by which power is generated using the difference in temperatures between upper and lower layers of seawater

 OTEC Technology ▶ P.33

## Climate Change Countermeasures

### ● LNG Powership

MOL has partnered with Turkish firm Karpowership to deploy an LNG powership business. LNG powerships supply gas to powerships through FSRU\* and provide power generated at sea to land facilities. Taking advantage of the mobility of these vessels, we will contribute to the supply of low-environmental impact power sources to regions where it is difficult to build onshore power plants, etc. through LNG power generation.


\* Floating LNG Storage Regasification Unit



KARMOL LNGT POWERSHIP  
AFRICA deployed to Senegal LNG  
powership project

 [FSRU Arrives for KARMOL's Landmark LNG Transition](https://www.mol.co.jp/en/pr/2021/21051.html)  
<https://www.mol.co.jp/en/pr/2021/21051.html>

### Wind Hunter Project

The Wind Hunter project is the ultimate zero-emission project that can create hydrogen from water on board and convert it into propulsion for the ship by sail technology, using offshore wind energy on the Wind Challenger (  P.84).

With this project, we aim to achieve zero-emission business that does not emit any GHGs.



 [Wind Hunter ▶ P.86](#)



## Natural Capital / Biodiversity

### Initiatives

We have begun implementing initiatives to reduce impacts on nature in our value chain. We will continue improving and deepening our efforts while referring to the AR3T framework\*2 provided by SBTN\*1 ,etc.

\*1 Science Based Targets Network. Initiatives to develop methods for setting science-based targets for a sustainable global system.

\*2 A series of actions put forward by SBTN for companies to take to first avoid damages to the natural environment (Avoid), reduce these when these damages cannot be avoided (Reduce), contribute to restoring and regenerating nature (Restore and Regenerate), and transform fundamental systems (Transform)

#### Avoid

- Promote the adoption of clean energy including zero-emission fuels
- Strengthen systems to prevent oil spills
- Dialogue with shipyards to prevent environmental pollution in the ship-recycling process (impact avoidance/reduction program for the value chain).

#### Reduce

- Introduce energy-saving equipment
- Promote efficient operations
- Properly manage ballast water
- Properly manage biofouling on vessels
- Install onboard SCR (selective catalytic reduction) systems
- Install onboard EGR (exhaust gas recirculation) systems

#### Restore & Regenerate

- Participate in mangrove restoration and conservation project (South Sumatra, Indonesia)
- Purchase "J Blue Credits" to support seagrass restoration and conservation (Japan: Port of Yokohama, Port of Tokuyama Kudamatsu, Hyogo Canal)
- Coastal cleanup activities (offshore of Kashima, Japan)
- Develop green spaces in Daibiru buildings (Osaka, Japan)
- Install microplastic collection devices on vessels
- Install Seabin, a floating garbage collection device (Hiroshima Port, Japan)
- Collect marine debris (Indonesia)

#### Transform

- Participate in initiatives (TNFD Forum, 30by30 Alliance for Biodiversity established by the Ministry of the Environment, etc.)
- Contribute to the development of meteorological service by continuously providing maritime meteorological data to the Japan Meteorological Agency, etc.
- Contribute to an environmental restoration and conservation project and local communities in Mauritius
- Have dialogue with shipyards, ship owners, customers, etc. to promote the adoption of alternative fuel-powered vessels



SBTN AR3T

### Overview of Air Pollutants Regulations and Companywide Initiatives

Nitrogen oxides (NOx), sulfur oxides (SOx) and particulate matter (PM) contained in the exhaust gas of ships cause acid rain and air pollution. So, in the international shipping industry regulations have been put in place by the International Maritime Organization (IMO) to control air pollutants in exhaust gases.

#### Overview of Regulations

##### NOx

NOx in exhaust gas from engines is controlled in a step-by-step manner. Tier I regulates emission levels by rated engine rpm, targeting vessels built between 2000 and 2010. Tier II requires vessels built in 2011 or later to reduce a further 15.5-21.8% from the Tier I level. In the ECAs (Emission Control Area), Tier III applies to vessels built in 2016 or later, requiring reduction of 80% from the Tier I level.

##### SOx and PM

Sulfur content in fuel oil is controlled to reduce SOx and PM in exhaust emissions. Sulfur limits have been gradually tightened. The sulfur limit is 0.1% in the emission in the ECAs from 2015, and 0.5% in general sea area from 2020. It is required to take measures such as using fuel oil that complies with regulations (compliant fuel oil), introducing SOx scrubbers, and switching to alternative fuels.

In addition to complying with these regulations, we have voluntarily set a milestone for reducing air pollutants.

#### Reduction of air pollutants

**Reduce SOx emissions intensity by 14% by 2030 (compared to 2020)**  SOx emissions intensity results ▶ P.127  
KPI: SOx emissions per ton-mile (g-SOx/ton-mile)

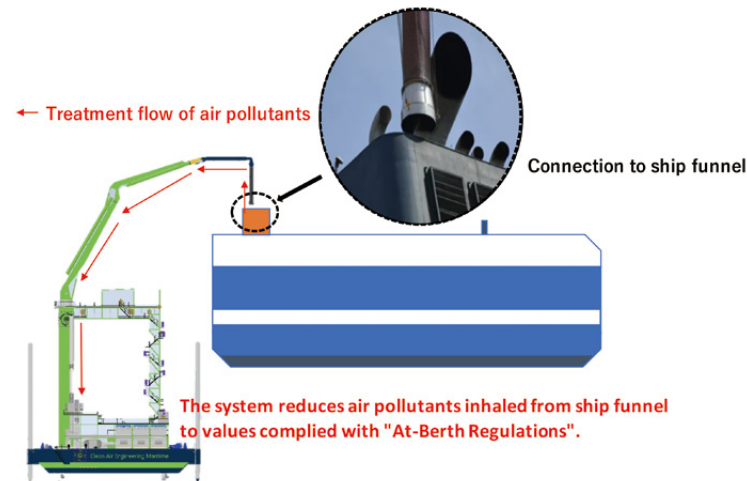
- In addition to complying with international regulations, we have voluntarily set a milestone for reducing air pollutants.
- We aim to achieve this by promoting the reduction of fuel consumption through efficient operations and by shifting to fuels with low sulfur content, such as LNG and ammonia.

## Natural Capital / Biodiversity

### Air pollution prevention initiatives in California

The state of California in the United States is taking an advanced approach to air pollution control, requiring the reduction of air pollutants (PM: diesel fine particles, NOx: nitrogen oxides, etc.) emitted during port docking. Regulations began for container ships in 2007, and automobile carrying ships will be added to the regulations in 2025.

MOL signed an agreement with Clean Air Engineering Maritime, a marine power generator exhaust treatment company, to develop a new treatment system that can reduce air pollutants emitted by automobile ships docked in port, including funding for its development, and to start commercial operation in 2025.



New treatment system for air pollutants

[MOL and CAEM signs a contract for development and use of new Marine Exhaust Treatment System for car carriers in California — Contributing air pollution control in California—](https://www.mol.co.jp/en/pr/2022/22060.html)  
<https://www.mol.co.jp/en/pr/2022/22060.html>

### Preservation of Marine Environments

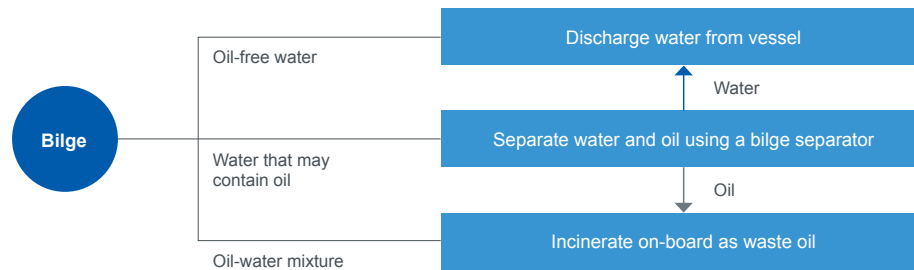
The double-hull structure is required for fuel tanks and tankers by international laws. The MOL group complies with the relevant treaties and laws.

- On a vessel, which is also a home for seafarers, the same type of garbage is generated as with land-based households, in addition to various waste products unique to ships such as loading and packing materials. On our operated vessels, based on the MARPOL Convention, we draw up on-board waste management plans requiring separation, collection, storage and disposal of on-board waste. Waste management officers supervise this process, and work to build thorough awareness of the plan among officers and crew members. Food waste and other biodegradable trash are ground into small particles and disposed of in specified areas of the open sea, and plastic waste is disposed of appropriately on land.
- Fuel oil for vessels contains many impurities. Water and other contaminants are extracted by pre-treatment before the fuel is used in engines and other equipment. Waste oil containing water and impurities from pre-treatment is heated in a special tank to remove water and then incinerated in conformity with environmental regulations.
- In a vessel's engine room, bilge water (waste water containing oil) is generated by leakage from seawater pipes and equipment and during maintenance work. We have introduced a bilge source separation system that categorizes bilge water in three stages according to the presence of oil, which is then collected and disposed of properly.

We are also undertaking a range of safety initiatives across the MOL Group to prevent environmental pollution from oil spills.

[Safety/Quality initiatives ▶ P. 23–31](#)

## Natural Capital / Biodiversity

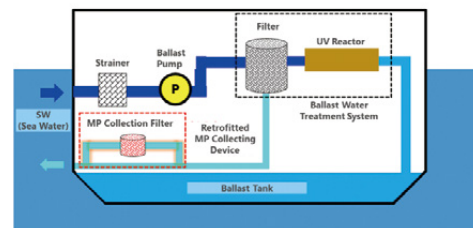


### Collection and investigation of marine microplastics (MP)\* and marine debris

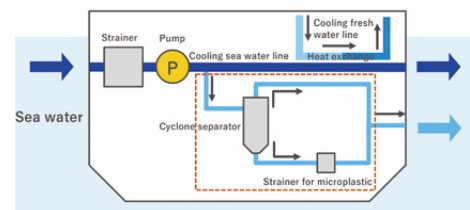
Marine plastic waste, generated every day all over the world, remains in the sea for an extended period of time, causing grave concerns about global-scale environmental pollution. MOL has jointly developed a MP collection device with Miura Co., Ltd., and completed installation on a total of 5 vessels since testing began in 2020. We have also developed a second-generation centrifugal-type MP collection device which can continuously collect MPs while a vessel is underway, was installed on the MOL-operated car carrier EMERALD ACE in 2022 for a demonstration test. In addition, the second-generation collection device has received Innovation Endorsement certification from Nippon Kaiji Kyokai (Class NK) in November 2023.

Looking ahead, we are considering the collaboration with universities and research institutes to identify the amount and types of MP collected during navigation, analyzing the distribution such as areas, properties of MP in the ocean.

\* Microplastic is 5mm or smaller micro-size plastic particles.



1st generation of MP collection device



2nd Generation of MP collection device

(1st generation device) Microplastic Collection Device to be Installed on Marusumi Paper's Newbuilding Wood Chip Carrier —Accelerating Ocean/Global Environmental Conservation Using Merchant Vessels—  
<https://www.mol.co.jp/en/pr/2021/21023.html>

(2nd generation device) Test Installation of New Microplastic Collection Device That Can Collect Microplastics Continuously While a Vessel is Underway—Protecting the Marine Environment in a Broad Range of Sea Areas by Collecting Microplastics—  
<https://www.mol.co.jp/en/pr/2022/22084.html>

(2nd generation device) 'HQ,' a New Onboard Microplastic Collection Device that Can Constantly Gather Microplastics while Underway, Earns ClassNK Innovation Endorsement  
<https://www.mol.co.jp/en/pr/2023/23145.html>

In addition, as a part of our marine environmental preservation efforts, we take various initiative including collection and research of marine debris.

Installation of Automated Marine Debris Collection Device at Hiroshima Municipal Pier —Contributing to Marine Environmental Conservation/Growth of Local Community—  
<https://www.mol.co.jp/en/pr/2022/22120.html>

MOL, Team Eco Trinity Successfully Convert Microplastics Collected from Seawater into Energy —Initiative on Marine Environmental Protection and Circular Economy—  
<https://www.mol.co.jp/en/pr/2021/21105.html>

MOL to Cooperate in JAMSTEC Marine Plastic Survey —Examining Japan-Palau Yacht Race Course—  
<https://www.mol.co.jp/en/pr/2019/19047.html>

MOL Unveils Marine Debris Collection Ship and Demonstrates Coastal Debris Collection Device on the coast of Bali, Indonesia —Promoting Marine Environmental Protection through Commercialization of Marine Debris Collection—  
<https://www.mol.co.jp/en/pr/2023/23023.html>

MOL Survey on Establishment of a Marine Debris Collection System by Marine Debris Collection Ships Selected for JICA Assistance Program —Contributing to a Preservation of Marine Environment—  
<https://www.mol.co.jp/en/pr/2022/22049.html>

## Natural Capital / Biodiversity



Seabin installed at Hiroshima Municipal Pier



The marine debris collection ship



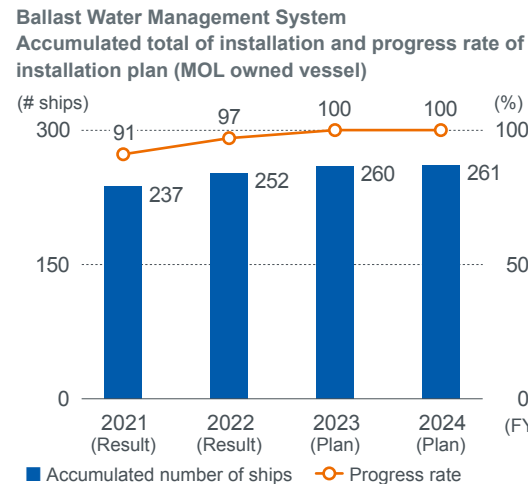
The coastal debris collection device (right) with a tractor

### Management of ballast water

Ballast water is seawater taken onboard a vessel to add weight and stabilize the hull. The water is taken on when discharging cargo from a vessel, and discharged overboard when loading cargo.

Ballast water carries marine organisms around the world and can have a negative impact on marine ecosystems and biodiversity, so Ballast Water Management Convention came into effect in September 2017, which requires installation of equipment to ensure appropriate treatment of ballast water.

We developed the ballast water treatment system in cooperation with manufacturers and other companies. In addition, we proceeded with preparations for installation starting in FY2014, ahead of the treaty taking effect. As of April 2023, we have installed the ballast water treatment system on 252 owned vessels.



### Ship recycling

Since ship recycling is a labor-intensive industry, management of hazardous substances, environmental impact, worker safety, and health management have emerged as international concerns. We will work on ship recycling as part of our value chain initiatives.

[Responsible procurement](#) ▶ P.112–115

### Mangrove Restoration / Conservation Project

MOL has participated in a blue carbon project in Indonesian mangrove restoration and conservation together with YL Forest Corporation (YLF).

Mangroves are the cradle of life that not only captures and stores CO<sub>2</sub>, but also protects the diversity of living organisms that live together with mangroves. It is also very important as an adaptation measure to climate change, protecting people's livelihoods from high waves.

Through this project, MOL aims to create a society in which people and nature coexist by supporting the improvement of the livelihoods of local residents by sustainable fishery and forest management through the introduction of silvofishing as well as mangrove restoration and conservation activities.

[Blue Carbon Project](#) ▶ P.33

### Daibiru's initiatives for ESG-friendly architecture

Daibiru Corporation is actively installing green spaces in its buildings. As a result of analyzing the contribution of green space on a wide scale for the Daibiru Main Building, Nakanoshima Daibiru, Shin Daibiru, and Tosabori Daibiru, we found that it contributes to the revitalization of ecosystems so as not to disrupt the network of green space for woodland birds such as the great tit.

We will work to stabilize its management by strengthening non-shipping business such as the real estate business, while at the same time promoting environmental strategies throughout our group.

## Natural Capital / Biodiversity

### [Shin-Daibiru Building Dojima-no-mori](#)

A green area of approximately 1,000 tsubo (about 33,000m<sup>2</sup>) has been developed using trees mainly of native species under the concept of “A friendly forest not only for people but also for other living things.” Through these efforts, the building became the first in Western Japan to earn the top “AAA” rating in the Japan Habitat Evaluation and Certification Program (JHEP).

In FY 2016 and FY 2020, biological monitoring surveys were conducted by external organizations to ascertain the degree of contribution to ecosystems. As a result, it was confirmed that a certain food chain was established in the forest of Dojima. For birds and insects, these habitats are valuable in urban areas and highly valued for their contribution to ecosystems.



### Initiatives in Mauritius

Since the 2020 oil spill incident by WAKASHIO, a vessel chartered by MOL, we have been carrying out activities to restore and conserve the environment in the Republic of Mauritius and to contribute to local communities.

We will continue to support long-term environmental conservation activities and the development of local communities through the two funds established for the purpose of supporting the resolution of societal issues.

 [Support for the Republic of Mauritius ▶ P.82](#)

 [See the “MOL For Mauritius” website for further details.](#)  
<https://www.mol.co.jp/en/formauritius/>



# Human & Community

Contributing to the growth and development of people and communities



## Core Objective

MOL aims to achieve successful coexistence among everyone involved in the MOL Group businesses and the sustainable growth and development of communities through its activities as a corporate group that respects diverse personalities and that can maximize the capabilities of every employee.

## Contributing to SDGs:



### Initiative Focus

Diversity, Equity & Inclusion

Mutually Empowered

Highly Engaged

Growing Together with Local Communities

### Targets / KPIs

#### ● Targets

- Realize a work environment in which diverse human capital can play active roles

#### ▶ Numerical Targets

- Percentage of female employees in managerial positions (Office workers, non-consolidated) **15%** (FY2025 targets)
- Percentage of MOL Group Key Positions (MGKP) \*1 tenured employees (FY2025 targets)
  - Female **8%**
  - Percentage of employees not from Head Office **30%**
  - Under 40s **15%**

#### ● KPIs

- Percentage of female employees in managerial positions (Office workers, non-consolidated)
- Percentage of MGKP tenured employees (female, employees not from head office, under 40s)

#### ● Targets

- Establish an environment for "Mutually Empowered" to maximize individual and group-wide organizational capabilities

#### ▶ Numerical Targets

- Implementation rate of opportunities for dialogue (communication) to realize and implement the Group's Mission/Vision/Values (MVV) **100%** (FY2025 targets)
- Number of transfers due to open recruitment More than **50** cases (FY2025 targets)\*2

#### ● KPIs

- Implementation rate of opportunities for dialogue (communication) to realize and implement the Group's MVV
- Number of transfers due to open recruitment

#### ● Targets

- Realize a group in which employees can feel the significance and peace of mind of working for the company on a daily basis

#### ▶ Numerical Targets

- Engagement Survey (ES) Response Rate More than **90%** (FY2025 targets)
- Percentage of organizations that improved their KPI score for "Engagement" in ES results More than **70%** (FY2025 targets)

#### ● KPIs

- ES Response Rate
- Percentage of organizations that improved their KPI score for "Engagement" in ES results

#### ● Targets

- Expand activities that contribute to the growth and development of people and communities involved in our business

#### ● KPIs

- Results of corporate citizenship activities
- Progress of activities benefiting local communities in Mauritius

### Fiscal 2023–2025 Action Plans

- Implement human capital acquisition and allocation
- Implement measures to realize "the right person in the right position"
- Implement technology-based talent management
- Support for self-directed career development
- Implement measures to realize high-level engagement of MOL Group employees
- Enhance functions of sections handling of human resources in MOL Group
- Enhancement of "attractiveness" to attract marine engineers

- Corporate citizenship activities
  - Build relationships with NGOs and NPOs
  - Strengthen cooperation with group companies and expand initiatives
  - Expand training programs and systems to raise employees' awareness of social issues
  - Strengthen activities that contribute to human capital development through maritime education, etc.
- Community contribution activities in Mauritius
  - Establish relationships with NGOs, NPOs, academic institutions, etc. through two funds
  - Revitalize communities by networking among grant recipients
    - Mangrove conservation, support for local industries, promotion of education, empowerment of women, etc.
  - Visualize activity results through social impact evaluation

\*1 General Managers in MOL head office (GMs), and positions in all the MOL GROUP companies, of which function and responsibility are designated to be equivalent to those of GM (irrespective of whether in Japan or overseas)

\*2 Cumulative total for 3 years

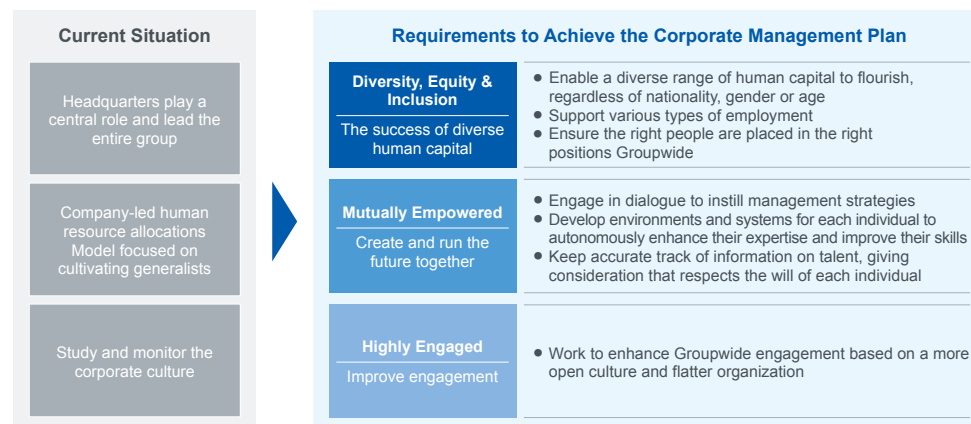
## Human Resources Strategy

### HC Vision

In line with our BLUE ACTION 2035 corporate management plan, we have formulated our basic approach to the Group's human resources policies under the theme of "All on Board, Success through Growth," which we have then announced as the MOL Group Human Capital (HC) Vision. BLUE ACTION 2035 depicts the Group's efforts to achieve new growth through the expansion of the fields in which it operates as a sea-based social infrastructure business. We recognize that to this end, it is essential that we transform our Human Resources system, which is focused on generalists hired by the Group headquarters, overcome barriers, including the traditional organization and region, and that we build an environment in which diverse human resources can play an active role throughout the Group. In HC Vision, we set out the three basic principles of our human resources policies: Diversity, Equity & Inclusion, Mutually Empowered, and Highly Engaged, which are in line with the BLUE ACTION 2035. After having a better understanding of the gap between the current reality and what we aspire to be, we will set our targets and then monitor and disclose externally the progress of our initiatives toward achieving the targets.

### HC Vision

[https://www.mol.co.jp/en/pr/2023/img/230421e.pdf?\\_\\_hstc=222471108.3883d7a20749dd19452baad311e121f9.1700483721827.1701250697292.1701253562816.3&\\_\\_hssc=222471108.1.1701253562816&\\_\\_hsfp=4220395351](https://www.mol.co.jp/en/pr/2023/img/230421e.pdf?__hstc=222471108.3883d7a20749dd19452baad311e121f9.1700483721827.1701250697292.1701253562816.3&__hssc=222471108.1.1701253562816&__hsfp=4220395351)



### HC Action 1.0 / Targets to achieve by the end of FY2025

Looking ahead to FY2035, the target year of BLUE ACTION 2035, HC Action 1.0, which is the action plan of HC Vision, consolidates the priority human resources measures and their targets for the years FY2023 through FY2025. Specifically, we are aiming to develop and strengthen our basic systems relating to human resources, including establishing a skill matrix, which is a Group-wide set of criteria for measuring the capabilities of human resources, establishing and building a database of evaluation methods, setting definitions of job positions and implementing uniform appointments, and strengthening the capabilities of divisions managing human capital in line with the three basic principles of HC Vision.

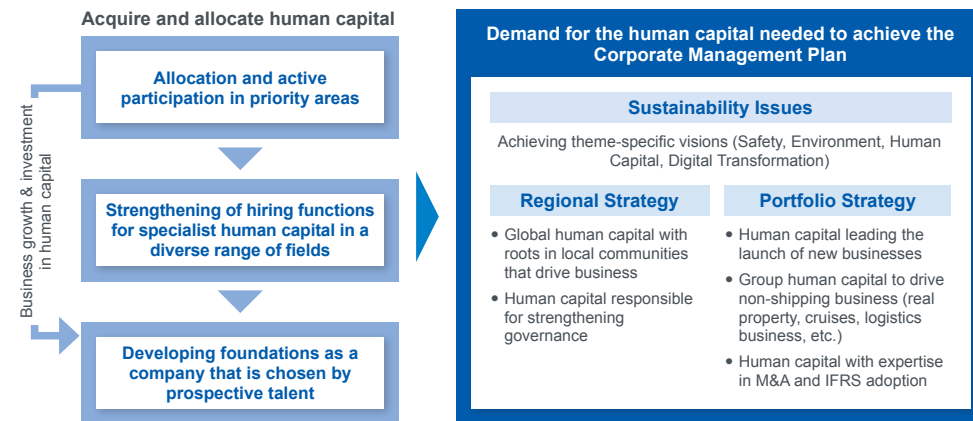
At the same time, we are also aiming to offer up new role models. We have already incorporated elements of an open-type system for making submissions into our corporate venturing program for suggesting new business ideas. Added to this, we intend to introduce a full-fledged open job application system for positions within the Group. In June of this year, we conducted a trial of the open job application system in three departments at the Group headquarters. Measures based on HC Action 1.0 are initiatives that aim to transform the Group into a corporate group that appeals to a wide range of human resources as a place in which they can play an active role. The Group regularly reviews the effectiveness of these measures via the results of engagement surveys and updates the details of the measures, as necessary.



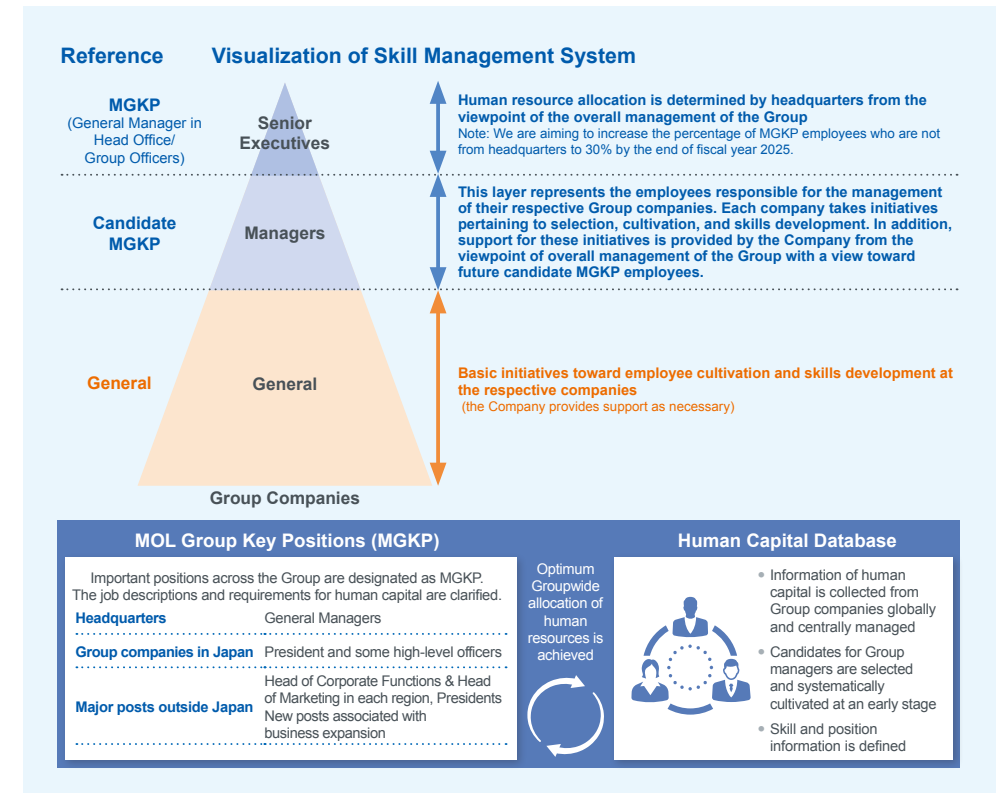
## Human Resources Strategy

### “Implementation of human capital acquisition and allocation” and “achieving the right people in the right place”

In HC Action 1.0, we have set out “Implementation of human capital acquisition and allocation” and “achieving the right people in the right place” as priority measures. Thus far, headquarters have led the entire Group. However, as we move toward a transition in our business portfolio in accordance with BLUE ACTION 2035, it will be important from here on out that we identify the necessary positions and the duties of such positions for the entire Group and realize the placement of the right people in the right places.



To this end, we will establish a skill matrix as a Group-wide set of criteria for measuring the capabilities of human resources. The skill matrix will set out the skills required of employees to work in the Group, and it will comprise the following three elements required for the respective position types: specialization, management skills, and mindset. We believe that this is a necessary measure if we are to promote integration on the human resources front through M&A-driven business expansion, which we expect to achieve moving forward. On the basis of this skill matrix, we will clarify definitions for job requirements for major MOL Group Key Positions (MGKP) that drive business execution across the Group, and evaluate the skills of candidate human resources, aiming to promote human resources regardless of the number of years of service or the departments to which they belong.



### Implementing talent management using technology

Furthermore, we intend to introduce a talent management system with a human resources database in this fiscal year that will enable us to better visualize the skills and experience of our employees. With this, we aim to identify and pool MGKP candidates as well as formulate training plans, including skills development and selection of junior employees bound for management positions at an early stage, while also enabling us to be more flexible in how we respond to human resource issues as we move to transform our portfolio. With regards to post-recruitment handling of employees, we will make revisions to the relevant systems, starting with those at the Group headquarters, as we seek to improve the appeal of the Group.

## Human Resources Strategy

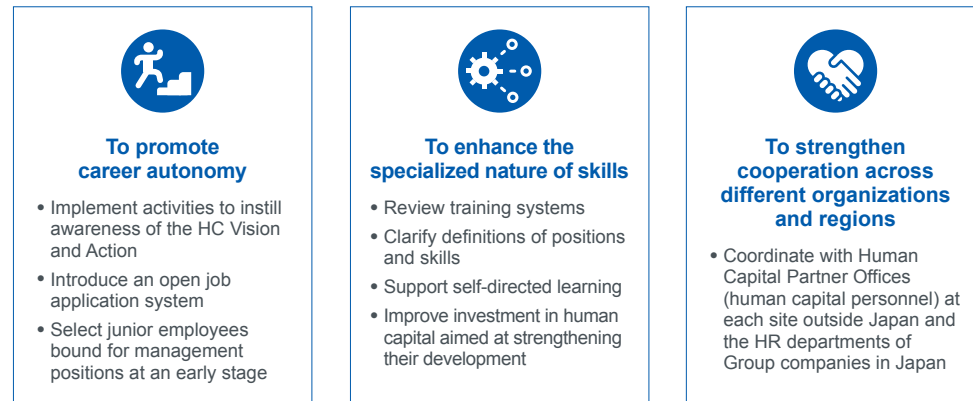
### Autonomous career development support

Under the Portfolio Strategy, Regional Strategy and Environmental Strategy—the three core strategies in our BLUE ACTION 2035 corporate management plan—we are undertaking a structural transformation of the business. This will require autonomous reform and growth from every employee and part of the organization, regardless of past habits, successes and any regional or organizational constraints.

In trying to realize this vision, we recognize the importance of giving career autonomy to individual employees and supporting the transition via Group-wide communication.

Following trials conducted in FY2023 with internal volunteers, we plan to initiate the full-scale implementation of the system in FY2024. One aim of utilizing the internal recruitment process was to enable sharing of information about skills in demand and potential career paths.

By reforming the Group's centralized HR and training systems, another key aim is to support greater individual career autonomy and strengthen the organization.

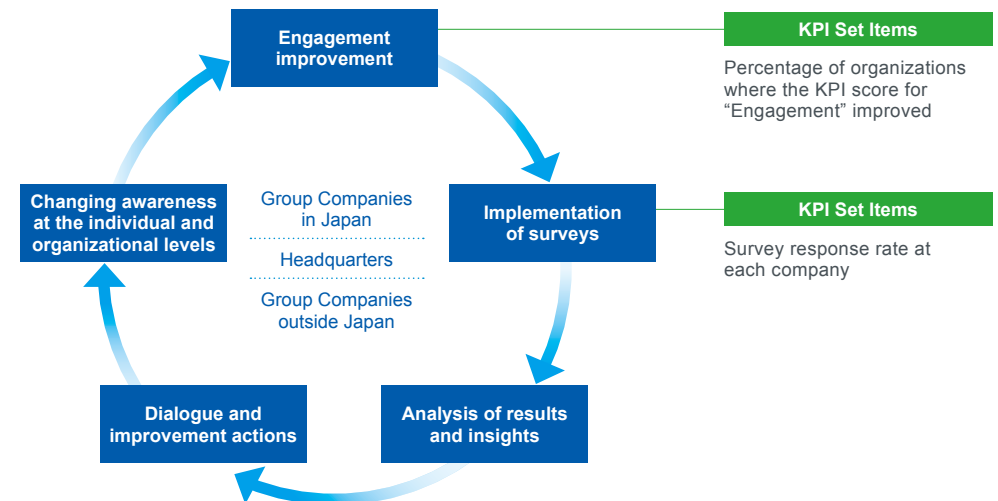


### Improving employee engagement

The third basic principle of the HC Vision is for employees to be “Highly Engaged” in their work. While engagement is largely made up of subjective elements, we began conducting engagement surveys across the Group in FY2022 to help visualize the concept and to support improvements. The surveys introduced at MOL HQ and Group companies in Japan in FY2022 are being expanded to overseas Group companies from FY2023.

We aim to share the survey results with the relevant part of the Group, discuss related insights, and then develop specific plans to change awareness at both the individual and organizational levels. Results from the first set of surveys conducted in FY2022 are leading to concrete discussions and initiatives to improve engagement.

Going forward, by holding regular annual engagement surveys, we plan to measure the degree of engagement while seeking to establish an action cycle to realize ongoing improvements.



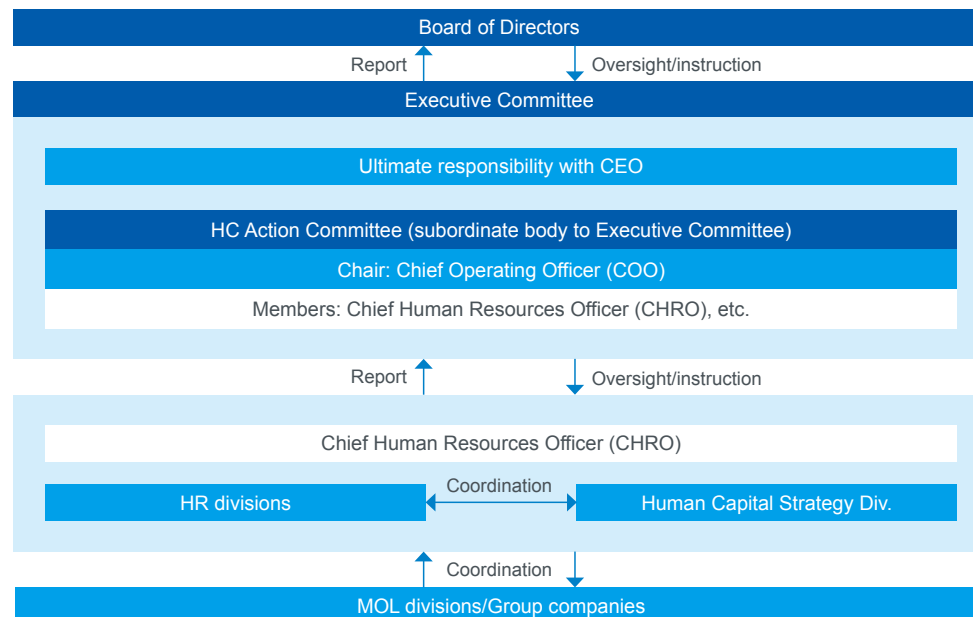
## Human Resources Strategy

### Strengthening the capabilities of divisions managing human capital

In January 2023, we created the Human Capital Strategy Division as a dedicated unit to assist the Chief Human Resources Officer (CHRO) and to be responsible for formulating HC Action 1.0 and overseeing related implementation plans.

Coordinating with the Headquarters HR Division and other HR divisions across the MOL Group worldwide, the Human Capital Strategy Division has been tasked with strengthening governance systems from a Group-wide human capital perspective; improving our ability to deal with emerging issues such as our response to M&A; and supporting the functional reinforcement of divisions managing human capital.

In October 2023, we also established the HC Action Committee, which is modeled along the lines of the Workstyle Reforms Committee. Working below the HQ-based Executive Committee, this committee is discussing how to implement HC Action 1.0 by reforming the HR systems at MOL HQ.

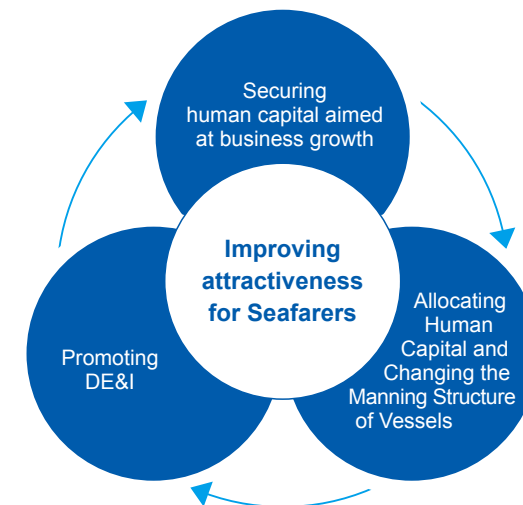


### Enhancing “attractiveness” for seafarers

As a social infrastructure enterprise with its origins in the sea, a key to growth for the MOL Group is to expand opportunities for knowledgeable and experienced seafarers to be successful worldwide. Under BLUE ACTION 2035, we will expand our LNG carrier fleet based on our environmental strategy while assuming the challenge of expanding non-maritime freight businesses such as offshore operations and cruises.

Meeting these challenging goals will mean making the MOL Group an attractive and vibrant place to work for a diverse range of seafarers from around the world.

Going forward, under HC Action 1.0, we will focus on initiatives aimed at offering career models applicable to work at sea or on land, in Japan or overseas, as well as supporting work patterns that respect the lifestyles of individuals.





# Promotion of Diversity, Equity and Inclusion

## Approach

The MOL Group views diversity as encompassing not only such superficial attributes as gender, nationality, and age but also each individual's inner characteristics, including experience, natural aptitudes, skills, and values.

In April 2021, MOL Group established a new basic policy, which was later revised in Aug 2023 as the "Diversity, Equity and Inclusion Basic Policy." This basic policy clarifies our group's policy on "diversity, equity & inclusion," one of the basic principles of the Human Capital Vision, which is the basic principles of the group's human resources policy in the future. This "Diversity, Equity and Inclusion Basic Policy" is central to our human resources strategy, and we move forward a framework that can combine the diverse individual abilities of every Group employee all over the world to create new values.

### Basic Policy on Diversity, Equity and Inclusion

The MOL Group will create new value by combining the diverse individuality and capabilities of our groupwide Human Capital, all over the world, and ensure sustainable enhancement of corporate value. We position diversity, equity and inclusion as driving force of new growth, and will implement the following initiatives:

- Provide opportunities for diverse range of human capital to get together and grow, and enable every one of them to bring out the best of their abilities.
- Foster a corporate culture that enables them to express their diverse individuality, sense of value, and points of view, freely and openly.
- Flexibly establish a human resource system and workplace environment that can leverage the diversity of the group.

Established in April 2021  
Revised in August 2023

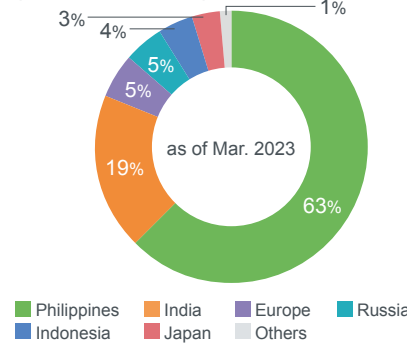
## Initiatives

### Activities of Global Human Capital

The MOL group, which develops businesses globally, has employees of various nationalities. We have worked to develop an environment that will increase our group-wide comprehensive strength and allow multi-national, diversified personnel including women to play more active roles.

At the Head Office cafeteria, in consideration of employees of different ethnicities, cultures, and religions, the menu features icons designating the content of fish and meat products used (including seasoning extracts), and a vegetarian menu is available. We will continue to deepen our efforts to provide a place where a diverse range of employees can interact with each other and to create a workplace where everyone can work comfortably.

Nationality Ratio of Seafarers (MOL owned vessel)




### Promoting more active roles for women in the workplace

More active roles for female employees are indispensable to promote diversity and inclusion. The group takes a proactive stance in various initiatives such as enhancing systems needed during different life stages such as childcare support, extensive support for career development, training programs for build awareness at managerial levels, and dialogues to support the MOL Group's women in networking and career development.

## Promotion of Diversity, Equity and Inclusion

### [Action Plan Based on “Act on Promotion of Women’s Participation and Advancement in the Workplace”](#)

The MOL Group promotes more active roles for women in the workplace in compliance with an action plan based on the Act on Promotion of Women’s Participation and Advancement in the Workplace, which was established at the end of March 2021.

 [MOL Establishes Action Plan Based on ‘Act on Promotion of Women’s Participation and Advancement in the Workplace’](https://www.mol.co.jp/en/sustainability/human/diversity/img/woman-action-plan.pdf)  
<https://www.mol.co.jp/en/sustainability/human/diversity/img/woman-action-plan.pdf>

### [Percentage of Women in Managerial Positions](#)

MOL sets a goal of percentage of women in managerial positions as follows with an action plan based on the Act on Promotion of Women’s Participation and Advancement in the Workplace.

Goals by end-FY2025:


1. Increase the percentage of women employees in managerial positions both on land and at sea to 7% or higher.
2. Increase the percentage of land-based women employees in managerial positions to 10% or higher. \*
3. Increase the percentage of land-based women employees (equivalent to team leaders) in leadership positions to 20% or higher.

\* The HC Vision/Action1.0, which was formulated in April 2023, sets a new goal of achieving the goal by the end of FY2025: Percentage of female employees in managerial positions (Office workers, non-consolidated) will be 15%

 [Details about FY2025 goals under HC Action 1.0 plan ▶ P.59](#)

### [Action Plan based on ‘Act on Advancement of Measures to Support Raising Next-Generation Children’](#)

MOL helps all employees achieve work-life harmony, demonstrate their maximum enthusiasm and vitality to perform at their full potential, and gain fulfillment from their work in compliance with an action plan based on ‘Act on Advancement of Measures to Support Raising Next-Generation Children,’ which was established in the end of March 2023.

See ( [P.16 and P.18](#)) for details of MOL’s involvement in a range of initiatives to empower women in the workplace and related external recognition.

 [Action Plan based on ‘Act on Advancement of Measures to Support Raising Next-Generation Children’](https://www.mol.co.jp/en/sustainability/human/diversity/img/next-generation-action-plan.pdf)  
<https://www.mol.co.jp/en/sustainability/human/diversity/img/next-generation-action-plan.pdf>

### [Recruitment of athletes](#)

To promote the development of an environment where diverse employees play active roles, MOL recruited an athlete for the first time in 2016, Kae Kurahashi, a wheelchair rugby player. She balances work and athletic activities.

As One MOL, MOL Group executives and employees support Kurahashi, who participates in games in Japan and overseas, and played a tremendous role in the wheelchair rugby World Championship in August 2018.

Wheelchair rugby is a sport that can maximize the team’s strength with all the players demonstrating their ability to perform, depending on the degree of disability, and playing their own roles. It is an ideal sport to embody diversity.

MOL is an official supporter of the wheelchair rugby team AXE. It serves as an official partner of the Japan Wheelchair Rugby Federation, and supports wheelchair rugby through co-sponsorship of the World Wheelchair Rugby Challenge 2019. MOL continues to promote the growth of wheelchair rugby and works to develop an environment that celebrates the diversity of employees inside and outside the company.



**Kae Kurahashi**

Career and Wellness Team  
Human Capital Management Division

## Promotion of Diversity, Equity and Inclusion

### Employment of disabled workers

MOL leased part of the “Work Happiness Farm: Saitama Koshigaya Farm\*” in Koshigaya-shi, Saitama Prefecture, and started operation of its own “MOL RAISE” program in April 2021. Harvested vegetables are used in lunch menus at the employee canteen in the Head Office, helping to maintain and enhance the health of employees.

MOL believes that indoor vegetable farming is one of the workplaces where every disabled employee can move toward achieving their full potential. We hope we can help them take a step into participation in society and enjoy rewarding lives as members of the local community through their work at “MOL RAISE.”

\* A rental farm for companies, established in Koshigaya-shi, Saitama Prefecture, by S. Pool, Inc. (Headquarters: Tokyo), which supports the employment of disabled persons. The second plantation was also leased in December 2022.



Working on the farm



MOL President & CEO Takeshi Hashimoto listens to a demonstration.



MOL Chairman Junichiro Ikeda experiences harvesting firsthand.

### Personnel System Allowing for Diverse Workstyles

The MOL Group has developed support measures to keep up with life events, to help all employees to maximize their skills even as their life stages change due to marriage, childbirth, childcare, and so on.

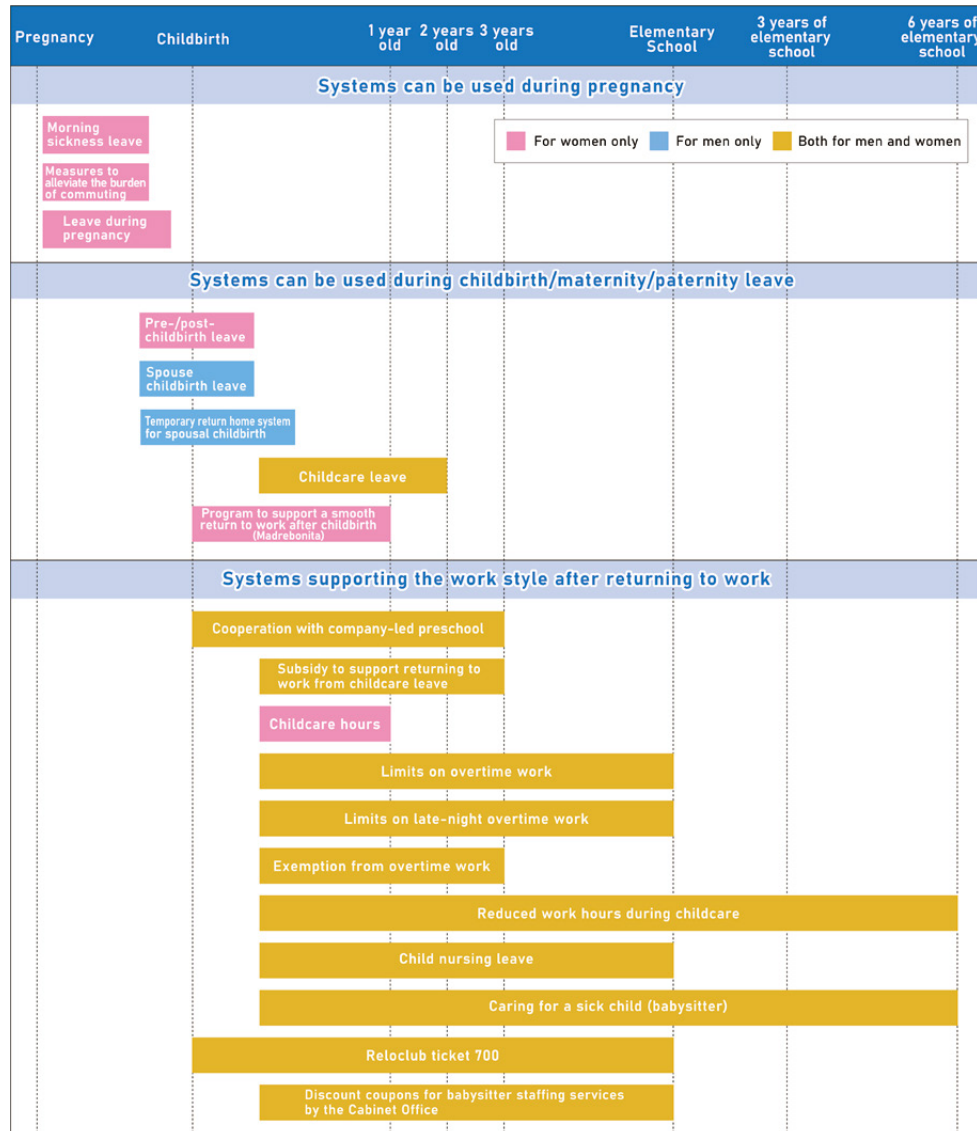
Item	Program	Details
Systems available during pregnancy	Morning sickness leave ★	10 working days; 5 working days paid leave.
	Commuting Relief Measures ★	During periods of morning sickness, staggered arrival and departure times of one hour per day are allowed.
	Prenatal care leave ★	One working day of paid leave each month, separate from morning sickness leave.
Maternity and childcare leave-related systems	Leave before and after childbirth ★	8 weeks before and 8 weeks after childbirth. 6 weeks before and after childbirth is paid. * By law, maternity leave can be taken starting 6 weeks before the expected date of childbirth.
	Spousal maternity leave ☆	3 working days (with pay) can be taken when a spouse gives birth.
	Temporary return home system for spousal childbirth ☆	Subsidy for temporary return home expenses up to 15 days of stay for a spouse who gives birth in Japan while working overseas.
	Childcare leave ★	Until the day before the child's second birthday. * By law, childcare leave can be taken until the age of 1 year old.
	Postpartum return to work support program courses ☆	Provides financial assistance for “postpartum care classes” and services for “prenatal and postpartum online self-care classes.”
Post-return to work support	Cooperation with company-led nursery schools ☆	Priority admission to company-led nursery schools operated by “ten” company.
	Childcare leave reinstatement support subsidy ☆	Those returning to work who use a non-licensed daycare center will receive ¥20,000 per month per family per child until the end of the following March.
	Nursing hours	When a child under one year of age is cared for, 60 minutes/day of paid childcare time is granted.
	Child nursing care leave	Until the child reaches the beginning of elementary school.
	Overtime work limitations	Those who care for a child in the sixth grade of elementary school or younger can limit overtime work to 20 hours/month, or 44 hours/month and 390 hours/year upon request.
	Limitations on late-night overtime work	While taking care of a preschool child, an exemption from late-night overtime (10 p.m. to 5 a.m.) is available upon request.
	Overtime work exemption	Those who are raising a child under 3 years of age are eligible for an exemption from overtime work upon request.
	Reduced working hours for childcare ★	Those who care for a child in the sixth grade of elementary school or younger can reduce daily working hours to 6 hours.
	Sick child care (babysitting) ☆	Babysitter staffing for sick child care is available at a corporate member price. A portion of the fee is also subsidized.
	Relo Club ticket 700 ☆	Subsidy of ¥700/hour for babysitting fees and use of childcare facilities for preschool children.
Workstyle-related systems	Discount coupons for babysitter staffing services by the Cabinet Office ☆	A discount of ¥2,200 per child is available.
	Flextime system ☆	Start/end hours are between 5:00 a.m. and 10:00 p.m.
	Telecommuting system ☆	In principle, available up to 10 days per month.
	Re-employment system for retirees whose spouses are transferred out of the country ☆	Reemployment opportunity within 4 years after resignation due to accompanying spouse on overseas assignment
	Volunteer leave ☆	5 working days available for eligible volunteer activities.
	Nursing care leave system ★	Can be taken for up to two years for the same caregiver.
	Reduced working hours for nursing care ☆	Eligible employees can reduce daily working hours to 6 hours.
Systems for women's health issues	Gynecological health clinic	Breast cancer, uterine cancer, and bone density testing available at no out-of-pocket cost.
	Menstrual leave ★	Paid on one day a month.
	Birth support leave ☆	Allows forfeited annual leave from the previous three years to be used for infertility treatment leave.
	Training programs on women's health issues ☆	Improve health literacy through lectures on women's health issues and health seminars by outside speakers

★ Programs/systems that exceed legal requirements ☆ MOL's original programs/systems

\* It is unpaid during childcare leave, but the childcare leave benefits are paid by the employment insurance.

## Promotion of Diversity, Equity and Inclusion

### ○ Various systems to support work and childcare balance



### ○ Other systems related to women's health issues

- Gynecology checkup (breast cancer, uterine cancer, bone density test): Employees can have a medical exam at no cost.
- Menstrual leave: Employees are eligible for leave in case of difficulty working during their menstrual periods.
- Training program related to women's health issues: MOL seeks to improve health literacy by providing lectures related to women's health by a public health nurse from the medical office and holding health seminars featuring outside lecturers.

Related examples: see Social Data ▶ P.137

### Seminars/training programs

#### ○ MOL Group initiatives

- MOL Group Women's HOT dialogue
- Joint corporate events for International Women's Day

Details of events

<https://www.mol.co.jp/en/sustainability/human/diversity/>

#### ○ Diversity Promotion Lecture/Training Program

We conduct the following training programs targeting each level of employee. We also send some female employees on external support training programs.

- "Relationships among diverse personnel, their active roles, and results of business performance/Training program to encourage understanding of the importance of a workplace where diverse personnel can play active roles"
- "Training program about understanding diverse attributes of employees, how to ensure smooth communication"
- "Training program to promote understanding of inhouse systems related to childcare/nursing"
- "Evaluation and development of employees with diverse traits"
- "Unconscious bias training program"
- "Promoting understanding of human rights and LGBT"



# Mutually Empowered

## Human Capital Development

### Initiatives

#### Career Path and OJT

- Trainer system** (targeting new graduates)

A senior employee serves as a trainer of a new employee for a year, starting with their entry to the company, helping them work. The senior employee teaches the new employee about behavior as a working adult and actual job roles, in order to help the individual grow. By setting a phased target for a year and having regularly interviews, they also share their own current status and issues at every stage among related parties.

- Mentor system** (targeting mid-career recruitment)

MOL introduced the mentor system as an initiative to encourage active roles for diverse personnel. To provide support beyond mentees' job roles, employees are teamed with mentors from different teams of the company and practice one-on-one dialogue. Through periodic dialogue with mentors, mid-career employees gain opportunities to stand still periodically to look back on their progress, consult with mentors about problems, and get help in developing networks and personal connections.

- Job rotation** (targeting new employees)

New employees will experience at least three different job roles\* in the first 10 years after joining the company, allowing themselves and others to recognize their individual aptitudes and leading to careers after that. This also helps them a broad range of experience and in turn develop wide viewpoints and multifaceted perspectives.

\* We believe it is beneficial for employees in land-based jobs to spend 10 years experiencing work in both business divisions and corporate divisions. Seagoing employees board various types of ships and experience land-based jobs for two of the 10 years. We intend for employees at sea to utilize their understanding of land-based jobs and gain a comprehensive perspective informed by experience of both facets of MOL business operations.

#### Training system

We set training goals according to the stage of personnel training.

At every stage, we present training programs for selected employees with elective courses tailored to their individual characteristics, roles, and aspirations, as well as compulsory programs.

	Compulsory	Elective	For selected employees
<b>Managerial</b>	<ul style="list-style-type: none"> <li>Organizational management skills</li> </ul>	<ul style="list-style-type: none"> <li>Operational capabilities</li> <li>Strengthening ICT</li> <li>Enhancing the driving forces of reform</li> <li>Enhancing international adaptability</li> </ul>	<ul style="list-style-type: none"> <li>Training of management and leaders</li> </ul>
<b>Mid-career</b>	<ul style="list-style-type: none"> <li>Training to foster safety culture</li> <li>Compliance/Human rights enlightenment/Harassment/Diversity/Internal control</li> <li>OJT/New employee education (for supervisors)</li> <li>Coaching training/Leadership training</li> <li>Training for evaluators</li> </ul>	<ul style="list-style-type: none"> <li>Reading English contract documents</li> <li>"Thinking technique/Writing technique" course</li> <li>Project management/Facilitation/Presentation training</li> <li>Correspondence education courses/Online learning "Udemy"</li> <li>ICT literacy/PC skill enhancement</li> <li>Data analysis/Data utilization/BI tool</li> <li>New business planning</li> <li>Creative leadership</li> <li>Overseas assignment management skill enhancement</li> <li>Chinese language course</li> </ul>	<ul style="list-style-type: none"> <li>Global Management College</li> <li>Management school</li> <li>Overseas short-term/long-term training/Overseas practical training</li> </ul>
<b>New</b>	<ul style="list-style-type: none"> <li>OJT/New employee education (for trainers)</li> <li>Management basic course</li> <li>Training for those being evaluated</li> </ul>	<ul style="list-style-type: none"> <li>Onboard training</li> <li>"Understand and enjoy accounting"</li> </ul>	<ul style="list-style-type: none"> <li>Cross-industrial exchange strategy planning</li> </ul>

See Social Data (P.137) for training costs and average days in training per employee



## Mutually Empowered

### [Personnel System/Evaluation System](#)

To promote its sustainable growth, MOL strives to develop personnel who are “committed to acting with a sense of ownership and creating new values\*,” and can play active roles in today’s global market.

We will benefit employees by enhancing personal development and job satisfaction, and society at large, by making the most of a personnel system that fosters individual career development. Specifically, we will implement a personnel system with the following two characteristics.

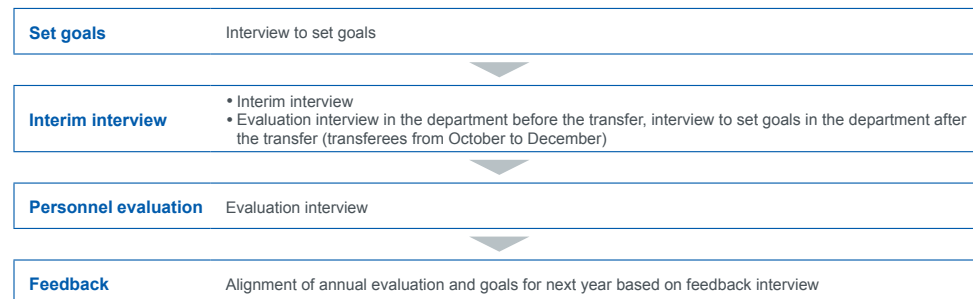
\* “Highly capable individuals who have a sense of ownership” are the personnel who can always find a solution, embody a sense of ownership even when facing a challenge, and follow through on problem solving, working in close cooperation with everyone involved.

#### (1) Evaluation system (early development of leaders; fairness)

- A variety of evaluations to open paths toward leadership regard-less of age
- Disseminate the personnel appraisal guidebook to make the rules transparent to employees
- Enhance fairness by thorough communication with managers including feedback more than 4–5 times a year, to encourage individual employees to steadily achieve each goal and reward their success.

#### (2) Double-tracking career path

- Those in non-managerial positions can choose either the managerial track or regionally limited track according to their goals and life stage.
- Those in managerial positions can choose either a career track aiming at developing the next generation of leaders or specialists with the in-depth job knowledge and abilities required of professional in a specific field.



\* MOL has adopted a system that not only enhances fairness through thorough interviews between employees and evaluators, but also provides support and guidance in establishing medium- to long-term career goals and career plans.

### Training programs for selected employees

We hold training programs for selected employees to foster broad, high-level perspectives and hone skills, in a conscious effort to realize our vision for developing next-generation managers and leaders.

#### [One MOL Group Management College \(MGMC\)](#)

MOL launched MGMC in FY2014 to improve diversity management skills in our cross-cultural working environment and cultivate the next-generation of “One MOL global executives,” and made it an annual program.

Participants from all over the world are invited to Japan. They not only learn strategic thinking, organizational management, and leadership in today’s global business environment, but also review their own careers from the standpoint of “MOL CHARTS.” In addition, they form teams of several members each to research and deliberate group-wide issues and determine how to move forward. On the final day, they present their ideas to MOL top executives. In follow-up surveys and questionnaires, participants express high praise for the program and great satisfaction with the results.

#### No. of MGMC participants

	FY2020	FY2021	FY2022	FY2014–cumulative total
Alumni follow-up session was held online (43 employees)		14	8	127

## Mutually Empowered



Spirited debate among team members



Presentations on the final day

### [One MOL Management School](#)

The school was opened in 2010 with the goal of cultivating next-generation management professionals who are sensitive to trends of global society and conscious of overall optimization from mid-to-long-term viewpoints, and was revamped in 2021.

In FY2022, trainees envisioned what they want to realize under the Corporate Mission and Vision as a person responsible for management of MOL and the MOL Group. On the final day of the six-month program, students made proposals to management about ways to enhance the allocation of management resources.

In fact, some of these proposals have been implemented and commercialized.

#### No. of management school participants

	FY2020	FY2021	FY2022	FY2014–cumulative total
Canceled due to COVID-19 pandemic		9	9	117

# Highly Engaged

## Engagement Survey

### ● Initiatives

Our group has conducted the “corporate culture assessments” since 2014 for organizational development purposes. In 2022, we introduced the “Engagement Survey” because the engagement of each employee has become more important than ever in improving organizational strength due to the diversification of work styles and the diversity of the members who make up the workplace. The survey enables all participants to view results simultaneously and in a timely manner, enabling them to take action quickly to improve each employee’s engagement and organizational strength.

In addition, the frequency of implementation is once a year in the “Engagement Survey” instead of every other year in the “corporate culture assessments,” and pulse surveys are conducted every 3–4 months to confirm the progress of organizational development. Surveys are conducted simultaneously throughout our group.

The “findings” from the survey results are shared by everyone through dialogue within the organization. This will lead to improvements in organizational strengths and changes in personal consciousness and behavior in each organization. Also, for common issues within our group, initiatives are led by the head office. By doing these, we aim to improve the engagement of each and every one of our group employee, and to improve the organizational strength by establishing this action cycle.

### Overview/Results

Frequency: Once a year (December every year)

Note: In addition, pulse surveys are conducted two to three times a year.

Target: Employees working in MOL and employees working in MOL Group companies in Japan and overseas (Overseas group companies are scheduled to start the survey in FY2023.)

Method: Online questionnaire style (Five-point rating scale answers)

Note: Including questions on job satisfaction, sense of purpose, and happiness through work etc.

### ● Corporate Culture Assessment

Item	2018	2019	2020	2021
No. of employees responding (working in MOL Head Office) (persons)	–	720	–	762
No. of employees responding (working in MOL Group companies) (persons)	2,505	–	2,237	–
Response rate	84%	84%	92%	87%

### ● Engagement Survey

Item	2022
No. of employees responding (working in MOL) (persons)	1,482
No. of employees responding (working in MOL Group companies) (persons)	2,466
Response rate	81%

### ● Results of “job satisfaction” and targets for next year’s assessment

#### Question: You feel “satisfied” in your job

Average rating*	2018	2019	2020	2021
Employees working in MOL Head Office	–	3.57	–	3.61
Employees working in MOL Group companies	3.44	–	3.46	–

\* The average rating is calculated with “Strongly agree” = 5 points, “Agree” = 4 points, “Neutral” = 3 points, “Disagree” = 2 points, “Strongly disagree” = 1 point, and the population parameter as the number of employees who answered, excluding those who answered, “I don’t know.”

## Highly Engaged

### Workstyle Reforms

#### ● Initiatives

Since establishing the Workstyle Reforms Committee in 2016, we have implemented various measures and initiatives focusing on the four key areas of corporate culture, personnel systems, improving productivity, and workplace.

#### Personnel System

- Implement “Smart-biz” \*
- Introduce remote work system
- Encourage male employees to take childcare leave
- Implement breakfast campaign
- Introduce new personnel system that enables early development of leaders and double-track career path

#### Corporate Culture

- Implement various “HOT Dialogue” sessions, such as between the president & CEO and a division, and among GMs
- Assist internal meetings across units
- Hold “One MOL Seminar,” which introduces group-wide best practices
- Implement no overtime work days, when all employees leave work on time

#### Workplace

- Placed lounges in spaces opened up by reducing/reorganizing paper documents.
- Introduced a free-address pilot office in May 2019, and assessed the effectiveness of the office.

#### Improvement of Productivity

- Establish rules for internal meetings
- Automate operations by introducing Robotic Process Automation (RPA)
- Implement “Paper Off! Project” with the aim of achieving a drastic reduction in the volume of paper documents

\* System by which employees themselves can decide their appropriate clothing when in office.

In October 2023, we re-established the Workstyle Reforms Committee as the HC Action Committee. Besides promoting a range of measures formulated in the HC Action 1.0 plan ( [☞ P.59](#) ), this committee is focused on reducing total working hours.

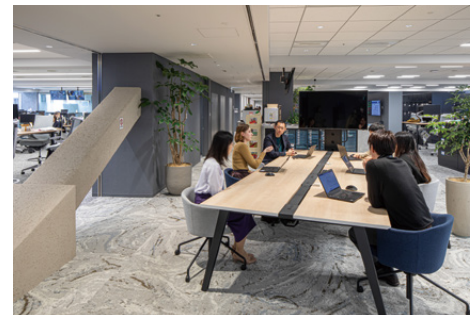
#### Workplace Reforms Project

After establishing a pilot office based on the “free-address” system in May 2019, we started to renovate MOL’s entire office space in FY2022 based on the concept of the “constantly connected office.” Using each space for its intended use on top of making the best use of online meetings and other information and communications technology (ICT) tools not only enhances employees’ job satisfaction, but also improves their operations.

#### [To Spur Further Innovation](#)

One of the aims of MOL’s workstyle reforms is to realize innovation by making use of time freed up by various workstyle reform measures. As an example, in FY2019 we launched the “MOL Incubation Bridge” as a system to solicit ideas for new businesses from MOL Group employees. Employees who propose an idea that is accepted are allocated to another division for a year and work full-time on verifying the feasibility of the proposed business.

[☞ “MOL Incubation Bridge” ▶ P.34](#)



## Highly Engaged

### Health and Productivity Management

#### ● Approach

MOL aims to become the world leader in safe quality, establish a sound, energetic, innovative organization, and develop the MOL Group into “an excellent and resilient organization,” by supporting the mental and physical health of every employee.

To achieve these objectives, the group believes it essential that the company, in cooperation with all executives and employees strive to maintain and build up their mental and physical health and create a comfortable, enjoyable workplace environment. We are not only developing based on laws and regulations of countries and regions where we do business and international treaties related to seafarers, but also organizational system that enables us to respond to emergency situations such as accidents and disasters, and ensures that all group members work together to move forward with various initiatives to maintain and enhance our health.

#### Declaration on Health and Productivity Management

In FY2021, we established our “Declaration on Health and Productivity Management” as a guideline to promote group-wide health management, and an opportunity to position the promotion of every employee’s health as an important management issue, instill and promote health management among our group employees, and the awareness of every employee.

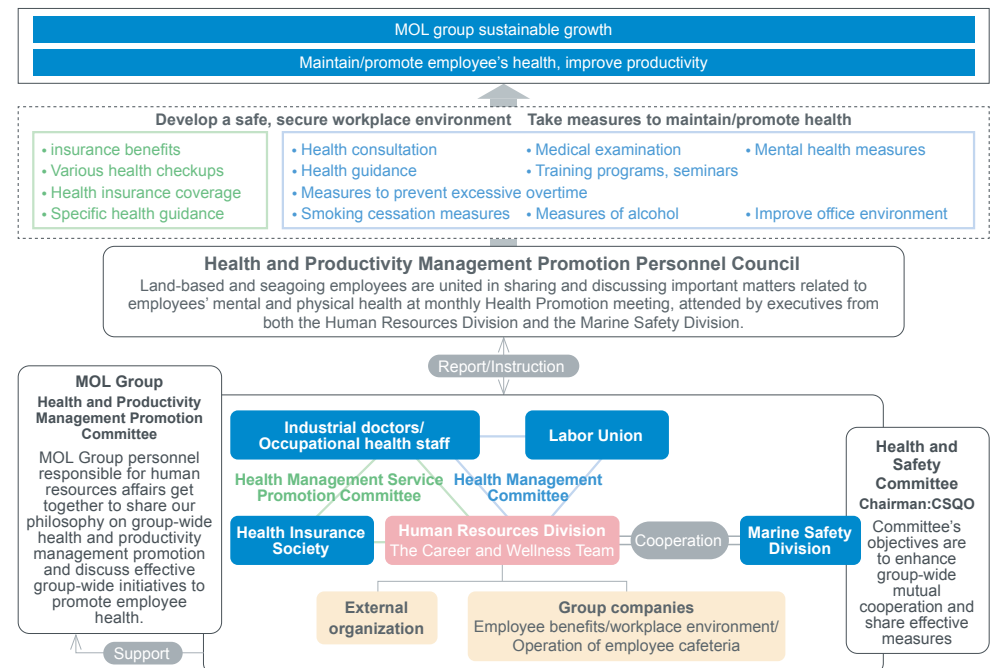
#### Declaration on Health and Productivity Management

The Mitsui O.S.K. Lines Group positions the promotion of every employee’s health as an important management issue for realizing the Group Vision under the Group Corporate Mission. Toward this end, we will implement the following initiatives.

- Empower employees in promoting their physical and mental health.
- Forge ahead to create a workplace environment where employees work with peace of mind and a sense of unity, as they contribute to our corporate culture.
- Also, provide thorough support, specifically to seafarers, who work under a unique environment at sea, in promoting their physical and mental health, and develop an environment where all seafarers enjoy robust health and put their families’ minds at ease.

#### ● System

The Career and Wellness Team in the Human Resources Division plays a key role in promoting MOL Group health management, in cooperation with industrial health staff comprising of industrial doctors, public health nurses, a psychiatrist, certified psychologists and masseur, working in collaboration with various concerned parties including the health insurance association. The team also plans and implements effective programs to promote the health of employees working at sea in cooperation with the Operational Safety Committee. Information on health management promotion is shared throughout the company, both office workers and seafarers, through the Council for Health Management Promotion, and is also quarterly reported at the Executive Committee and the Board of Directors, who are responsible for the oversight of health management initiatives.





## Highly Engaged

### Expanding to/Collaboration with Group Companies

As we promote consolidated management, we respond not only to non-consolidated MOL employees, but also to the group companies when it comes to occupational safety and health management. We will develop the corporate infrastructure to increase health and productivity, which can be shared among MOL Group companies; review, implement, and verify the effects; and continually improve measures according to the needs of group companies. Specifically, we provide stress check tests and tie-ups with medical service companies, hold regular workshops to gain HR management expertise, and conduct HR assessments to strengthen our group-wide HR management.

In addition, we maintain and improve the health of seafarers of foreign nationalities who serve aboard our operated vessels through informational activities for manning companies around the world and foster a strong awareness of safe operation and safety culture, strengthening MOL's organizational structure for safety.

## Indices and Targets/Results

### Health-related targets

All employees aim to proactively work to promote their own physical and mental health, with a strong consciousness of their personal responsibility for their health. This approach is intended to increase the number of employees undergoing periodic health checkups and stress tests, which provide opportunities for them to evaluate and monitor their level of physical and mental health. In addition, we aim to reduce smoking and in turn reduce the risks of various smoking-related diseases and prevent passive exposure to smoke.

1. Rate of periodic health checkups: 100%
2. Stress test examination rate: More than 90%
3. Smoking rate: Less than 10% (Target achievement year: 2025)

### Industrial accident-related targets

Zero industrial accidents, zero fatal accidents  
[Sea] Lost Time Injury Frequency (LTIF)\*: Less than 0.5

\* Number of lost time injuries occurring in a workplace per 1 million hours worked

### Health-related Quantitative Data

#### Rates of periodic health checkups

2020	2021	2022
97.3%	99.4%	99.9%

Note: Subject persons are based on Industrial Safety and Health Act

#### Rates of stress tests

2020	2021	2022
76.7%	87.5%	97.9%

Note: Subject persons are based on Industrial Safety and Health Act

#### Presenteeism\*

2020	2021	2022
9.9%	2.6%	5.2%

\* Calculation method is based on MOL's independent employee questionnaire.  
FY2022: 1953 employees were surveyed (Including full-time employees, contract/contract employees, and temporary employees), and the response rate was 32%.

#### Rates of patients receiving a full medical examination\*

2020	2021	2022
74.1%	81.6%	85.8%

\* Percentage of employees diagnosed as requiring close examination in group medical checkups.

#### Smoking rate

2020	2021	2022
13.7%	14.2%	12.8%

#### Abstentionism\*

2020	2021	2022
10	17	17

\* Number of employees who took a leave of absence of at least one month for an injury or illness.  
Subject persons are based on Industrial Safety and Health Act.

## Highly Engaged

### ● Initiatives

#### Initiatives to promote employee health

##### [Initiatives in collaboration with the medical office](#)

In addition to an industrial physician and public health nurse, the medical office in the Head Office building is staffed by three internal medicine physicians, two mental health physicians, four licensed psychologists, and an acupuncture and moxibustion massage therapist, providing a complete system to support employee health from both physical and mental aspects. In addition to outpatient internal medicine care and counseling, we also provide health and nutritional counseling and health guidance.

#### ● Follow-up of health check results

An occupational health physician follows up the results of employee health checks, providing further consultation or treatment as required.

The results of the annual health checks are analyzed in detail by an occupational health physician and public health nurse. Analytical health data are used to inform management about health-related issues and aid development of health measures.

#### ● Interview/Guidance for Those Putting in Long Hours

Worker stress levels are monitored and a referral to a licensed psychologist can be made by the occupational health physician based on the result of a consultative health assessment with the employee.

In addition to specialist medical follow-up provided to individual employees, we try to improve working conditions if necessary in cooperation with the relevant department head in liaison with HR.

#### ● Health Guidance

In collaboration with industrial physicians, internists, and public health nurses, the guidance helps raise the health awareness of each employee.

Number of employees who received health guidance at the medical office after the group medical checkup

2020	2021	2022
157	184	182

#### ● Smoking Cessation Initiatives

Smoking has been banned inside every work area at MOL's Head Office since the end of March 2022. We also seek to build employee awareness by designating the 22nd of each month as "No Smoking Day" as a health-promotion measure. In another support program, the medical office makes smoking cessation aids available to those who have quit smoking at subsidized cost.

#### ● Massage Room

The medical office features a massage room, where employees can receive massage, acupressure, acupuncture, and moxibustion treatment from licensed therapists.

No. of employees receiving therapy in the massage room

2020	2021	2022
153	240	352

Some employees complain of disorders such as shoulder stiffness and backaches. The therapies available in the massage room not only address problems such as stiff shoulders and aching backs, of course, but also help employees recover from physical exhaustion and improve blood circulation, which in turn keeps them refreshed and more productive. In addition, massage room therapy of one hour a month is considered a working hour, so employees don't have to sacrifice an hour of pay to maintain their health and well-being.

##### [Initiatives in collaboration with the employee cafeteria](#)

#### ● Health Management through Diet

Our employee cafeteria supplies nutritious food that contains a good balance of vitamins, protein and dietary fiber. The menu includes a wide range of salads and side dishes, including Japanese, Western, noodle, alongside international cuisine, serving to promote the health of employees by filling their minds and stomachs.

## Highly Engaged

### Initiatives in collaboration with external medical institutions

#### ● Free Dental Checkups

We provide free dental checkups for employees at the time of their annual medical checkups in cooperation with dental clinics close to the Head Office.

No. of employees receiving dental treatment

2020	2021	2022
43	26	34

#### ● In-house Flu Vaccinations

In 2018, we began providing flu vaccinations for MOL Group executives and employees in the Head Office. We will provide opportunities for even more to receive them, thus maintaining a healthy workplace during flu season.

Vaccination Coverage (Approximate)

2020	2021	2022
800	924	878

### Holding Health Seminar based on Health Care Questionnaire

MOL has conducted a questionnaire-based health care survey since 2018 to determine the needs of employees when it comes to creating a healthy work environment where everyone can work with vigor and enthusiasm.

We regularly conduct questionnaire surveys to circulate the research, verification, and PDCA cycle, depending on the objectives, such as recognition of information, improvement of health literacy, productivity, and improvement of medical checkup data.

#### Short-term Evaluation

Behavior changing stage  
Subjective symptoms  
Health literacy, etc.

#### Mid-term evaluation

Lifestyle habits  
Lifestyles  
Productivity, etc.

#### Long-term evaluation

Medical checkup data  
Medical expenses, etc.

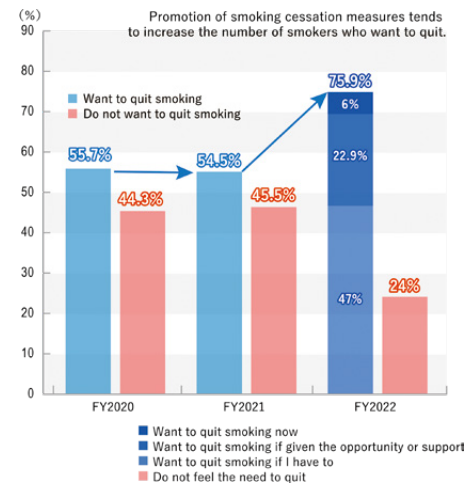
### ● Short-term Evaluation

#### (1) Subjective symptoms

##### Top 5 health concerns

	2020	Number of Respondents	2021	Number of Respondents	2022	Number of Respondents
1	Insufficient exercise	236	Response to COVID-19	392	Exercise	368
2	Stiff shoulders, lumbago	227	Exercise	376	Sleep	320
3	Response to COVID-19	225	Sleep	288	Stress	308
4	Eye fatigue	216	Meals	268	Meals	292
5	Decline in physical strength	202	Stress	261	Stiff shoulders, lumbago	227

#### (2) Health Literacy of Employees (Alteration of Attitudes)



#### Past seminars

	Seminars Conducted (FY2020–2022)	No. of Participants (Persons)	Participant satisfaction level (% of respondents in post-work survey)
FY2020	STOP! Gaining weight because of remote work-Seminar on improving eating habits	65	90%
	Seminar on improvement of lower back pain and shoulder stiffness	115	86%
FY2021	It's for life! High-performance Sleeping Techniques	214	94.5%
FY2022	We want men to know! Working Women's Health Seminar	106	87.5%

#### Notes:

- Satisfaction level is listed only for seminars followed by questionnaire.
- Target expanded to group company executives and employees, because seminars have been conducted online since FY2020

## Highly Engaged

### Other Initiatives

#### ● Measures to Prevent Harassment

We instituted the MOL Group Declaration of Harassment Prevention in November 2020. Besides training aimed at preventing harassment, we invite external instructors to conduct managerial courses at Group companies. In addition, we have set up an external helpline to offer MOL Group staff and their family members advice relating to harassment issues.

 [MOL Group Declaration of Harassment Prevention](https://www.mol.co.jp/en/sustainability/governance/human/)  
<https://www.mol.co.jp/en/sustainability/governance/human/>

#### ● Health and Productivity Management Training Program

MOL provides training programs such as “self-care” and “line care” of staff related to health and mental health, which vary according to career path. In addition, the in-house team that includes occupational health physicians, public health nurses and licensed psychologists conducts training courses on lifestyle disease/prevention, including female-specific conditions.

#### ● Reduction of overtime working hours

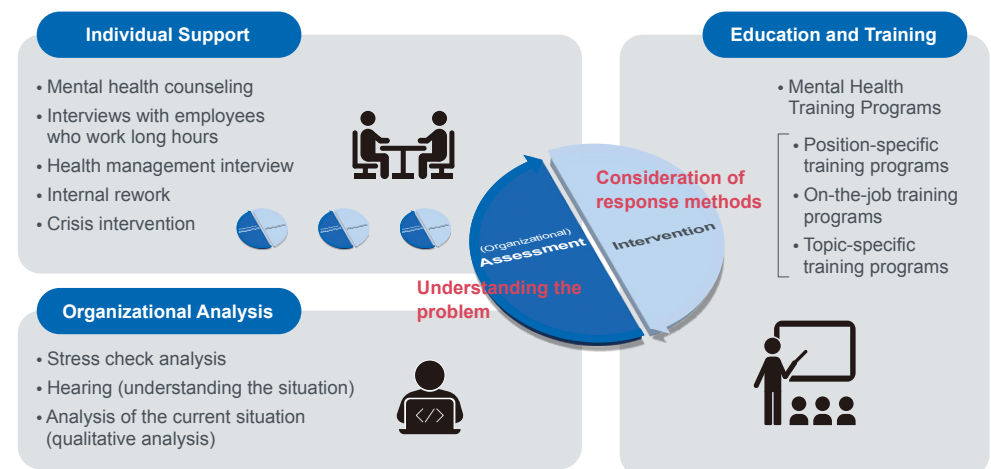
MOL implements the following measures to reduce overtime working hours.

- Checking overtime working hours by prior notice of when work ends and checking office entry and exit times with attendance records/PC logs. Using a questionnaire about working conditions to determine the number of hours worked by executives/managers.
- Reflecting evaluation of executives/managers who oversee their members' overtime hours.
- Working to improve management skills, mainly centering on labor-management issues, through training programs for management positions, etc.

- No-overtime days each month.
- Implementing the Workplace Reform Project (Improving work efficiency by free addressing of headquarters, cross-divisional communication space, use of ICT tools such as web conference software)
- Reducing and streamlining routine tasks.

### Initiatives on Mental Health

Our mental health initiatives can be divided into three main categories: individual response, organizational analysis, and education and training. Two psychiatrists and four licensed psychologists (clinical psychologists) work as a team to handle situations that arise, while maintaining confidentiality and collaborating appropriately with the workplace and the Human Resources Division. Information gained from individual responses and organizational analysis is also utilized in education and training, while information gathered through education and training opportunities is utilized in individual responses and organizational analysis.



## Highly Engaged

### ● Individual response

In addition to mental health counseling for employees who voluntarily request counseling, we have established our own framework for various interviews. We are able to provide early consultation and early response to problems before they become more serious, by increasing the number of daily contacts between employees and professionals.

### ● Mental health counseling

Employees can voluntarily request a consultation. Interviews with a licensed psychologist (50 minutes/session) are available Mon–Thu. Sessions can focus not only on health-related concerns, but also a wide range of workplace and personal issues.

We often consult with subordinates and colleagues regarding support. In addition, when a medical judgment is necessary, such as a decision on whether or not the patient can work or the progress of treatment, a psychiatrist will meet with the patient (30 minutes/session) to discuss the situation.

### ● Interviews with employees who work long hours

For the objective of mental health care for employees working long hours, an interview with a licensed psychologist is mandatory in addition to an interview with an industrial physician.

### ● Health Management Interview

Interviews (20 minutes/session) are held for all new hires and career employees. Interviews are conducted by a licensed psychologist with the objective of checking the degree of adaptation to the new environment and the stress level of the situation. For office workers, the program is conducted approximately three months after assignment, and for seafarers, it is conducted before and after disembarking from the vessel for the first time.

### ● Internal return-to-work programs

We provide return-to-work support (rework program) for employees on leave due to mental health issues in the Head Office building. Custom-made programs tailored to

each individual's condition and situation are created and implemented by a licensed psychologist under the direction of a psychiatrist. The rework period also provides an opportunity to develop a system of cooperation among the individual, the Human Resources Division, the workplace, and the specialist, and follow-up is conducted in close cooperation after the employee's return to work.

### ● Crisis intervention

In the event of an emergency or accident, psychiatrists and licensed psychologists provide advice and suggestions on measures deemed necessary from the perspective of mental health care, and work with related departments to respond to the situation.

### ● Organizational analysis

With the aim of utilizing the real voices of employees and internal circumstances for mental health measures, information related to individual and workplace stress is analyzed by licensed psychologists after processing it into a form that does not identify individuals, in an effort to understand the current situation and formulate measures that are in line with current needs. To prevent information bias, we proactively gather information through interviews and training opportunities, as well as through hearings focused on specific themes and specific workplaces. Stress checks are also independently analyzed in-house by a certified psychologist, who interprets the figures based on internal circumstances and develops countermeasures.

### ● Education and training

A licensed psychologist is in charge of education and training based on the position and role of the target audience and the subject matter. Besides providing general mental health-related knowledge, such as self-care and mental health training (line care), training aims to cover unique internal issues and situations, based on our awareness of daily problems and the results of organizational analysis.



## Highly Engaged

### ● Establishing More Consultation Desks

#### ● External consultation

Since 2017, MOL has established external consultation desks to address issues related to “harassment,” “mental health,” and “lifestyles” in cooperation with external institutes. Depending on the situation, employees who contact these consultation desks will receive a response from professionals such as counselors, doctors, lawyers, certified tax accountants, and financial planners. Adding to their peace of mind is the fact that their privacy is strictly protected.

#### ● Career Counseling

In cooperation with external institutes, MOL in 2017 established a consultation desk specialized in career-related issues. It helps employees identify their career targets and communicate more effectively with colleagues and managers.

### Initiatives on Seafarer Health

MOL is committed to achieving the world's highest standards of safety and quality, with both land-based and sea-based operations working to achieve the “Four Zeros” and other targets. Becoming “the world leader in safe operation” can only be achieved with the health of each and every employee.

📄 [Safety & Quality-related indices and target ▶ P.22](#)

### ● Comprehensive Management of Physical Condition – A Healthy Crew is a Safe Crew –

An industrial physician reviews the results of crewmembers' medical checkups and advises them on how to maintain their physical and mental health, before they embark on a vessel.

We also strive to manage the health of crewmembers by carrying out alcohol testing just before their watch duty onboard and periodically conducting drug tests, as the health of the crew must form the unwavering foundation of safe operation.

We distribute Safety Alerts related to incidents and injuries among our operated vessels. In addition, we occasionally distribute information related to illness and mental

health (Health Care Info) in cooperation with occupational physicians and counselors in the medical office.

### ● MOL Body FIT Exercise

As a part of our measures for safe operation, MOL developed the unique “MOL Body FIT Exercise” with the objective of preventing workplace accidents aboard MOL Group vessels, while also reflecting our investment in ensuring safety. We have promoted the spread of the exercise program as an onboard daily routine since 2014.



In addition to stretching-based pre-work flexibility exercises, these exercises are designed to strengthen muscles, strengthen the trunk and lower limb muscles, and improve balance, thereby reducing the risk of falls and other problems.

The exercise program was named the “The Best Practice Award of Seafarers Onboard Safety, 2016 MLIT” by Japan's Ministry of Land, Infrastructure, Transport and Tourism (MLIT), which recognizes outstanding efforts by shipowners and other concerned parties to prevent occupational accidents among seafarers serving on Japanese merchant ships.

### Industrial accident-related initiatives

MOL implements activities on land and at sea to prevent industrial accidents by taking measures according to the workplace environment.

#### [No. of Industrial Accidents](#)

📄 [Occupational health and safety outcomes ▶ P.136 \(Social Data\)](#)

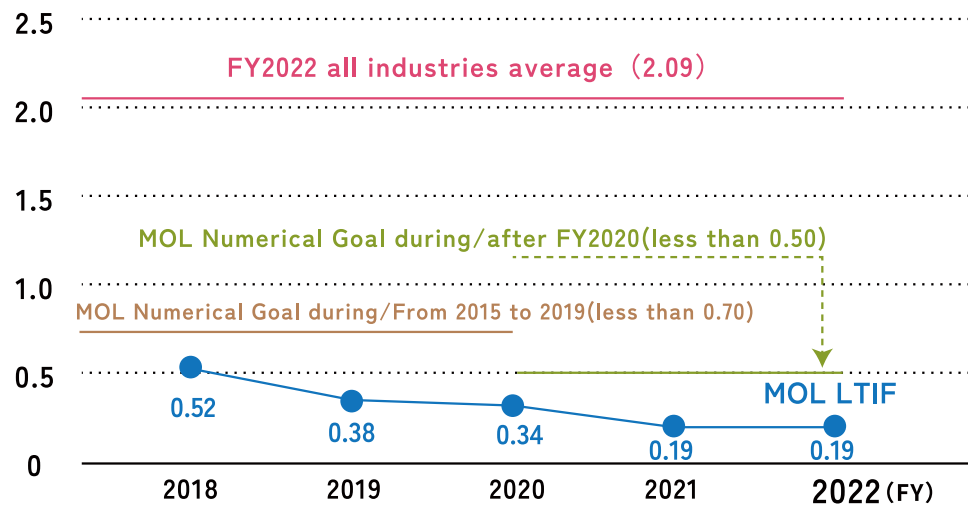
📄 [“Safety & Quality” initiatives ▶ P.23–31](#)

## Highly Engaged

### [\[At sea\] Lost Time Injury Frequency \(LTIF\)](#)

MOL believes that the health of every employee is the first step to realize our vision of “becoming the world leader in safe operation,” which is an essential part of our business, and prevention of onboard work accidents is an important issue. We strive to prevent such incidents through our initiatives on seafarer health.

We raised our LTIF targets from 0.7 ⇒ 0.5 to promote a higher level of safety.



Note: The number of industrial accidents occurred per 1 million man-hours (our company uses boarding time as the denominator). In the past, it targeted the total of work-related injuries and illnesses that forced a crewmember to go ashore, but as of FY2015, the LTIF standard was made stricter, and the total includes injuries and illnesses that prevented crewmembers from returning to work, on the day they occur, even if they did not have to go ashore.

Moreover, since FY2021, we have adopted an expanded range of data for tracking our safety and quality KPIs, broadening this to include all MOL Group-operated vessels (including charters) as well as the fleet of ocean-going vessels directly owned and managed by MOL.

## Growing Together with Local Communities

### Policy

We strive to coexist with everyone involved with the Group and promote the sustainable development and promotion of local communities. These activities are part of that initiative.

#### MOL Group Policy on Corporate Citizenship Activities

Under the Corporate Mission of “From the blue oceans, we sustain people’s lives and ensure a prosperous future,” one of the Group’s codes of conduct is to take the initiative in addressing issues faced by society and to act responsibly.

We will contribute to the realization of a sustainable society and the achievement of UN-designated Sustainable Development Goals (SDGs) by earnestly engaging in corporate citizenship activities in addition to social contributions through our core business to address various issues facing society.

In terms of specific activities, we have set “marine environment,” “biodiversity,” and “human resources development” as priority areas, and develop activities suited to each country and region in which we are involved in our business. In addition, we strive to promote and improve the Group’s corporate citizenship activities by disclosing the details of our activities and communicating with society.

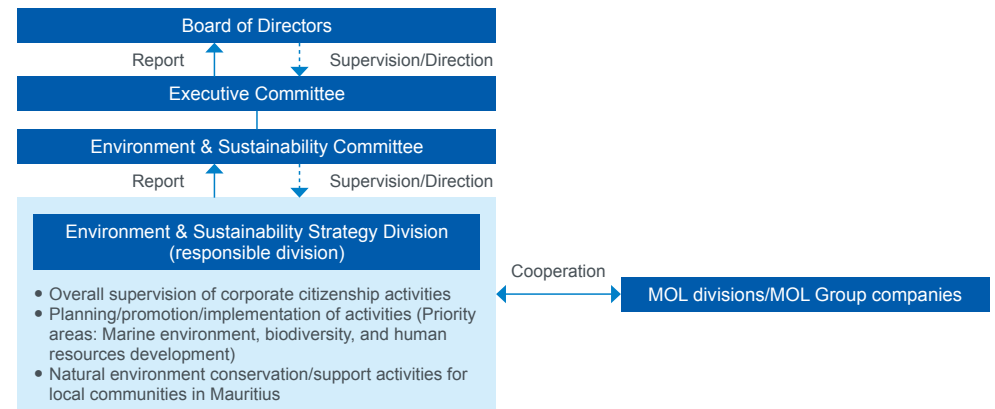
Established in May 2010  
Revised in September 2022

### Priority Areas

As a group engaged in ocean shipping and offshore businesses, we believe that our mission for ourselves and for future society is to work for the conservation of the marine environment, including biodiversity. At the same time, we recognize the importance of communicating that the maritime industry is an essential social infrastructure supporting our daily lives. Based on this belief, the group has set “marine environment,” “biodiversity,” and “human resources development” as priority areas, and proactively works on these issues by deepening cooperation with related NGOs, NPOs, and other organizations, local communities, research institutions, and others. We also intend to accumulate knowledge in these fields and pass it on to the next generation.

### System

Led by the Environment & Sustainability Strategy Division in cooperation, the group implements corporate citizenship activities in cooperation with other related divisions of MOL and MOL Group companies in Japan and overseas. Major initiatives are deliberated by the Environment & Sustainability Committee, a subordinate body of the Executive Committee, creating a system that puts these activities under the supervision of the Board of Directors.



### Initiatives/Outcomes

#### Costs of Social Contribution Activities

Details of Corporate Citizenship Activities	Amount for FY2022 (yen)
Cash donations	126,153,316
Providing relief supplies/services	0
Employees' volunteer activities during working hours	805,168
Other*	16,674,448
<b>Total</b>	<b>143,632,932</b>

\* Indirect costs necessary for Corporate Citizenship Activities.


## Growing Together with Local Communities

### Details of Corporate Citizenship Activities


#### Marine Environment and Biodiversity

We are actively promoting initiatives aimed at protecting the marine environment and biodiversity, including beach cleanup and removal of marine debris.

#### ▶ Press Releases and Information

 [MOL Hosts Marine Plastic Waste Survey Event For Children](https://www.mol.co.jp/en/info/article/2023/0602.html)  
<https://www.mol.co.jp/en/info/article/2023/0602.html>

 [MOL Holds an Experiential Event: 'Let's Unlock the Secrets of Corals!'](https://www.mol.co.jp/en/info/article/2023/0921.html)  
<https://www.mol.co.jp/en/info/article/2023/0921.html>

 [MOL Car Carrier Galaxy Ace Cooperates with Port of Nagoya Public Aquarium for Loggerhead Turtle Migration Research](https://www.mol.co.jp/en/pr/2023/23091.html)  
<https://www.mol.co.jp/en/pr/2023/23091.html>

 [Cleanup Activities at Kashima-Nada Beach](https://www.mol.co.jp/info/article/2023/1016.html)  
<https://www.mol.co.jp/info/article/2023/1016.html>


 [SDGs and Corporate Citizenship Activities by Chugoku Shipping Agencies Ltd.](https://www.h-csa.co.jp/img/box/1687321241.pdf)  
<https://www.h-csa.co.jp/img/box/1687321241.pdf>

 [Installation of Automated Marine Debris Collection Device at Hiroshima Municipal Pier](https://www.mol.co.jp/en/pr/2022/22120.html)  
<https://www.mol.co.jp/en/pr/2022/22120.html>


#### Human Resources Development

We seek to provide learning opportunities for the next generation by activities to introduce the shipping industry such as students' workplace visit, MOLs' school visit and Student Ambassadors program.

#### ▶ Press Releases and Information

 [MOL and GPF Jointly Host Plant Factory Showroom Tours for Elementary and Junior High Schools as Part of Food Education](https://www.mol.co.jp/en/info/article/2023/1026.html)  
<https://www.mol.co.jp/en/info/article/2023/1026.html>

 [MOL Welcomes Students from Delft University of Technology](https://www.mol.co.jp/en/info/article/2023/0809.html)  
<https://www.mol.co.jp/en/info/article/2023/0809.html>

 [MOL Welcomes Junior High School Students to Online Lecture about 'Career Choice' Organized by Shizuoka City](https://www.mol.co.jp/en/info/article/2023/0130b.html)  
<https://www.mol.co.jp/en/info/article/2023/0130b.html>

 [Inauguration Ceremony Held for 'MOL Student Ambassadors'](https://www.mol.co.jp/en/info/article/2022/1130.html)  
<https://www.mol.co.jp/en/info/article/2022/1130.html>

 [MOL Visits Junior High School Students for In-Person Presentation](https://www.mol.co.jp/en/info/article/2022/1019.html)  
<https://www.mol.co.jp/en/info/article/2022/1019.html>

#### Welfare Assistance to Developing Countries

We utilize MOL's global network, including marine transport cooperation, to offer welfare support to developing countries in regions such as Africa and South America.

#### ▶ Press Releases and Information

 [MOL Cooperates in Ocean Transport of Mobile Library Vehicles to South Africa](https://www.mol.co.jp/en/pr/2022/22145.html)  
<https://www.mol.co.jp/en/pr/2022/22145.html>

 [MOL Cooperates in Ocean Transport of Children's Shoes to Zambia](https://www.mol.co.jp/en/pr/2022/22082.html)  
<https://www.mol.co.jp/en/pr/2022/22082.html>

 [MOL Transports Fire Engines to Paraguay](https://www.mol.co.jp/en/pr/2022/22076.html)  
<https://www.mol.co.jp/en/pr/2022/22076.html>

#### Assistance to Affected Areas

We actively donate to help communities affected by disasters and humanitarian crises such as large-scale floods, typhoons, and earthquakes.

#### ▶ Press Releases and Information

 [MOL Donates Funds to Support Victims of Floods in Libya](https://www.mol.co.jp/en/info/article/2023/0922b.html)  
<https://www.mol.co.jp/en/info/article/2023/0922b.html>

 [MOL to Provide Aid to Victims of Earthquake in Turkey and Syria](https://www.mol.co.jp/en/pr/2023/23014.html)  
<https://www.mol.co.jp/en/pr/2023/23014.html>

## Growing Together with Local Communities

[MOL to Support Damages of Indonesia's West Java Earthquake](https://www.mol.co.jp/en/info/article/2022/1227.html)  
<https://www.mol.co.jp/en/info/article/2022/1227.html>

[MOL to Donate for Humanitarian Aid to Ukraine](https://www.mol.co.jp/en/pr/2022/22036.html)  
<https://www.mol.co.jp/en/pr/2022/22036.html>

[MOL Pledges Support in Aftermath of Morocco Earthquake](https://www.mol.co.jp/en/info/article/2023/0922a.html)  
<https://www.mol.co.jp/en/info/article/2023/0922a.html>

### Support for Mauritius

After the oil spill incident in 2020 by WAKASHIO, a vessel chartered by MOL, we established MOL (Mauritius) Ltd. to restore the natural environment and support local communities in Mauritius. In 2021, as part of an ongoing commitment to support the environment and people of Mauritius, we also established two initiatives, the MOL Charitable Trust and the MOL Mauritius International Fund for Natural Environment Recovery and Sustainability. This is underpinned by MOL's broad commitment to the conservation of marine and global environment, and to the growth and development of people and communities.

In August 2023, MOL Chairman Junichiro Ikeda was appointed Honorary Consul of the Republic of Mauritius in Tokyo. We will continue to do its utmost to support the further growth of Mauritius, people, and organizations involved with Mauritius, while fostering a friendly relationship between Mauritius and Japan, by supporting citizens of the Republic of Mauritius in Japan and the expansion of relations with the Republic of Mauritius in business, culture, education, etc.

[MOL Chairman Junichiro Ikeda Appointed Honorary Consul of the Republic of Mauritius in Tokyo](https://www.mol.co.jp/en/pr/2023/23108.html)  
<https://www.mol.co.jp/en/pr/2023/23108.html>

[See the "MOL For Mauritius" website for details of two funds and other support initiatives for Mauritius.](https://www.mol.co.jp/en/formauritius/)  
<https://www.mol.co.jp/en/formauritius/>

#### MOL Mauritius International Fund (Established in Japan)

- Support for large-scale project for up to five years
- Since the establishment in 2021, we have been calling for grant projects every year.
- Collecting donations from individuals, businesses and organizations who support the projects
- Funded a total of 15 projects in FY2023



<https://www.mol-mauritius-fund.jp/en/>

#### MOL Charitable Trust (Established in Mauritius)

- Support for projects that consider the people of Mauritius
- Call for smaller and more niche projects every year in cooperation with the local community, such as education and employment support in addition to environmental restoration
- Activities are disclosed in quarterly publications and website
- Funded a total of 20 projects in FY2023



<https://www.mol.co.jp/en/formauritius/funding/>

Contribution of a total of ¥800M planned

↓ Grants/support

#### Restoration and conservation of nature and ecosystems



##### Mangroves & coral reefs

- Surveys by experts and NGOs for conservation and restoration of mangroves/coral reefs
- Technical support for sustainable utilization and application, HR development, awareness-building sessions



##### Wild birds and rare organisms, including endemic species

- Waterfowl research in collaboration with local residents
- Projects to restore the ecosystems of rare species on the island



##### Tourism

- Developing future professionals in conservation, education and ecotourism
- Develop use of aquatic resources, including water surface/underwater recreation

#### Supporting community development and poverty alleviation



##### Industry

- Support fisheries workers and fishery development in collaboration with local NGOs
- Supporting smallholder farms to transforming the conventional agronomic practices organic agriculture and/or Climate-Smart Agriculture



##### HR development

- Developing future experts in advanced human resources with knowledge of advanced aquatic resource utilization
- Implementation of sustainability-conscious entrepreneurship



##### Education

- Providing daily school meals and educational support using school materials to assist children to go to school happily and live their daily lives
- Providing lifelong learning opportunities to people with disabilities for all generations





# Innovation

## Innovation for development in marine technology



### Core Objective

MOL aims to enhance its business through advanced technologies using clean energy and ICT, and to help address various social issues. This will also help the Group provide added value through safe transportation and our social infrastructure businesses and achieve its goal of conservation for marine and global environment.

### Contributing to SDGs:



### Initiative Focus

#### Groupwide Adoption of Clean Energy

#### Increasing the Energy Efficiency of Vessels

#### ICT Utilization for Safe, Efficient Operation

#### DX (Digital Transformation)

### Targets / KPIs

#### Targets

- Introduce and increase the use of clean alternative fuels for vessels
- ▶ Numerical Targets
  - Deploy approximately **130** net-zero GHG emissions ocean-going vessels by 2035
  - Deploy commercial net-zero GHG emissions ocean-going vessels in the 2020s
  - Percentage of zero-emission fuels used in 2030 **5%**

#### Targets

- Develop technologies that contribute to the spread of clean energy in society

#### Targets

- Use natural energy and establish and promote energy-saving technologies that help improve propulsion performance
- ▶ Numerical Targets
  - **25** vessels with the Wind Challenger (hard sail wind propulsion system) by 2030

#### Targets

- Upgrade, expand, and establish platforms using vessel-related big data (the FOCUS Project etc.)

#### Targets

- Establish technologies for autonomous vessel navigation

#### Targets

- Digitalize to improve company productivity and optimize processes
- ▶ Numerical Targets
  - Conversion rate to work for value creation and safety (cumulative)
    - 10% (FY2025)
    - 20% (FY2030)
    - 30% (FY2035)

#### KPIs

- Number of net-zero GHG emission ocean-going vessels
- Percentage of zero-emission fuels used

#### KPIs

- Progress in developing next-generation clean energy carriers/bunkering vessels

#### KPIs

- Number of vessels equipped with the Wind Challenger
- Number of vessels adopting other energy-saving technologies

#### KPIs

- Progress of the FOCUS Project
- Progress of the Fleet Guardian Project<sup>\*4</sup>

#### KPIs

- Progress in developing technologies for autonomous vessel navigation

#### KPIs

- Conversion rate to work for value creation (land-based work)<sup>\*5</sup>
- Conversion rate to work for safety (onboard duties)<sup>\*6</sup>
- Number of change leaders<sup>\*7</sup>

### Fiscal 2023–2025 Action Plans

- Promote the development of related technologies
  - Ammonia-fueled vessels, methanol-fueled vessels, hydrogen-powered vessels, use of fuel cells/batteries, etc.

- Promote the development of next-generation clean energy carriers / bunkering vessels
  - Large ammonia carriers and bunkering vessels, liquefied hydrogen carriers, liquefied CO<sub>2</sub> carriers, etc.
- Promote R&D on the Wind Hunter Project

- Develop ways to reduce the weight of the Wind Challenger and study the feasibility of mass production
- Study installation of Rotor Sail<sup>\*1</sup>
- Promote introduction of other energy-saving technologies
  - PBCF<sup>\*2</sup>, Optimal Trim System<sup>\*3</sup>, etc.

- Upgrading FOCUS
  - Expansion and review of data items related to efficient operation, support for vessels fueled by LNG and other alternative fuels
- Development/demonstration/implementation of Fleet Guardian

- Formulate development plan in light of sea trials
- Select partners and conduct verification with a view to installation

- Promote land-oriented DX projects for use in designing and introducing new function-specific standard practices, etc.
- Promote maritime-oriented DX projects, such as maximizing digital use of onboard documentation
- Implement measures to develop change leaders

<sup>\*1</sup> Rotor Sail is an auxiliary device using wind power.

<sup>\*2</sup> Propeller Boss Cap Fins. It improves propulsion efficiency by breaking up the hub vortex generated behind the rotating propeller of the vessel.

<sup>\*3</sup> The optimum trim system quantitatively assesses MOL captains' extensive practical knowledge of vessel running attitudes through tank testing and tests aboard actual ships. This data is translated into graphs that make it easy for seafarers to use the system.

<sup>\*4</sup> A predictive diagnostic system to prevent problems and breakdowns in the main engine, based on the information from various sensors monitoring the onboard main engine, etc.

<sup>\*5</sup> Ratio of man-hours spent by employees on routine work to man-hours spent on new value creation through digital applications and optimization of operations and organization.

<sup>\*6</sup> Ratio of man-hours spent by employees on routine work to man-hours spent on safety operations through digital applications and optimization of operations and organization.

<sup>\*7</sup> Change leaders are defined as "A person promoting changes in business models, business processes, corporate culture, etc." and "A person who understands business and process issues, is able to envision the ideal state and lead the change". The number of employees receiving training to develop them as change leaders.

## Technology Innovation

### ● Policies

Centered on the ISHIN NEXT-MOL SMART SHIP PROJECT, which began in 2016, MOL has developed a host of technologies under the concepts of ensuring safe operation and further reducing our environmental impact. In April 2022, we unveiled “One mile ahead” as our new technology slogan with the aim of enhancing technological evolution and encompassing not only “vessels,” but also, in a broader sense, “the sea.”

Under this slogan, we are united in maximizing our efforts on technological development unique to MOL, which uses both underlying technologies from ship hardware and information technology, to achieve our vision. We aim to spur innovations in logistics with approaches that take into consideration not only technological developments, but also enhancements in service quality.

### ● System

We established the Technology Innovation Unit in April 2018 to accelerate its efforts in technological development. The unit comprises three organizations: the Technical Division, which is in charge of managing and developing vessel engineering-related technologies; the Smart Shipping Division, which oversees marine-related ICT; and the Offshore Technical Division, which was created in October 2020 to reinforce technological development in the offshore business field. These three organizations work closely together to promote the development of next-generation technologies. Additionally, for each development project, the Technology Innovation Unit actively pursues inter-industry collaboration with outside parties, including other companies, organizations, and research institutions.

In November 2023, we integrated the Technology Innovation Unit and DX Co-creation Unit to establish the “Headquarters of Technological & Digital Transformation.” We have consolidated the organizations responsible for this initiative under the newly formed organization. We will accelerate the pace of transformation by sharing the insights nurtured by each division and working towards the realization of the “DX Vision.”



### ● Initiatives

#### Increasing the Energy Efficiency of Vessels

##### Wind Challenger

The Wind Challenger is a wind power propulsion system developed by MOL. It is a rigid sail that can expand, contract, and rotate automatically during navigation.


After more than 10 years of research with partners such as shipyards and universities, we achieved weight reduction by using composite materials (glass fiber reinforced plastic) on a large scale in a large cargo ship. This was first equipped globally in the “Shofumaru”, which was completed in October 2022.

We signed a contract to build 2nd bulk carrier equipped with Wind Challenger in August 2022, which is scheduled for completion in 2024.

Besides tailwinds, rigid sails can generate propulsive force using winds from the side or even headwinds at an angle. A single rigid sail for a 100kt bulk carrier can be expected to reduce GHG emissions by about 5–8%, compared with a conventional vessel of this type.

The wind-propulsion system could still be used even if alternative fuels are introduced in the future. In addition, by equipping multiple rigid sails, it is possible to achieve additive effects.

Looking ahead, we aim to develop optimized vessel types equipped with multiple sets of Wind Challenger to help further reduce environmental impact.

 [MOL Signs Deal to Build 2nd Bulk Carrier Equipped with ‘Wind Challenger’ Hard Sail System — Reducing Environmental Impact by Using Wind as Vessel’s Propulsive Force —](https://www.mol.co.jp/en/pr/2022/22092.html)  
<https://www.mol.co.jp/en/pr/2022/22092.html>



**Innovative Sails for a Sustainable Future**



Shofu Maru, 1st vessel equipped with Wind Challenger



Rigid sail

## Technology Innovation

From 2035, while mass-producing Wind Challenger, we will aim to develop next-generation vessel models specialized in utilizing wind power to become a forerunner in a world where fuels are transitioning to clean energy.

Equipped with Wind Challenger with multiple sails

**ONE MILE AHEAD**

This MOL Group technology development slogan expresses our intention to move steadily forward "one mile" at a time, aiming to be "one mile" ahead in technology.

Bridge positioned at the bow ensures visibility

- It is a mission of the shipping industry to reduce the fuel consumption of vessels by using natural energy. We will utilize wind power while shifting fuels to clean energy.
- In the development of vessels that run on next-generation clean energy such as liquefied hydrogen, we aim to maximize the utilization of wind power, or in other words, to develop fundamental ship models with the aim of equipping multiple sails as well as adopting autonomous navigation technology.

### Groupwide Adoption of Clean Energy

#### Ammonia

Currently, ammonia is used mainly as a raw material for fertilizer, and its maritime transport volume is limited. However, it is expected to be in a great demand in the future as a next-generation clean energy source that emits no CO<sub>2</sub> during combustion, mainly for use in mixed combustion at coal thermal power plants and for use as a hydrogen carrier.

#### ● Joint Development Targeting Construction of Ammonia-fueled Vessels

MOL has conducted joint development aimed at building carriers with ammonia-fueled main engines. We have gained Approval in Principle (AiP) for multiple types of vessel.

Ammonia is expected to be a next-generation clean energy source, but special

measures are needed to ensure sufficient safety against its characteristics of flammability, toxicity and corrosiveness. In addition, there are currently no international regulations on the use of ammonia as a marine fuel.

As a result of our risk assessment of using ammonia as marine fuel from multiple perspectives, the safety of the vessel's basic design was evaluated and we have received AiP from classification societies.

Utilizing the knowledge gained from the risk assessments and AiP acquisition, we will move ahead with the design of the vessels, targeting the construction of net-zero GHG emissions ocean-going vessels in the 2020s.



CG rendering of the 210,000 DWT ammonia-powered bulk carrier

MOL, TSUNEISHI and MES-S Acquire AiP for Ammonia-fueled Vessel from ClassNK and Lloyd's  
<https://www.mol.co.jp/en/pr/2023/23051.html>

MOL and Mitsui Acquire AiP for Large Ammonia-powered Bulk Carrier  
<https://www.mol.co.jp/en/pr/2023/23007.html>

#### ● Transporting Ammonia Fuel

To meet increased demand of Ammonia fuel, we will develop a large-size ammonia carrier and contribute to a decarbonized society by offering safe, high-quality, and reliable transport of this clean energy resource.

The large-size ammonia carrier "J-FLEX," which is currently in joint development with Mitsubishi

Shipbuilding and Namura Shipbuilding, will be equipped with an ammonia-fueled main engine and using some of the ammonia loaded as cargo. We will promote reduction of GHG emissions from MOL-operated vessels with the aim of achieving net-zero CO<sub>2</sub> emissions while underway.



CGI image of ammonia-fueled ammonia carrier (J-FLEX)

## Technology Innovation

We will establish a collaborative framework with each company to order the vessel's main engine, currently in development, which uses ammonia as its main fuel, with the goal of introducing it as quickly as possible.

 [MOL Teams up with JERA to Study Transport of Ammonia Fuel](https://www.mol.co.jp/en/pr/2022/22131.html)  
<https://www.mol.co.jp/en/pr/2022/22131.html>

### Hydrogen

Hydrogen supply chains are expected to expand globally in response to progress in the use and adoption of hydrogen in various fields such as power generation and mobility. In the shipping industry, hydrogen fuel is drawing considerable attention as a promising next-generation fuel.

#### ● Initiatives for Operational Demonstration of Marine Hydrogen-fueled Engine

MOL, MOL Drybulk and Japan Engine Corp.(J-ENG) signed a basic agreement to cooperate in a trial of hydrogen-fueled engine equipped on an in-service vessel. The ship will be operated by MOL and MOL Drybulk, and the engine –the world's first low-speed, two-stroke hydrogen-fueled marine engine– will be developed by J-ENG.



Image of demonstration vessel

In cooperation with Kawasaki Heavy Industries, Ltd. and Yanmar Power Technology Co., Ltd., J-ENG develop the hydrogen-fueled engine, which will be the world's first main engine for large ocean-going or coastal vessels. The engine development was selected for a government-subsidized project by the New Energy and Industrial Technology Development Organization (NEDO), part of Green Innovation Funding Program. In October 2023, AiP for a vessel equipped with the engine was obtained as a step toward the realization of operational demonstration. We will continue our efforts to achieve net-zero emission hydrogen-fueled vessels.


 [Hydrogen-fueled Vessel Wins AiP Towards Demonstration Operation](https://www.mol.co.jp/en/pr/2023/23134.html)  
<https://www.mol.co.jp/en/pr/2023/23134.html>

#### ● Construction of Coastal Passenger Ship Propelled by Hydrogen and Biofuels

Coastal passenger ship "HANARIA," which is ordered by MOTENA-Sea with investment funding organized by MOL Techno-Trade, is scheduled to be completed in March 2024 and enter service in Fukuoka Prefecture in April 2024.

The ship will reduce GHG emissions by 53%–100% compared to conventional fossil fuels vessels, by introducing an unprecedented system in the world that allows the selection of any of operating modes: hydrogen fuel cells, lithium-ion batteries, and biodiesel fuel.



 [Japan's first Hydrogen and Bio Fuel Hybrid Passenger Ship Named 'HANARIA'](https://www.mol.co.jp/en/pr/2023/23111.html)  
 — Start servicing from April 2024 —  
<https://www.mol.co.jp/en/pr/2023/23111.html>

#### ● Wind Hunter

Wind Hunter is the ultimate zero-emission project that builds on our Wind Challenger project.

It generates hydrogen during sailing by generating electricity with underwater turbine and electrolyzing water. The goal is to supply stored hydrogen to land.

Equipping this system onto cargo carriers could potentially create vessels that does not require any fossil fuel supply at all.

We successfully conducted a demonstration experiment using the WINZ Maru in Ohmura Bay, Nagasaki in 2021. The next stage of the project is to build a hydrogen-producing vessel of 60–70m in length equipped with multiple sails, and further experiments will be carried out to realize this.

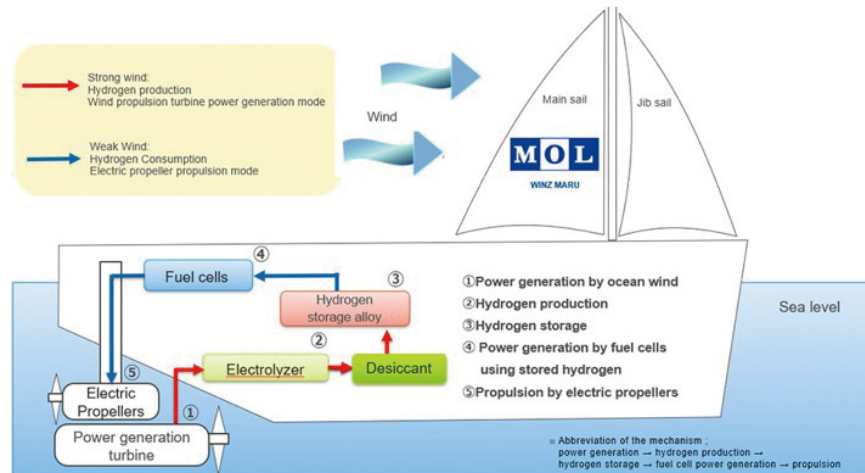


WINZ Maru



## Technology Innovation

We are working on overcoming the challenges to achieve our goal of building a large-scale zero-emissions carrier and hydrogen-producing vessel by 2030.



“Wind Hunter Project” Zero Emission Ship Sailing by Wind and Hydrogen succeeded in the demonstration experiment by the Yacht “WINZ MARU”  
<https://www.mol.co.jp/en/pr/2021/21112.html>

The YouTube video link shows the successful “Wind Hunter Project” demonstration trials  
<https://www.youtube.com/watch?v=5OajytKJV5Q>

MOL Joins Tokyo Bay eS 2023 Priority Project — Wind Hunter, Zero-emission Project Using Wind Power and Hydrogen, Will Be Key Element —  
<https://www.mol.co.jp/en/pr/2023/23121.html>



## Electric Vessels

Following the world’s first pure battery coastal tanker “Asahi,” powered by large-capacity lithium ion batteries, the second “Akari” was completed in March 2023, creating the world’s first EV fleet.

The *Akari* entered service in April 2023 and conducting zero emission bunkering in the Tokyo Bay along with the *Asahi*.

World’s 2nd Pure Battery Tanker “AKARI” Enters Service; Completes 1st Bunkering Operation — Contributing to Expansion of Zero Emission Bunkering —  
<https://www.mol.co.jp/en/pr/2023/23053.html>



Pure battery tanker AKARI

In addition, the hybrid EV bulk carrier *Asuka* was completed in June 2023.

We plan to expand our electric vessels further achieving net-zero emissions.



Hybrid EV bulk carrier *Asuka*

## e5 Project

Through planning, development and project management, we will promote the standardization of electric vessels and work to build sustainable coastal shipping.



## ICT Utilization for Safe, Efficient Operation

### FOCUS Project

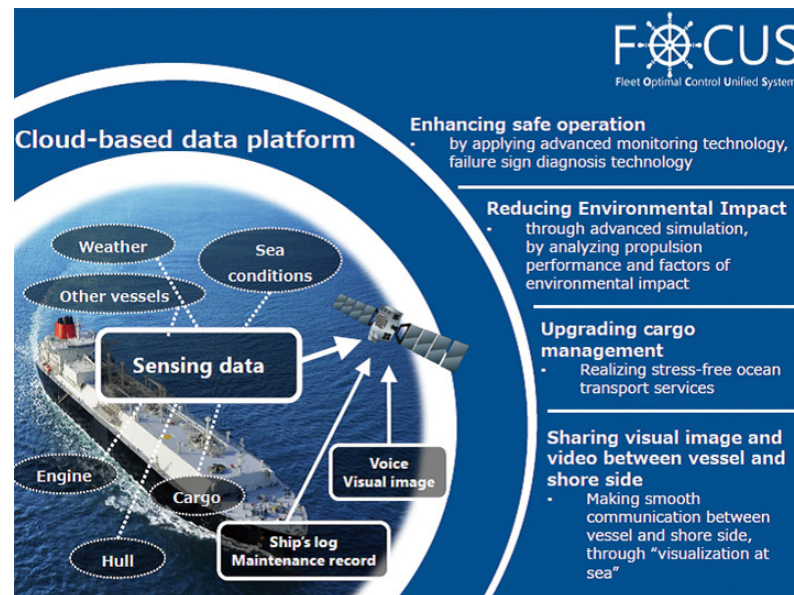
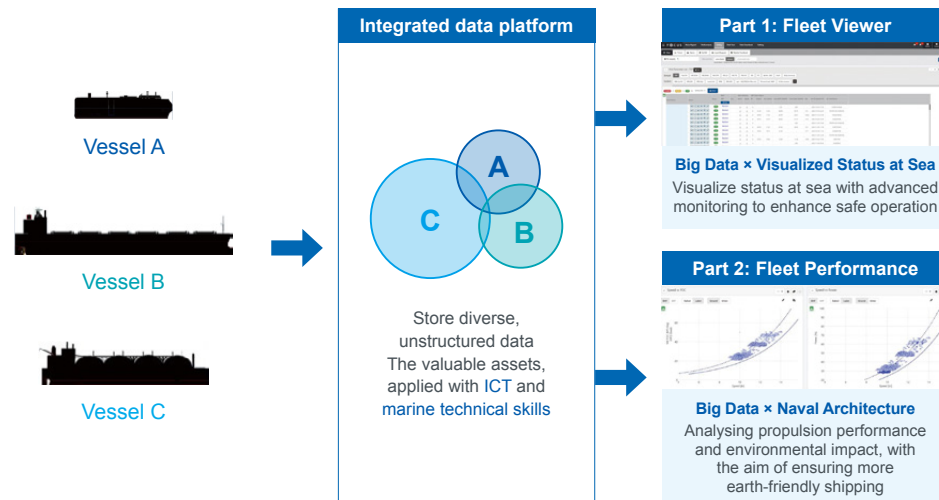
Based on big data from operated vessels, we are promoting the FOCUS project, which aims to improve transportation services and reduce environmental impact.

Note: FOCUS=Fleet Optimal Control Unified System





## Technology Innovation



MOL collects various navigation and engine data from vessels in operation at frequent intervals and stores the integrated platform in the cloud. Then, based on big data extracted from vessel operations, we develop apps that contribute to improved transport services, safer operation, and reduced environmental impact.

We launched Fleet Viewer<sup>®</sup>, a navigation/engine status monitoring app, and Fleet Performance<sup>®</sup>, an app that helps reduce environmental impact in FY2019, and Fleet Tour, a virtual ship visit app in FY2020. In recent years, we have continued to developments to further reduce environmental impact and improve operational efficiency in combination with various efficient operation measures.

**FOCUS Project: Launch of Part II**  
 Release of FOCUS Project Part II 'Fleet Performance' Application Aimed at Monitoring Fleet Performance in Actual Operation  
 — Stress-free Operation with Big Data Analysis —  
<https://www.mol.co.jp/en/pr/2020/20011.html>

**FOCUS Project: Launch of Part I**  
 MOL Announces Release of FOCUS Project Part I 'Fleet Viewer' Application Aimed at Enhancing Ship Management  
 — Stress-free Operation with Big Data Analysis —  
<https://www.mol.co.jp/en/pr/2019/19028.html>

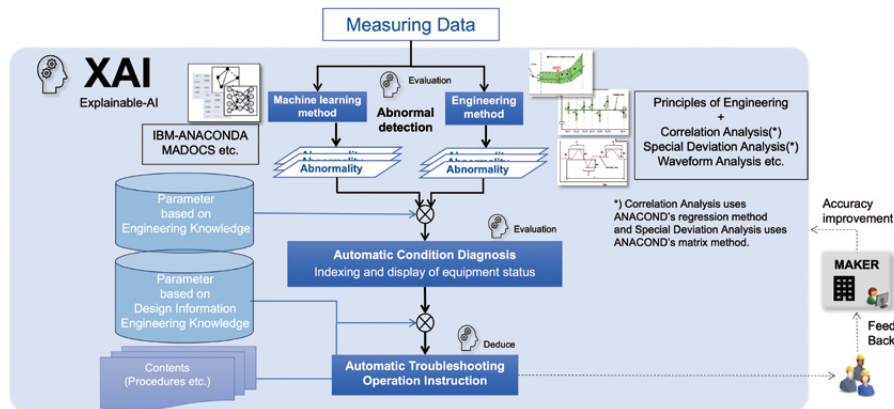
**Launching of the "FOCUS" Project**  
 — Collaborative Innovation Transcending Business Categories; ICT-based, Data-driven Project aims at Safer Operation and Cleaner Environment —  
<https://www.mol.co.jp/en/pr/2018/18073.html>

### Next-Generation Engine Failure Sign Diagnosis App "Fleet Guardian"

Fleet Guardian, next-generation engine failure sign diagnosis app, aims to enhance safe operation by ClassNK's "CMAXS LC-A/e-GICSX"(CMAXS) supplied by ClassNK Consulting Service Co., Ltd. (NKCS) and ICT. Fleet Guardian is expected to eliminate vessel downtime and further improve the level of safe operation by enabling crewmembers and shoreside staff to share information on a vessel's engine status in a timely manner.



## Technology Innovation



[MOL Starts Joint Study of Next-generation Engine Diagnostic Application — Developing 'Fleet Guardian' Targeting Eradication of Vessel Downtime —](https://www.mol.co.jp/en/pr/2019/19087.html)  
<https://www.mol.co.jp/en/pr/2019/19087.html>

Note: Please see the press releases below for details of CMAXS usage to date by MOL.

[Using Big Data for Engine Preventive Maintenance and Reduction of Life Cycle Costs — MOL Starts Demonstration Test of Next-generation Condition-based Engine Monitoring System —](https://www.mol.co.jp/en/pr/2015/15065.html)  
<https://www.mol.co.jp/en/pr/2015/15065.html>

[MOL to Harness Big Data to Enhance Engine Plant Preventive Maintenance and Reduce Life Cycle Costs — 2 Newbuilding Vessels to be Equipped with Next-generation Engine Status Monitoring System with Upgraded Functions —](https://www.mol.co.jp/en/pr/2017/17051.html)  
<https://www.mol.co.jp/en/pr/2017/17051.html>

### Improvement of Transportation Efficiency through Mathematical Optimization

MOL has started operation of a support system for car carrier allocation planning and a cargo loading plan support system, using mathematical optimization. In addition, we successfully conducted a demonstration test of automated space management for car carriers.

Ship allocation, cargo loading, and space management are determined by considering both quantitative information such as cargo and vessel, and qualitative information such as customer needs.

With ship allocation, it is important to select a voyage pattern that satisfies all cargo volumes and minimizes empty voyages and delayed voyages (optimization).

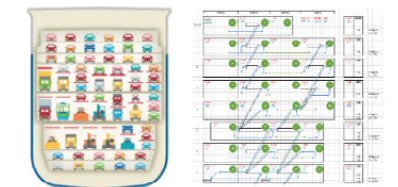
In loading cargo, transport and logistics patterns tend to diversify. When loading and unloading is carried out at multiple ports, the choice of which deck and hold to place the cargo on has a great impact on the safety and efficiency of cargo handling. Also the order of cargo loading and unloading and the balance of the vessel during the voyage must be taken into consideration.

We have developed a support system for car carrier allocation planning and a cargo loading plan support system, using mathematical optimization. We also succeeded in an automated demonstration test using mathematical optimization for “space management of each operated vessel,” which bridges ship allocation and cargo loading.

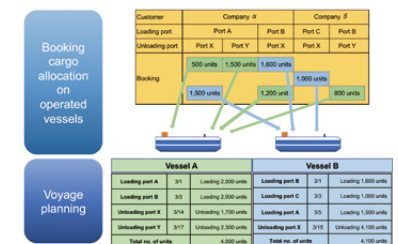
Improvement of fleet-wide efficiency reduces fuel consumption per unit transported, reducing the environmental impact of fleet operation.



Optimization of car carrier allocation plan



Optimization of car carrier loading plan



Optimization of space management

[MOL Group Adopts Car Carrier Operation Digital Transformation Promotion Project 'Mathematical Optimization': Part II — Improving Customer Satisfaction and Reducing Environmental Impact with More Efficient Cargo Loading Plans —](https://www.mol.co.jp/en/pr/2021/21080.html)  
<https://www.mol.co.jp/en/pr/2021/21080.html>

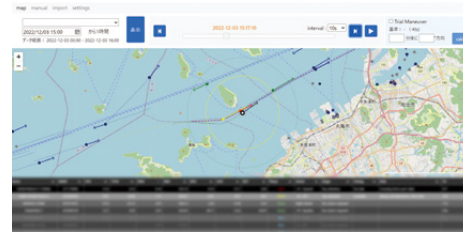
[MOL accelerates Digital Transformation by introducing Support System for Car Carrier Allocation Planning](https://www.mol.co.jp/en/pr/2021/21046.html)  
<https://www.mol.co.jp/en/pr/2021/21046.html>

[MOL Group Adopts Car Carrier Operation Digital Transformation Promotion Project 'Mathematical Optimization': Part III — With the Success of the Automated Space Management Demonstration Test for Car Carriers, Accelerating Approach to Improving Customer Satisfaction and Reducing Environmental Impact —](https://www.mol.co.jp/en/pr/2022/22041.html)  
<https://www.mol.co.jp/en/pr/2022/22041.html>

## Technology Innovation

### Autonomous Navigation System

MOL has been developing image recognition technology, conducting auto berthing/unberthing demonstrations, and conducting demonstrations in the MEGURI 2040 project to further improve safety operations and reduce the workload of seafarers.



While fully autonomous operations are still some way off, we aim to achieve the goal by utilizing systems to replace some tasks.

The first stage of the MEGURI 2040 Project ended in March 2022, and the second stage began in October 2022. We continue to participate in the project and are making various efforts towards demonstrations of more advanced autonomous operation in response to issues in the previous stage, standardization of developed technologies, and social implementation.

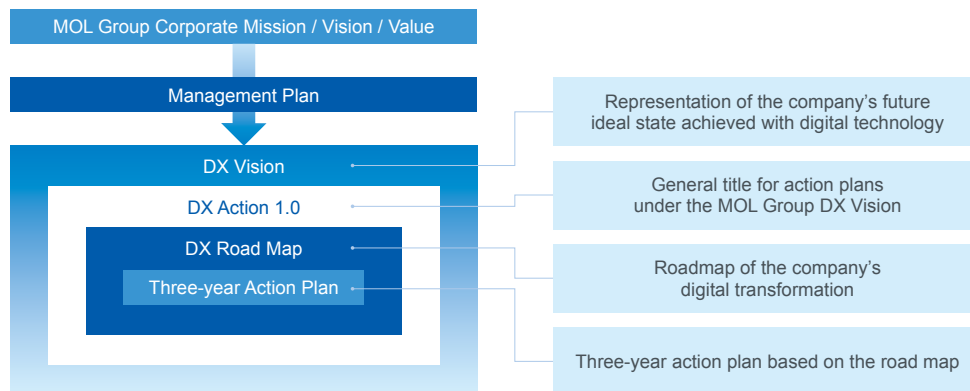
 [Participating in the Second Stage of the Nippon Foundation MEGURI2040 Fully Autonomous Ship Project for Social Implementation](https://www.mol.co.jp/en/pr/2023/23092.html)  
<https://www.mol.co.jp/en/pr/2023/23092.html>

## Digital Transformation (DX)

### Strategy/Indices and Targets

The business environment of today is changing rapidly, with it now being necessary for companies to optimize their business processes and business models and increase their efficiency and competitiveness through digital transformation (DX). The Group has been engaged in efforts to resolve sustainability issues through digital means, including issues pertaining to safety and the environment, as well as efforts to strengthen our competitiveness in the global market and to create new business models. For example, we have worked to optimize operations and fuel efficiency using ship operating data and AI.

In order to realize BLUE ACTION 2035, the Group is proactively engaged in digital transformation activities. In March 2023, we formulated the MOL Group DX Vision as an expression of the Group's ambitions and the MOL Group DX ACTION 1.0 action plan. With DX ACTION 1.0, we are driving change in both business and culture, making efforts toward the realization of the various strategies set out in BLUE ACTION 2035, and contributing to the successful implementation of efforts geared toward resolving sustainability issues.



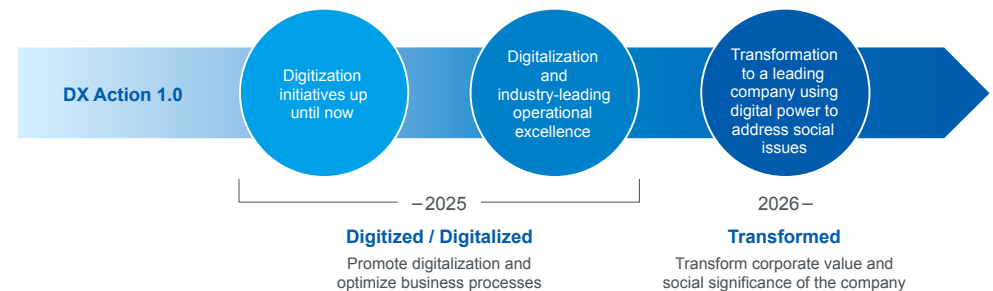
The MOL Group DX Vision  
[https://www.mol.co.jp/en/sustainability/innovation/dx/img/MOL\\_Group\\_DX\\_Vision.pdf](https://www.mol.co.jp/en/sustainability/innovation/dx/img/MOL_Group_DX_Vision.pdf)

In DX Vision, we have formulated three core concepts with regard to DX promotion by the Group.

1. Shift from routine work to value creation and safety work
2. Further use of integrated data infrastructure
3. Provide training programs to all employees to nurture Change Leaders\* for the future business transformation

\* A person promoting changes in business models, business processes, corporate culture, etc. A person who understands business and process issues, is able to envision the ideal state and lead the change.

We are aiming to have gone fully digital and to have optimized our business operations and organization by the end of 2025 and to have become a leading company with regard to helping resolve social issues relating to shipping and beyond through the use of digital technologies by 2035.





We believe that efforts to shift to the value creation of human resources as well as safety and environment-related initiatives, which are the mission of our marine transport business, are key. Therefore, we have set conversion rates in the form of Core KPIs for these business operations as targets for promoting DX in the Group.

Target	Phase 1 FY2025	Phase 2 FY2030	Phase 3 FY2035
DX Conversion rate to value creation and safety work (cumulative)	10%	20%	30%

## Digital Transformation (DX)

### Initiatives

Under DX Action 1.0, we have co-created a total of eight items relating to sustainability issues in the two areas of Business Transformation and Culture Transformation and initiatives for addressing each of these, which are driving changes.

 Business Transformation with Digital <b>Change business, safety, and service</b>	
1 Data	Integrate data to let stakeholders discuss effectively based on the same data set.
2 Business Process	Create time for new opportunities and value creation through standardization, optimization and automatization of business processes.
3 Business Management	Assure quick decision making by using daily updated information.
4 Onboard Routine Tasks	Digitize manual routine tasks onboard and create time for safe operation.
5 Shore–Vessel Communication	Speed up sea-shore communications and use video, MR (mixed reality) technology to improve operation and safety level.
 Culture Transformation with Digital <b>Change people, organization, and culture</b>	
6 Global Human Capital Management	Integrate corporate skills/talent information to start effectively managing the global human capital.
7 Crews' QOL	Speed up offshore communications and provide a living environment that allows instant connection with the shore to increase seafarers' engagement level.
8 Nurturing New Value in Employees	Provide training programs to share the skills and knowledge that lead to value creation and nurture Change-Leaders.

### Introduction to Results of Initiatives

#### [Construction of vessel owner information dashboard supporting chartering chain management](#)

As part of our efforts toward sustainable business activities, the Group is engaged in chartering chain management activities to ensure appropriate governance in chartered vessel procurement, to improve safety levels and sustainability, and to pursue overall optimization of the Group's chartered vessels. To support the efforts, we built a vessel owner information dashboard in June 2023 to comprehensively integrate both in-house and external information and collate indices for use as reference.

Traditional vessel owner evaluations were based on information obtained through Group owned and managed vessels, and had the issue in which the records of all vessels owned by shipowners were difficult to access. By incorporating global shipping data, accident information, and port state control (PSC)\* information that are provided by external organizations, it has become possible to comprehensively check information that conforms to a certain standard; from basic information such as the Group's share and positioning from the perspective of the various vessel owners and the ages of Group-owned vessels to the relative positioning of each vessel owners appointed by the Group based on the accident and PSC history of Group-owned vessels. Furthermore, by putting in place a mechanism for storing the primary data sources that the Group uses in MOL PEARL—the Group's integrated platform—we have been able to automate updates and make it possible to view the latest information at all times.

In the future, our goal is to use this dashboard to quantitatively evaluate the safety levels adhered to by vessel owners, including confirming whether the safety levels of vessels, vessel owners, and vessel management companies meet the standards demanded by the Group during charters and evaluating their performance after the charter. Those vessel owners who maintain a high quality of service based on the said evaluations are positioned by the Group as strategic partners with whom, based on the spirit of long-term partnership, we will work together to ensure world-leading safety levels.

\* On-board inspections of foreign vessels that dock at ports. An inspector from the port country boards the foreign vessel to check whether the standards stipulated in the relevant treaty are being met; if the standards are not met, the inspector orders repairs or corrective actions.



## Digital Transformation (DX)

### [Installing Starlink Satellite Communication Service to Improve Seafarers' Wellbeing](#)

MOL decided to install Starlink satellite communication service on 233 its ocean-going vessels\* managed by MOL Group ship management companies and began steadily introducing the service from October 2023. We plan to have about 140 vessels equipped with the system by the end of FY 2023.

Starlink is a satellite communication service that uses multiple small satellites deployed in low orbit to provide high-speed, low-latency connectivity. MOL has conducted trials on several MOL-operated vessels. The trials confirmed a dramatic improvement in the communication environment, with up to a 50-fold increase in communication speed, enabling seafarers to make video calls with family members and watch videos, which were difficult in the past. Considering the positive impact on seafarers' wellbeing, MOL has decided to proceed with a full-scale introduction of the system on its managed ocean-going vessels.



Onboard Starlink installation



Vessels involved in service trial  
(from left) Ferry Sunflower Sapporo,  
coastal RORO vessel Musashi Maru

MOL sees an urgent need to improve the wellbeing of seafarers onboard its vessels. Because the general onboard communication environment causes time lag and capacity limitations for private communication with family and friends, improvement of the onboard communication environment is a critical issue that must be addressed not only by MOL but also by the industry as a whole. In light of this situation, MOL, along with Marlink AS, have prepared a white paper outlining the challenges of the current onboard communication environment, an overview of low-orbit satellite communications including Starlink, and expected applications in the future, and will widely share the knowledge gained from the trials and proactively encourage measures to address this industry-wide issue.

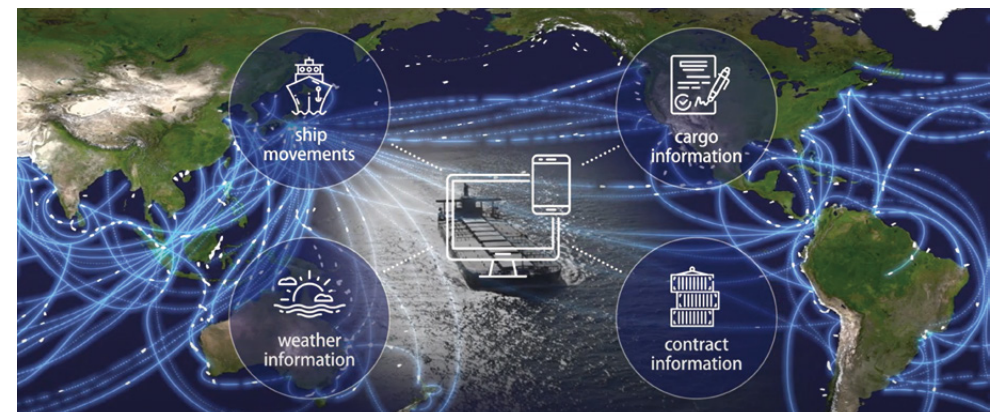
The MOL Group is committed to improving the quality of seafarers' onboard life by utilizing satellite communication services that offer high-speed, low-latency connections at sea, where the communication environment is significantly inferior to that on land. In the future, we aim to further improve operational efficiency through real-time information sharing between vessels and land, and provide full support from shore in the event of trouble onboard a vessel.

\* MOL plans to install Starlink on all its group's managed vessels, except for those for which it is difficult to install Starlink at present due to ship registry and other reasons.

 [MOL Aims for Full-scale Introduction of Starlink Satellite Communication, Targeting More Than 200 Ocean-going Vessels — Addressing Global Seafarer Shortage by Improving Work Environment —](https://www.mol.co.jp/en/pr/2023/23133.html)  
<https://www.mol.co.jp/en/pr/2023/23133.html>

### [Providing 'Lighthouse' Information Platform for Customers](#)

We provide the 'Lighthouse' platform as a service that allows those involved in the transport process, such as shippers and vessel operators, to safely, unitarily, and in real time, share and monitor various kinds of information related to ocean transport, such as vessel schedules, weather, ocean conditions, as well as data related to cargoes and contracts, on a customized basis for each customer.



## Digital Transformation (DX)

MOL will use data and digital technology to help customers optimize their supply chains, not only in ocean transport, but also throughout the entire supply chain from raw material procurement to production, and to transform their business models for the better. Then, it aims to reduce the environmental impact of ocean transport and achieve net-zero greenhouse gas (GHG) emissions by improving service and quality based on customer needs, by, for example, enhancing operational and transport efficiency.

 [MOL Launches Inter-system Linkage of 'Lighthouse' Digital Platform with Nippon Steel Corporation](https://www.mol.co.jp/en/pr/2023/23066.html)  
— MOL-developed System Helps Customers Optimize Supply Chains —  
<https://www.mol.co.jp/en/pr/2023/23066.html>

### [Introduction of 'MarTrust' Payment Service for Seafarers to Improve Quality of Onboard Life](#)

We have introduced MarTrust, a payment service specialized for ocean shipping, for all seafarers onboard vessels managed by MOL Group ship management companies, aiming to improve seafarers' quality of life by providing a portion of payroll through electronic payment services on mobile applications.

MarTrust is an international payroll remittance service for seafarers, developed by the Marcura Group, a digital transformation (DX) solution provider focusing on the ocean shipping industry. With the introduction of MarTrust, seafarers will be given an e-wallet account and an international branded accompanying debit card, allowing them to transfer to bank accounts and between e-wallets through a mobile application. It also supports cash withdrawals from ATMs almost anywhere in the world, so that payments received electronically can be converted to cash.

The mobile app enables the remittance of wages and online shopping, while also eliminating the need to keep cash onboard. This enhances engagement for seafarers while at the same time allowing the vessel's captain to manage income and expenditures more efficiently. We plan to make it available to all eligible seafarers by the end of FY2024.

 [MOL Introducing 'MarTrust' Payment Service for Seafarers to Improve Quality of Onboard Life](https://www.mol.co.jp/en/pr/2023/23138.html)  
<https://www.mol.co.jp/en/pr/2023/23138.html>

# Governance

## Governance and compliance to support businesses



### Core Objective

Through enhancement of corporate governance and thorough compliance, MOL aims to ensure transparency in Group wide management, build foundations for its initiatives on social issues through business activities, and establish sustainable value chains based on consideration for human rights, safety, and the environment.

### Contributing to SDGs:



### Initiative Focus

Management Transparency

Information Security

Responsible Procurement

Respect for Human Rights

Fair Trade

Bribery Prevention

### Targets / KPIs

- **Targets**
  - Achieve management system for global growth by leveraging the collective strength of the group
  - Establish a highly effective corporate governance system
  - Enhance disclosure to encourage dialogue with stakeholders
- **KPIs**
  - Results of effectiveness evaluations of the Board of Directors
  - Progress of deliberation of the Corporate Governance Council

- **Numerical Targets**
  - Zero serious ICT incidents\*1
- **KPIs**
  - Number of serious ICT incidents

- **Targets**
  - Identify and reduce risks related to the environment, safety, and human rights throughout value chains
- **KPIs**
  - Progress of value chain management
  - Track record on human rights training

- **Numerical Targets**
  - Zero compliance violations\*2
- **KPIs**
  - Number of compliance violations
  - Number of consultations received by compliance advisory service desk
  - Track record on compliance training and e-learning

### Fiscal 2023–2025 Action Plans

- Implement various measures based on the “MOL Group Three Basic Principles of Corporate Governance”
  - Continuously implement improvement measures based on evaluation of the effectiveness of the Board of Directors
  - Develop a roadmap for realizing a board structure based on a skills matrix
  - Enhance discussions on company-wide material risks
  - Strengthen the authority of the Corporate Organization, Business Organization, and Regional Organizations, and enhance cross-checking functions

- Strengthen ransomware protection
- Optimize security incident operations processes
- Strengthen management of information assets and visualize operational status
- Strengthen detection and prevention measures for behavior that could be a precursor to virus infection, etc.

- Disseminate and instill understanding of relevant policies within the group and among business partners to ensure their understanding
- Continuously implement ESG surveys for business partners and expand targets
- Continuously implement human rights due diligence
- Expand human rights education programs

- Strengthen internal audit structure and implement improvement measures based on audit results
- Continuously implement compliance-related education and enlightenment activities

\*1 Those that fall under Level 4 (most serious) of the four incident levels determined according to the scope of impact.

\*2 Serious violations related to fair trade and bribery.

# Corporate Governance

## ● Approach

We established the “MOL Group Three Basic Principles of Corporate Governance.” The basic principles indicate the MOL group’s stance on corporate governance and matters that it considers universally important as a guideline for its actions, for all stakeholders, including shareholders, investors, employees, and customers.

### MOL Group Three Basic Principles of Corporate Governance

#### Article 1 (Framework and Operation)

Based on the MOL Group Corporate Mission, the MOL Group Vision, and the MOL Group Values, Code of conducts (MOL CHARTS), we, the MOL Group, grow globally by enhancing corporate governance and leveraging the collective strengths of the MOL Group.

#### Article 2 (System)

We, the MOL Group, have established a highly effective corporate governance system befitting a strong and resilient corporate group that is growing globally to increase corporate value over the medium and long term.

#### Article 3 (Dialogue)

We, the MOL Group, provide new value through highly transparent dialogue with all of our stakeholders, including shareholders, investors, employees and customers.

## MOL Group Corporate Governance Policy

We established the “MOL Group Corporate Governance Policy,” which systematized policies for specific initiatives based on the spirit of the Basic Principles.

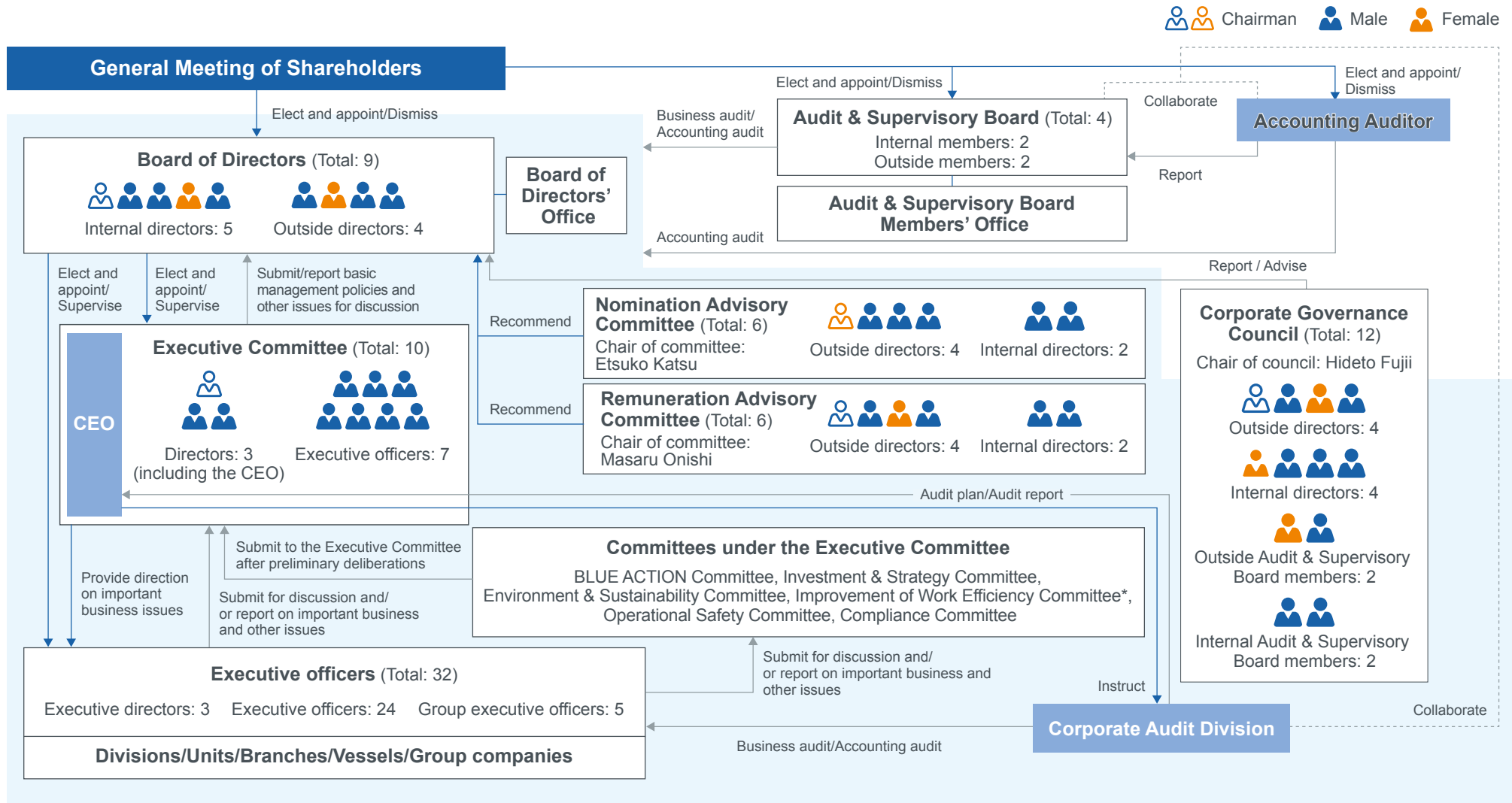
 <https://www.mol.co.jp/en/sustainability/governance/corporate/policy/pdf/governance-policy.pdf>

## ● System

We believe that the appropriate form of governance should achieve legality, appropriateness, and efficiency of business operations by ensuring an effective supervisory framework for the Board of Directors. This is accomplished by having a mutual supervision and check mechanism among inside directors (three out of five inside directors also serve as executive officers as of June 20, 2023) who carry out business operations and by forming a Board of Directors that consists of inside directors who also carry out business operations and nonexecutive inside directors and outside directors who specialize in strategy deliberation functions and supervisory functions. The structure also secures the audit function of the Audit & Supervisory Board, which is independent of the Board of Directors. Based on this view, MOL has become a company with an Audit & Supervisory Board as prescribed in the Companies Act. The Board of Directors, by its resolution, has established a basic policy for developing a system to secure the properness of operations (internal control system). The MOL Group’s officers and employees, under the president serving as the chief executive officer for management, carry out business operations in accordance with the management policy set by the Board of Directors and the above-mentioned basic policy, while being subject to supervision by the Board of Directors and audits by the Audit & Supervisory Board.

## Corporate Governance

### Corporate Governance Organization (as of June 20, 2023)



\* Reorganized as "HC Action Committee" from October 1, 2023



## Corporate Governance

### Approach to the Board of Directors

The role and responsibility of the Group's Board of Directors is to help improve the Group's corporate value by implementing the strategy review and supervision cycle with regard to basic management policies (such as the Mission, Vision, and Values) and matters of importance (management plans, business strategy, and individual cases of important business execution).

As laid out in BLUE ACTION 2035, our aim is to grow by expanding our footprint to areas beyond our conventional marine transport domain which is our foundation; however, we believe that this is something that is only made possible through the taking and managing of risk.

The Board of Directors formulates basic management policies based on dialogue with executives, upon which it duly deliberates and makes decisions with regard to important management matters. The Board also monitors and makes evaluations as to whether strategies are being properly implemented without a hitch, whether or not excessive risk has been taken, and whether the risk management system is functioning as it should.

In order to fulfill the aforementioned roles and responsibilities, the composition of the Board of Directors is decided based on experience, expertise, skills, and matters of diversity like gender as deemed desirable for the Board of Directors. From June 2023, internal Directors who concurrently serve as executive officers have been limited to just the CEO, COO, and CFO. Furthermore, in order to improve corporate governance, we have increased the number of outside directors by one. The Chairman of the Board of Directors shall no longer hold the right of representation, nor serve as an executive officer, but shall instead focus on demonstrating the functions of the Board of Directors. In addition, one internal director (non-executive director) shall work to improve the effectiveness of the Board of Directors through supervision of management and business execution in accordance with his extensive experience within the Group.

#### Establishment of Board of Directors Office

On April 1, 2023, the Board of Directors Office was established with the aim of helping reform and raise the quality of the roles of the Board of Directors and to help better demonstrate the Board's functions. The Board of Directors Office serves as the foundation to ensure that the necessary and adequate levels of information are provided to each member of the Board and that effective and constructive discussions take place.

### Standards for Appointing Directors and Audit & Supervisory Board Members

The Nomination Advisory Committee has been established to heighten the objectivity, transparency, and accountability of the selection procedures of directors and Audit & Supervisory Board members. The committee submits reports to the Board of Directors after selecting candidates in light of standards established by the committee on gender equality and other issues as well as the experience, expertise, and skills deemed desirable for members of the Board of Directors, which were identified in the form of skills matrix. (Reports on candidates for positions in the Audit & Supervisory Board are submitted upon receiving the consent of the Audit & Supervisory Board.) With due consideration for the reports submitted by the Nomination Advisory Committee, the Board of Directors determines candidate directors and candidate Audit & Supervisory Board members.


#### Standards for Appointing Directors

- a) Personnel who are able to contribute to enhancement of the corporate value of the Company based on a wealth of experience and knowledge
- b) Personnel who are able to make management decisions globally from a broad-ranged perspective and foresight
- c) Personnel with high ethical standards and solid common sense

#### Standards for Appointing Audit & Supervisory Board Members

- a) Personnel who have an appropriate set of experience, qualification, ability, and expertise
- b) Personnel who possess a high degree of financial and accounting knowledge (more than one member)

Furthermore, upon the formulation and disclosure of standards for determining independence, independent outside directors are then selected based on factors including the status of any concurrent positions they may hold with other listed companies. The Board of Directors is comprised of an appropriate selection of independent outside directors and non-executive directors.

 For details on the Independence Criteria for Outside Officers, please visit the following data on our website. [Independence Criteria for Outside Officers, page 19, Notice of Convocation of the Ordinary General Meeting of Shareholders for the Fiscal Year 2022](#)  
<https://www.mol.co.jp/en/ir/stock/gms/pdf/notice23.pdf>

## Corporate Governance

### CEO Succession Plan

To ensure the appointment of a suitable CEO in a timely and appropriate manner, the Company formulated a CEO succession plan that establishes the requirements and selection process in relation to the position of CEO as well as a development plan for successor candidates. Based on the succession plan, the Nomination Advisory Committee deliberates proposals for the next CEO, including the re-appointment and dismissal of the incumbent CEO, and submits reports to the Board of Directors.

### Specific Experience, Expertise, and Skills Expected of Members of the Board of Directors

The Nomination Advisory Committee discusses what to identify and select as the particular types of experience, expertise, and skill (hereinafter “Experience, etc.”) desired for realizing the Company’s target corporate profile. The items have been selected as detailed in the table to the right. We will continue to review these items in accordance with the changes in the business environment. In addition, training opportunities will be provided for directors and Audit & Supervisory Board members, and advisors will be appointed to improve the functions of the Board as necessary.

Name	Position	Experience, etc., considered important for corporations					Experience, etc., considered important for corporations supporting social infrastructure			
		Corporate management	Finance / Accounting	Legal affairs / Risk management	ESG	Human resources / Diversity	Safety	Technology	Marketing / Business strategy	Global business
<b>Junichiro Ikeda</b>	Director	●		●	●	●	●		●	●
<b>Takeshi Hashimoto</b>	Representative Director	●	●	●	●	●	●		●	●
<b>Toshiaki Tanaka</b>	Representative Director	●			●	●	●		●	●
<b>Junko Moro</b>	Director				●	●	●		●	
<b>Hisashi Umemura</b>	Director	●	●	●			●			●
<b>Hideto Fujii</b>	Director (Outside)	●	●	●	●				●	
<b>Etsuko Katsu</b>	Director (Outside)		●		●	●				●
<b>Masaru Onishi</b>	Director (Outside)	●					●	●	●	
<b>Mitsunobu Koshiba</b>	Director (Outside)	●		●				●		●
<b>Masanori Kato</b>	Audit & Supervisory Board Member			●		●	●	●		
<b>Yutaka Hinooka</b>	Audit & Supervisory Board Member		●	●			●		●	●
<b>Satoru Mitsumori</b>	Audit & Supervisory Board Member (Outside)	●		●	●	●				
<b>Fumiko Takeda</b>	Audit & Supervisory Board Member (Outside)		●	●	●	●				●

## Corporate Governance

### Initiatives to Enhance the Effectiveness of the Board of Directors

With the aim of further increasing the effectiveness of the Board of Directors and its subordinate committees—namely, the Nomination Advisory and Remuneration Advisory committees and the Corporate Governance Council—the Company conducts an annual survey, which seeks self-evaluations from each director and Audit & Supervisory Board member regarding the content of agenda items and deliberations, the contribution of each member of the Board of Directors, and the management and administration of its activities. The results of this analysis and evaluation as well as the identification of issues and the analysis and implementation of improvement measures are considered in making the next year's programs.

#### Summary of Survey Implementation

##### Respondents

Fiscal 2022 12 officers, comprising all directors (five internal directors and three independent outside directors) and all Audit & Supervisory Board members (two full-time Audit & Supervisory Board members and two independent outside Audit & Supervisory Board members)

##### Implementation and Evaluation Method

February 2022 Provision of effectiveness evaluation survey to all directors and Audit & Supervisory Board members, receipt of responses from all respondents  
 March 2022 Discussion at the Corporate Governance Council based on the results  
 April 2022 At a meeting of the Board of Directors, items for which effectiveness was established, items identified as issues, and items to be addressed in fiscal 2023 were reported, details of which were confirmed by the directors and Audit & Supervisory Board members.

##### Main Items in Self-Assessment Survey

Overall assessment of the Board of Directors (composition, administration, management plans, overall risk, nomination, and remuneration), effectiveness of deliberation on corporate strategy and vision, effectiveness of the Nomination Advisory and Remuneration Advisory Committees and the Corporate Governance Council, and mutual supervision and monitoring among directors and Audit & Supervisory Board members.

##### Items for Which Effectiveness Was Confirmed

- (1) The Board of Directors deliberated individual issues based on the MOL Group Corporate Mission, the MOL Group Vision, and the MOL CHARTS values as well as the general goals of the corporate management plan.
- (2) With regard to corporate strategy and vision in particular, the Board of Directors secured sufficient time for discussion of management policies and business strategies, and directed the execution of individual issues to ensure consistency with management policies and business strategies.
- (3) The deliberations of the Nomination Advisory and Remuneration Advisory Committees were reported in a transparent and objective manner to the Board of Directors. In addition, both advisory committees and the Corporate Governance Council convened with an appropriate frequency and progress was achieved.
- (4) Through efforts to improve its operations, the Board of Directors is contributing to securing a conducive environment for lively and efficient deliberations.

##### Issues Recognized by the Board of Directors

- (1) Establishment of systems for the Board of Directors to receive reports and monitor KPI and milestones relating to the management plan
- (2) Initiating discussions about sustainability not only from a risk perspective, but also with the objective of discovering revenue opportunities
- (3) Reconsideration of the board succession plan, including development plans and diversity
- (4) Reconsideration of ESG-related KPIs that should be incorporated into the remuneration system.

#### Fiscal 2023 Initiatives

- (1) Decide on the frequency and main themes of monitoring for Core KPIs of the corporate management plan (financial/non-financial)
- (2) Build company-wide risk management systems including scenario analysis of emerging risks and other issues
- (3) Establish a road map for the realization of a Board of Directors whose composition is based on the skills matrix
- (4) Hold discussions regarding inspections of the current remuneration system and the incorporation of new ESG KPIs into the system

### Deliberation on Corporate Strategy and Vision

The Company's Board of Directors deliberates overall issues related to the corporate management plan and the MOL Group Vision as Deliberation on Corporate Strategy and Vision at Board meetings, thus ensuring that individual issues are executed in accordance with management policy and setting the direction of businesses/projects. The Company formulates agenda items based on the most important management challenges identified through discussions of the Board of Directors, the Nomination Advisory and Remuneration Advisory Committees, and the Corporate Governance Council.

#### Main Agenda Items of Deliberation on Corporate Strategy and Vision Conducted by the Board of Directors in Fiscal 2022

Month and Year		Agenda Item
2022	July	Containership business
	August	Outline of medium-term corporate management plan of DAIBIRU; company-wide risk management enhancement project
	September	Direction of the next corporate management plan
	October	Review of Rolling Plan 2022; direction of new human resource strategy
	November	Logistics business
	December	Overall image of the next corporate management plan
2023	January	Company-wide in-depth risk management project (management of emerging risks)
	April	Management of emerging risks (individual scenarios)

### Nomination Advisory Committee and Remuneration Advisory Committee

The Nomination Advisory Committee and the Remuneration Advisory Committee are established as arbitrary organizations under the Board of Directors. Both Committees are chaired by an outside director and consist of all four outside directors, the chairman and the president, with outside directors making up the majority, to make the supervision of the executive directors by the outside directors more effective.

#### Results of Fiscal 2022 Evaluation

## Corporate Governance

The Nomination Advisory Committee deliberates on the appointment and dismissal of directors and executive officers and the criteria for deciding their appointment and dismissal. The Remuneration Advisory Committee examines how the remuneration for officers, including incentives for the long-term enhancement of corporate value, should be structured from an objective standpoint with a focus on the stakeholders' perspective. In addition to the members of the Committees, outside Audit & Supervisory Board members are also permitted to state their opinions by attending the Committee meetings to enable them to understand the process of deliberations. The Board of Directors passes the necessary resolutions by respecting the contents of the reports submitted by both Advisory Committees.

### Main Agenda Items Deliberated by the Advisory Committees in Fiscal 2022

#### Nomination Advisory Committee (convened seven times)

Chair of committee : Hideto Fujii (Outside Director)

Main Agenda Items : ● Board succession plan

- Selection of next President based on the succession plan for the President, and consideration of a candidate for successor in the event of an emergency
- Election of directors, Audit & Supervisory Board members, and executive officers for FY2023 (Relinquishment of right of representation by the Chairman of the Board, retirement of executive officers, selection of non-executive directors, and addition of one outside director)
- Review of advisory system and other matters

#### Remuneration Advisory Committee (convened nine times)

Chair of committee : Etsuko Katsu (Outside Director)

Main Agenda Items : ● Details of payment of single fiscal year performance-based compensation for directors and long-term target contribution-based compensation in FY2021, and remuneration for directors in FY2022

- Revision of the remuneration plan for non-executive directors
- Analysis of the peer group to ensure the appropriateness of remuneration levels
- Evaluation of officer remuneration plans introduced in FY2021
- How to establish and evaluate qualitative targets for Chairman and President and other matters

## Corporate Governance Council

The Corporate Governance Council has been established fiscal 2021 under the Board of Directors to serve as a forum for facilitating unrestricted discussion while incorporating outside knowledge with respect to the overall direction of the entire MOL corporate governance. Appointed by the Board of Directors, the council's members comprise four internal directors, all four outside directors, and all four Audit & Supervisory Board members. In addition to being chaired by an outside director, the council is able to appoint

outside experts, depending on the issue at hand, and have them participate in deliberations, giving the council a high degree of expertise and objectivity.

### Main Agenda Items Deliberated by the Corporate Governance Council (convened seven times in fiscal 2022)

Chair of council : Masaru Onishi (Outside Director)

Main Agenda Items : ● Role and functions desired of the Board of Directors

- Institutional design
- MOL Group Three Basic Principles of Corporate Governance and MOL Group Corporate Governance Policy
- Training policy for directors and Audit & Supervisory Board members and improvement in the operation of Board of Directors, and other matters

## Policy on Cross-Shareholdings

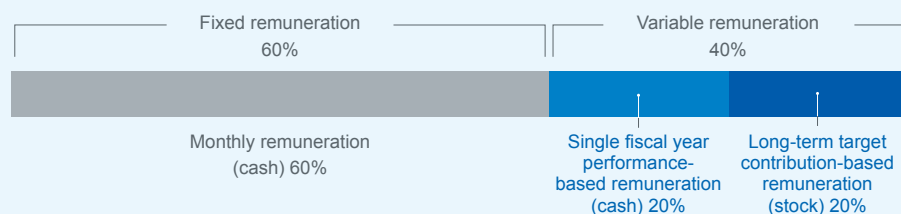
MOL Group may hold shares for the purpose of maintaining and strengthening relationships with important business partners or to contribute to the increase in MOL Group's corporate value and sustainable growth over the medium and long term. To determine the appropriateness of holding each stock, the Board of Directors annually evaluates and verifies the appropriateness of the purposes MOL Group has for holding each stock and the profitability of continuing to hold each stock based on the cost of capital. When the Board identifies stock where the policy of continuing to hold the stock is not considered reasonable, MOL Group will reduce or terminate its holding of that stock. Across the period fiscal 2019 through 2022, the Company reduced its holdings of 27 stocks, equivalent to ¥42.0 billion. As of March 31, 2023, the Company holds approximately 40 cross-shareholdings, equivalent to approximately ¥47.0 billion. However, as a result of quantitative evaluation (benefits associated with shareholdings, including dividends) and qualitative evaluation (verification of meaning of holding shares based on transaction status), the Board of Directors has resolved to sequentially sell approximately ¥3.0 billion of these shareholdings in accordance with market trends.

## Remuneration of Executive Directors

Given the business characteristics of marine transport, contribution to the enhancement of both short-term performance and medium- to long-term performance is expected. Accordingly, the remuneration of executive directors comprises monthly remuneration, single fiscal year performance-based remuneration, and long-term target contribution-based remuneration. (The Company changed to the current remuneration plan in fiscal 2021.)

## Corporate Governance

### Model Remuneration Assuming Achievement of Performance Targets



Note: The above diagram is an approximation that has been calculated premised on certain Company performance and share price levels. The above percentages change in accordance with the Company's business performance and share price.

### Remuneration of Non-Executive Directors

Upon receiving the approval of the General Meeting of Shareholders convened in June 2022, the Company provided remuneration in the form of Company stock to non-executive directors, including outside directors.

#### Aim of the Revision

To incentivize sustained enhancement of the Company's corporate value and further align the interests of directors with those of shareholders

#### Before revision

Fixed cash remuneration 100.0%

#### Main Features of the Revision

- Number of shares granted not linked to business performance
- Restriction on transfer of shares until retirement

#### After revision

Fixed cash remuneration 90.0%

Restricted stock remuneration 10.0%

Note: The ratio of restricted stock remuneration for the Chairman of the Board of Directors will be a little less than 30.0%.

The Company acknowledges that there are certain views against providing stock remuneration to non-executive directors, as they are expected to exercise the function of monitoring the Board of Directors.

The Company believes that by holding a certain number of shares, non-executive directors can have shareholders' perspective, and that can be an appropriate incentive for

exercising the monitoring function. Further, the structure of stock remuneration for non-executive directors prevents the recipients from profiting off short-term trading of the stocks or receiving higher remuneration based on deliberately inflated short-term results, due to the stocks having restrictions on transfer and being delinked from performance (the amount received is not linked to performance).

### Remuneration for Directors and Audit & Supervisory Board Members in Fiscal 2022

Category	Number of people	Total remuneration (millions of yen)	Total remuneration, by type (millions of yen)			
			Basic remuneration Monthly remuneration (cash)	Performance-based remuneration Single fiscal year performance-based remuneration (cash)	Non-monetary remuneration Performance-linked stock remuneration (stock-based)	Non-monetary remuneration Non-performance-linked stock remuneration (stock-based)
Directors (of whom outside directors)	8(3)	1,096(45)	301(41)	673(-)	118(-)	4(4)
Audit & Supervisory Board members (of whom outside Audit & Supervisory Board members)	5(3)	98(26)	98(26)	-(-)	-(-)	-(-)
Total (of whom outside directors or outside Audit & Supervisory Board members)	13(6)	1,194(71)	399(67)	673(-)	118(-)	4(4)

#### Notes:

1. The above remuneration includes remuneration related to one Audit & Supervisory Board member who was an outside Audit & Supervisory Board member and who resigned at the conclusion of the Ordinary General Meeting of Shareholders convened on June 21, 2022.
2. Of the above, remuneration paid to six outside directors totaled ¥71 million.
3. Amounts of less than ¥1.0 million have been rounded down to the nearest ¥1.0 million.



## Corporate Governance

	KPI	Weight	Targets and KPIs of Rolling Plan 2022 and the MOL Sustainability Plan	Fiscal 2022 Results	Calculation Results and Total Payment
Single Year Performance-Based Remuneration	(A) Consolidated ordinary profit (loss)		● ¥525.0 billion	● ¥811.5 billion	
			● Dry bulk business: ¥30.0 billion	● ¥57.6 billion	
	(B) Ordinary profit (loss) by segment	See notes below.	● Energy and offshore businesses: ¥22.0 billion	● ¥39.5 billion	
			● Product transport and real property businesses: ¥477.0 billion	● Product transport: ¥705.4 billion ● Real property: ¥8.1 billion	
			● Associated businesses: ¥(500) million	● ¥(500) million	¥673.0 million
(C) Degree of achievement of safe operations indicators		● 4 ZEROES violations: 0	● 1		
		● Downtime frequency rate: ≤1.00 incident per ship per year	● 0.33 incident per ship per year		
		● Average downtime: ≤24.00 hours per ship per year	● 12.18 hours per ship per year		
		● Lost time injury frequency: ≤0.50 injuries	● 0.17		
Long-Term Target Contribution-Based Remuneration	Total shareholder return* (growth rate versus TOPIX and growth rate of total shareholder return versus competitors)	30%	—	● Growth rate versus TOPIX: 124.84%	
	ROE	40%	● Fiscal 2022 (initial projection): 35.0% ● Fiscal 2027 (target): 9.0 -10.0%	● 49.80%	¥118.0 million
	Targets for individual directors	30%	—	● Portfolio strategy: Strengthening the non-shipping businesses, including the (oil & gas), offshore wind power generation, logistics, and real property businesses (e.g., conversion of MOL Logistics into a wholly owned subsidiary) ● DX: Ramping up DX initiatives (implementation of initiatives for chartered vessel owners, etc.) ● Governance: Continued efforts to strengthen governance (introduction of management of emerging risks, etc.)	

Notes: Evaluated based on the ratio of ordinary profit to planned value, considering the degree of achievement of safe operations KPI. For Directors in charge of Business Headquarters and Headquarters' business divisions, this figure also reflects the Business Headquarters' or business division's rate of achievement of the ordinary profit to planned value ratio.

## Risk Management

### Approach

“Taking the leap to becoming a global social infrastructure company” is a key element of MOL’s new management plan “Blue Action 2035,” reflecting the goal of expanding our activities in various areas beyond the traditional ocean shipping business. On the other hand, we can take on new challenges and risks only with appropriate risk management. We have classified the various risks to which we are exposed into two categories: “emerging risks” and “business execution risks,” for deeper risk management based on our recognition of the issues in the table below. Through strategy and vision discussions, the Board of Directors will establish a risk management system that encourages risk-taking in execution, as we strive to develop more effective supervision.

Issues	Policies and Measures
Management methods should be established for risks that have not been recognized in the past, or that have been vaguely recognized but for which there is no clear policy.	Introduction of “Emerging Risk Management”
Risks should also be viewed as opportunities.	Recognizing emerging risks as opportunities, the Board of Directors and the Executive Committee thoroughly discuss them to establish basic management policies.

### System

Executive officers in charge of each management division in the corporate organization supervise the status of risk management for business divisions in the sales and regional organizations, respectively, and provide advice as needed. Major risks are centrally managed through regular reports to the Executive Committee and its subordinate committees, with priority given to those deemed particularly significant.

In addition, a dedicated internal review division identifies the risks in advance when making an important decision, including new investment decisions. We then enter the decision-making process through the assessment of each responsible division, which will draft a proposal as needed. We delve deeper into the risks and identify issues to be discussed, by establishing six committees as subordinate under the Executive Committee, depending on the decision-making nature and the significance of the decision, while the committees conduct preliminary deliberations. We also make decisions with an emphasis on risk management, with the most important matters being brought to the Board of Directors

after careful deliberation by the Executive Committee. The Corporate Audit Division, which reports directly to the President, maintains the independence and objectivity as an internal audit division. The Corporate Audit Division evaluates the adequacy and effectiveness of internal controls derived from risk assessments conducted by business units through the risk management process in accordance with internal audit standards. The Corporate Audit Division identifies substantive problems related to internal control issues through internal audits and proposes improvements to general managers of each business unit in the sales organization and regional organizations, as well as the presidents of Group companies and the appropriate divisions within the organization, to resolve the problems.

The Board of Directors is responsible for supervising these initiatives.

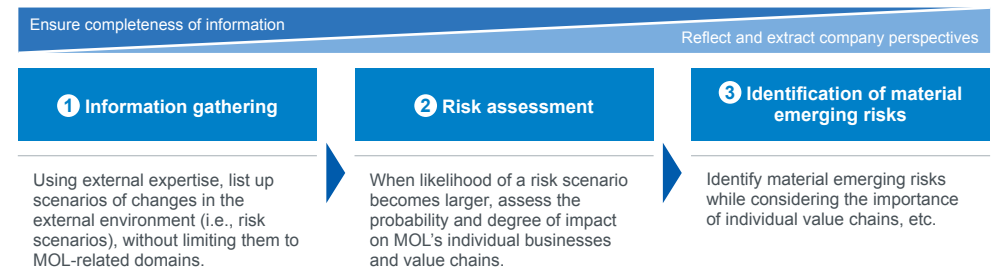
[Organization chart](https://www.mol.co.jp/en/corporate/organization/)  
<https://www.mol.co.jp/en/corporate/organization/>

### Emerging risks

MOL defines “emerging risks” as those resulting from irreversible changes in the external environment that impact our business, for which the probability of occurrence and the degree of impact cannot be quantified.

Since it is considered ineffective to manage emerging risks based only on historical data and knowledge, we will manage emerging risks using different methods from those used for business execution risks.

Specifically, to quickly identify opportunities and threats from these risks, we have implemented the following process to identify key risk scenarios and collect relevant information.



## Risk Management

For those identified as significant risk scenarios, the Board of Directors discusses the impact on our business and possible measures that we can take, in line with basic management policies and based on the most recent data and expert opinions. We also recognize emerging risks as business opportunities, and the Board of Directors and the Executive Committee will thoroughly discuss them to establish management plans and business strategies.

New risk classifications			Conventional risk classification
Risk classification	Risk management method	Significant risk items facing our business	Significant risks facing our business (no particular order)
I. Emerging risks	Cross-company management based on risk scenarios	Geopolitical risks	
		Climate change risks	Climate change risks
II. Business execution risks	Management by type and division based on past experience and knowledge	Operational risks	Operational risks
		Cybersecurity risks	Cybersecurity risks
		Natural disaster and epidemic risks	Natural disaster and epidemic risks
		Group governance risks	Compliance risks
		Risks related to human rights and various risks in value chains	Risks related to human rights and various risks in value chains
		Market fluctuation risks, customer credit risks, and country risks	Shipping market fluctuation risks, customer credit risks, and country risks
		Exchange rates, interest rates, and bunker price fluctuation risks	Exchange rates, interest rates, and bunker price fluctuation risks

### Business execution risks

Business execution risks can be effectively managed based on past data and knowledge, and we have defined a specific risk management system that has already been established and implemented in each responsible division.

### Major Business execution risks

Risk	Responsible division	Key management rules and guidelines
Operational risks	Marine Safety Division, Ship Management Strategy and Supervising Division (Dry Cargo and Energy), and Legal Division	Rules for Headquarters of Crisis Control, Rules for Headquarters of Emergency Control for Serious Marine Incidents, and manuals established by respective ship management companies
Cybersecurity risks	MOL Information Systems, Ltd.	Rules for Headquarters of Crisis Control, ICT governance rules, ICT security rules, and Critical ICT Incident Response Team Regulations
Natural disaster and epidemic risks	Secretaries & General Affairs Division and Marine Safety Division	Rules for Headquarters of Crisis Control, Rules for Headquarters of Emergency Control for Disaster and Pandemic, and MOL BCP summary
Group governance risks	Corporate Audit Division and Division responsible for Group company management	Group company management rules and Internal audit rules
Risks related to human rights and various risks in value chains	Environment & Sustainability Strategy Division and Human Resources Division	MOL Group Human Rights Policy, MOL Group Basic Procurement Policy, MOL Group Supplier Procurement Guidelines, Declaration of Harassment Prevention, Compliance rules, and Rules of Conduct
Market fluctuation risks, customer credit risks, and country risks	Corporate Planning Division	Asset Risk Control and Market risk management rules
Exchange rates, interest rates, and bunker price fluctuation risks	Finance Division (exchange rates, interest rates) and Marine Fuel GX Division (bunker prices)	Market risk management rules

### Operational risks

Centered on marine transport, MOL operates roughly 800 vessels and offshore plants, and these vessels and plants are of many different types. As a company that provides social infrastructure, some of the most serious risks we face are damage to ships and cargo or injury to crew members caused by vessel collisions, ships running aground, fires and other accidents, as well as environmental pollution from leakage of cargo oil and bunker oil (oil spills). To prevent accidents from occurring, without regard to owned vessels or chartered vessels, MOL's Headquarters of Safety Operations, sales divisions, shipowners (for chartered vessels), and ship management companies work closely together on tangible and intangible aspects of safety, from training and supervising crew members to adoption of safety standard specifications which effectively maintain the safety of our vessels. We also make a variety of preparations to counter the dangers of piracy and terrorism by providing sufficient training, putting in place precise operational rules, providing support from our Head Office, and installing necessary facilities.

 "Safety Levels" Initiatives ▶ P.23–31

## Risk Management

### Cybersecurity risks

The MOL Group's business and operations are heavily dependent on information systems, and serious information and communication technology (ICT) incidents (security and privacy breaches and damage to the group's reputation that have occurred or may occur as a result of ICT system failures, cyberattacks, natural disasters, operational errors, and so on) could have a major impact on the group's business. We set forth the criteria for determining the incident level common to the group and the response policy according to the incident level in the "Rules of the Emergency Headquarters for Serious ICT Incidents" and "Guidelines for Responding to Major ICT Incidents." We established the framework to formulate a task force when a serious ICT incident occurs, promptly and systematically report the incident and explain it to stakeholders (shareholders, customers, media, etc.), and take technical and legal action to prevent the reoccurrence of situations that seriously damage the group's profits, brand, and credibility.

[Information Security ▶ P.110–111](#)

### Natural disaster and epidemic risks

Large-scale disasters, infectious outbreaks, pandemics and other events are expected to have a substantial impact on our sustainable business activities by restricting the actions of not only the seafarers on Group-operated vessels, but land-based employees as well. Placing the highest priority on the safety of our vessels, employees and executives, we have formulated a business continuity plan (BCP) and related manuals to help ensure uninterrupted maritime freight services, the core of our business, and to engineer a swift recovery in the event of any interruption. Our BCP preparations also include establishing satellite offices and other back-up systems, and conducting sufficient emergency drills.

### Group governance risks

We have instituted a framework to enhance the corporate value of the entire MOL Group, including subsidiaries and affiliates. However, any failure in the governance of a subsidiary

or affiliate causing a delayed response to an incident could adversely affect our business performance. To address this risk, in FY2023, we established a "Chief Officer System" to oversee corporate functions across the group and shift to a system that strongly supports integrated and strategic initiatives. Each Chief Officer is delegated a portion of the President's (CEO's) authority and responsibility, and the mission is to direct and control not only the company (the Head Office) but also the entire group in a specific cross-sectional function. In addition, we introduced risk assessment for domestic and overseas group companies in FY2022. This initiative aims to provide basic information with the objective of establishing a more effective risk management system for each group company, by identifying the location and description of risks by each group company and the responsible management division in the Head Office. Executives and corporate divisions in the Head Office also identify group-wide risks based on self-assessments by each group company.

### Risks related to human rights and various risks in value chains

MOL Group value chains encompass various risks to operational sustainability, including human rights, safety and environmental aspects. In particular, risks related to human rights, such as discrimination of any form, excessively long working hours, harassment, forced labor, and child labor, have become a social concern and could erode corporate value. To address this, we are upgrading our value chain management and due diligence processes for human rights with the aim of assessing and mitigating all risks relating to environmental, social, human rights and other aspects across our entire value chain.

[Human Rights ▶ P.116–120](#)  
[Responsible Procurement ▶ P.112–115](#)

### Market fluctuation risks, customer credit risks, and country risks

MOL manages market fluctuations, customer credit, and country risks based on the following concepts.

## Risk Management

The total amount of these risks (asset risk) is measured every six months and compared to the shareholders' equity, and the results are reported to the Board of Directors. This is called asset risk control.

### Shipping market fluctuation risks

In case of investments in assets that are not subject to medium- to long-term contracts, we selectively execute this process after carefully scrutinizing the outlook for the future supply-demand balance. We strive to diversify the risks, based on the portfolio strategy of proactive investment in non-shipping businesses, such as offshore projects, offshore wind power, logistics, and real property. To address periodic risks, we are working to stabilize profit/loss and risk by reducing our exposure throughout the fiscal year by using freight forward agreements (FFAs) as hedging tools.

### Customer credit risks

In principle, we align the contract and investment period of owned assets with the holding period as much as possible to keep them neutral to market conditions, as well as proactively pursue medium- to long-term contracts with high creditworthy customers in Japan and overseas and limit the amount of the group-owned assets that are exposed to markets and the duration of such exposure. And in the case of loans, our business performance and financial condition may be affected, for example, by provisions of allowance for doubtful accounts due to deterioration in the credit risk of the borrower. For this reason, we have established the framework to periodically monitor the financial condition and so on of loan recipients.

### Country risks

We have established the framework to periodically monitor the total amount of invested capital (country exposure) by country/region and customer, which have significant risk potential, every six months at the Board of Directors and the Executive Committee, in addition to assessing the level of country risks as part of asset risk control.

### Overview of Asset Risk Control

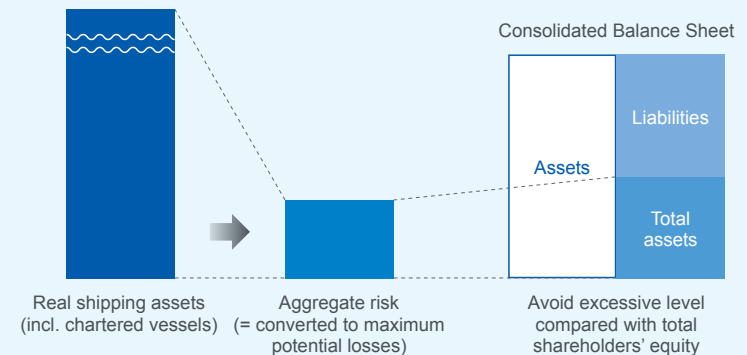
#### 1. Importance of Risk Exposure Management and Introduction of Asset Risk Control

Not only can freight rates be extremely volatile, the availability of means such as leasing and chartering vessels allows shipping companies to expand their fleets relatively easily without necessarily being restricted by their balance sheets. This mix of extreme volatility and ease of leveraging means that this kind of business is one wrong step away from taking on too much risk. For the long-term stable operations of marine transport companies, it is of vital importance that a company identifies the asset risk exposure it can take and understands the amount of risk it is actually taking, while having a framework for balancing these two factors.

#### 2. Approach to Asset Risk Control

Asset Risk Control is an adaptation of a risk management technique widely used by financial institutions serving the shipping industry. Highly stressful scenarios are applied to the entire fleet at the same time and run for a certain length of time to calculate maximum potential losses. The risks are managed so that the total loss is not excessive compared to shareholders' equity. Additionally, we take into account the dispersion effect of market fluctuations at different times for each asset. The framework can more appropriately measure the level of risk, including country risk, customer credit risk, and group company business risk.

#### Asset Risk Control (schematic)





## Risk Management

### Exchange rates, interest rates, and bunker price fluctuation risks

#### [Exchange rate](#)

In the ocean shipping industry, most of the revenue is denominated in U.S. dollars; on the other hand, a portion of costs and borrowings are denominated in yen based on the level of interest rates between Japan and the U.S. and other factors. Therefore, foreign exchange risk arises. Based on the outlook of the future financial environment through the Finance Division, we strive to reduce risk by limiting exposure through dollarization of expenses and dollar borrowing when necessary, and by flexibly hedging foreign exchange during the term.

#### [Interest rates](#)

The MOL Group is constantly investing capital to build new ships and replace existing ones. When securing long-term funding for capital investment, in principle we hedge interest rate risk by using fixed-rate loans or interest rate swaps.

#### [Bunker prices](#)

While bunker costs represent a large portion of ship operating costs, most medium-to-long-term customer contracts include clauses ensuring customers assume bunker price fluctuation risk. For short-term contracts, we work out freight rates reflecting bunker prices at the time or employ a formula to adjust freight rates that take into account changes in bunker prices. In addition, we use bunker forward trading to minimize exposure to the residual risk.

### Climate change risks

By causing more severe weather and sea events, climate change such as global warming can present a danger to safe ship operations. The movement toward decarbonization to combat climate change has the potential to drastically change the business environment for MOL, which requires large volumes of bunker oil and transports various kinds of fossil energy as a main cargo, in the context of higher costs to comply with public regulations and a structural reduction in transport demand. Under MOL Group Environmental Vision 2.2, which is in tune with these trends, MOL aims to achieve net zero GHG emissions by 2050.

The Company has formulated and disclosed a road map for achieving this goal and is now in the process of introducing clean alternative fuels and energy-saving technologies while increasing the sophistication of efficient fleet operations. By developing and providing solutions for alternative fuel transportation and low-carbon or decarbonization technology, MOL views this change as a business opportunity as decarbonization stimulates new demand. The MOL Group uses the TCFD framework to visualize its climate change risks and formulate related policies.



Details related to TCFD

<https://www.mol.co.jp/en/sustainability/environment/tcfd/>

### Technological innovation/Official regulations

#### [Technological innovation](#)

In the ocean shipping business, which is the MOL Group's main business field, the holding period of assets such as vessels, which are the main investment, exceeds about 20 years. With the rapid development of technologies related to the internet and alternative fuels, the group's assets may become obsolete or less competitive. In addition, the group's business performance may be affected by an increase in capital investment and other burdens to keep pace with technological innovation. The MOL Group has been keeping up to date on technological innovations and trends in information technology and working closely with domestic and overseas shipyards and external research institutions to grasp these trends and effectively respond to them. By developing advanced technologies internally, we evaluate and verify new technologies and adopt them in business development.

#### [Official regulations](#)

The ocean shipping industry is subject to various official regulations such as laws and policies of international organizations and governments, and rules of classification societies to ensure the safety of equipment and safe vessel operation. In addition, in each country where we operate, including fields outside ocean shipping, we are subject to laws and regulations such as business and investment permits, transportation, commerce,

## Risk Management

anti-monopoly laws, taxation, foreign exchange regulations, environmental standards, and various safety assurances. Costs are incurred to comply with these regulations, and if these regulations are changed, or if new regulations are introduced, it may result in new costs. In addition, the group has established a compliance framework for these regulations and collects information on the status of new or revised regulations, but it may be subject to investigation by the relevant authorities and, depending on the outcome of such investigations, may subject MOL or group companies to disciplinary action or punishment.

### Compliance risks

In the MOL Group, compliance-related risks such as various types of harassment, bribery, violation of the Antitrust Act and Competition Law, and insider trading, can sometimes lead to huge claims for damages, likely resulting in major adverse effects on the group's sustainable business activities.

We established compliance regulations that set forth standards of conduct to be followed and are working to ensure thorough compliance with these regulations through ongoing training to ensure that all executive and employees are fully aware that compliance is a prerequisite for corporate activities and can make appropriate judgments in their daily operations. The Compliance Committee also meets every three months to discuss compliance issues within the group and respond to any violations and promote awareness among executives and employees by disclosing the number and details of non-compliance cases internally.

 [Compliance ▶ P.121–124](#)

## Information Security

### Approach

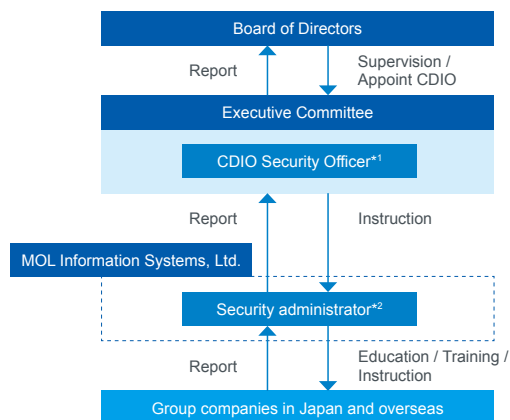
MOL has established a system to combat the ongoing menace posed by cybersecurity threats with the aim of ensuring cybersecurity and reinforcing security for MOL Group firms in Japan and overseas as well as for our vessels.

We also take a comprehensive approach to strengthening security against cyber-threats, which includes organizing information security awareness training.

### System

We established the position of Chief Digital & Information Officer (CDIO) to oversee moves to strengthen our information security systems. As the senior executive responsible for digital security, the CDIO instructs security managers and supervises implementation of information security measures; establishment of incident response systems; and the formulation and promotion of security enhancement policies such as training and education for MOL and MOL Group companies. Group company MOL Information Systems, Ltd. is responsible for information security management and supports the Group in the field of information systems, including the construction and maintenance of systems and networks to enhance security measures.

The Board of Directors is responsible for overseeing information security efforts, and appoints the CDIO.



\*1 Supervises the implementation of information security measures by our company and group companies, the establishment of incident response systems, and the formulation and promotion of policies to strengthen security through training and education.

\*2 Strengthen security under the direction of the security officer.

(1) Always collect information about malware, unauthorized access, hardware and software vulnerabilities, and threats related to information systems managed by our company at all times.

(2) Promote security measures for all information assets such as networks, information systems, and PCs.

(3) When a security incident occurs, the security officer instructs the executives and employees, the system owner, and the system administrator to take action. Analyze the security incidents that have occurred, summarize the scope of impact, measures taken, and measures to prevent recurrence, and report them to the security officer.

(4) Plan and implement education and training to deepen understanding of information security among executives and employees.

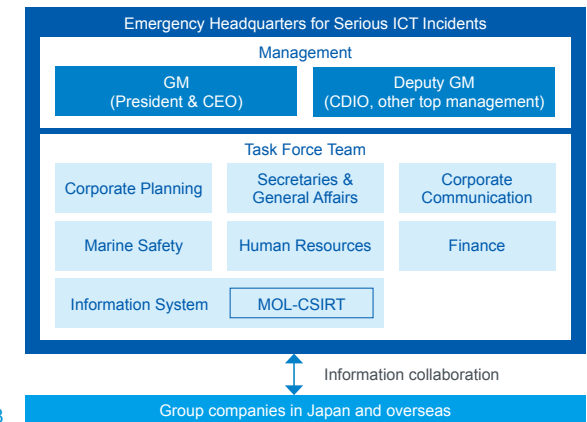
### Emergency Headquarters for Serious ICT Incidents

MOL organized an organization for Serious ICT Incidents to swiftly and comprehensively respond to ICT incidents including cyber security risks. And we not only established an emergency communication flow in the group, but also share information to prevent the occurrence of incidents.

We set out unified group-wide criteria to judge the severity of ICT incidents. In case of emergency, we gather information on the incident according to the severity level set by the criteria.

This led to the establishment of the “Emergency Headquarters for Serious ICT Incidents,” under which not only

management, but also the Corporate Planning, Secretaries & General Affairs, Corporate Communication, Marine Safety, Human Resources, Finance, and Information System divisions will respond quickly and appropriately to any threat or incident, in accordance with their roles.



Number of serious ICT incidents ▶ P.138

### Computer Security Incident Response Team (CSIRT)

We have established an internal entity called “MOL-CSIRT” to investigate any suspected fraudulent emails, malware or cyber-threats; to send reminder alerts in these cases; and to create awareness-raising programs utilizing the lessons learned from previous incidents. The aim is to mitigate the risk of cyberattacks against MOL and group company users in Japan and overseas. In addition, we regularly collect information on cyber risks and the latest security trends in collaboration with Japan’s Ministry of Land, Infrastructure, Transport and Tourism and private organizations such as Transportation ISAC JAPAN, Nippon CSIRT Association and JPCERT/CC, utilizing it to update our information security measures.

## Information Security

### Initiatives

#### Initiatives at Group companies in Japan and overseas

We strive to upgrade security and governance continually at MOL Group companies in Japan and overseas while ensuring full Group-wide compliance with internal security policies. We convene regular meetings attended by CIOs and relevant managers from Group companies to share the latest security information and to raise awareness of information security issues.

#### Vessel-targeted initiatives

At the 98th Maritime Safety Committee held by the International Maritime Organization (IMO), it was recommended that cyber risk management be included in the safety management system (SMS)\*<sup>1</sup> for ship operation.

In response, MOL is working to establish a Cyber Security Management System (CSMS)\*<sup>2</sup>, encompassing the guidelines, and develop technological measures for cyber security and organizational system from a cross-sectional perspective.

In addition, we are constructing a network to ensure 24/7 online connectivity for MOL Group vessels while at sea to mitigate risks arising from cyberattacks, while also developing and implementing security countermeasures.

\*<sup>1</sup> Guidelines on actions for crewmembers to take, provided to prevent marine accidents caused by human errors.

\*<sup>2</sup> The management system established and documented for ship management companies and seafarers onboard vessels to effectively implement cyber security policies.

#### Ransomware Countermeasures

Corporate losses from ransomware attacks are on the rise. Recognizing that our company is also a likely target, we are working on preventive measures and damage reduction activities against ransomware attacks. Based on the results of an assessment conducted by an external security vendor and subsequent risk analysis, we have instituted a policy on ransomware countermeasures. Currently, we are progressing with plans to keep upgrading security in this area.

#### Information security education

##### [Education for all employees](#)

We provide regular security-related training to help increase awareness of security threats among executives and employees, including at contractors and partner firms. This involves conducting annual online training modules and anti-phishing drills for all employees, including vessel crewmembers and our people in Group companies worldwide.

 [Online training completion ratio](#) ▶ P.138

##### [Incident Response Drills](#)

Facing the threat of serious ICT incidents due to cyberattacks that have become increasingly sophisticated in recent years, we conduct regular incident response drills involving the CEO (as GM of the Emergency Headquarters for Serious ICT Incidents), the CDIO, the head of the division overseeing the response team, the presidents of Group companies, system administrators, and other personnel. We also take part in cross-sector exercises organized by the National center of Incident readiness and Strategy for Cybersecurity (NISC).

## Responsible Procurement

### ● Policy

The MOL Group established the “MOL Group Basic Procurement Policy” to fulfill our social responsibility as a corporate group that plays a part in our customers’ supply chains. With an eye toward contributing to the realization of a sustainable society, we promote fair and equitable procurement activities, in consideration of compliance with laws and regulations covering supply chains, conservation of the environment and natural resources, respect for human rights, and doing our utmost to ensure safety, while gaining the understanding and cooperation of our business partners.

The policy was established in 2012, and revised in 2022, with the approved of the MOL Board of Directors.

#### MOL Group Basic Procurement Policy

The MOL Group procures products and/or services in accordance with the following basic policy:

1. We comply with applicable laws, regulations, and social standards to ensure fair and equitable trade opportunities and procedures based on free competition open to others, both domestic and overseas.
2. We strive to reduce the negative impact of our procurement activities by considering environmental and resource conservation.
3. We respect basic human rights and conduct procurement in consideration of work environment in accordance with laws and international standards.
4. We procure products and/or services, including the delivery or execution of such products and/or services, that meet high safety standards.

We work to build relationships of trust with our business partners so they understand and cooperate with this policy, with the aim of mutual contribution toward the realization of a sustainable society.

Established in March 2012  
Revised in March 2022

### ● Suppliers Procurement Guidelines

We believe the cooperation of our business partners is indispensable to enhancing the transparency and sustainability of supply chains, as the MOL Group develops businesses on a global scale. In FY2021, we established the MOL Group Supplier Procurement Guidelines. These cover issues where we seek the understanding and cooperation of our business partners. In the future, we will work to promote the wide adoption of guidelines among our key business partners, and ensure that they understand the intent behind them.

We ask all of our business partners to address the items specified in the guidelines and promote sustainable procurement activities and urge your partners to adopt these standards as well.

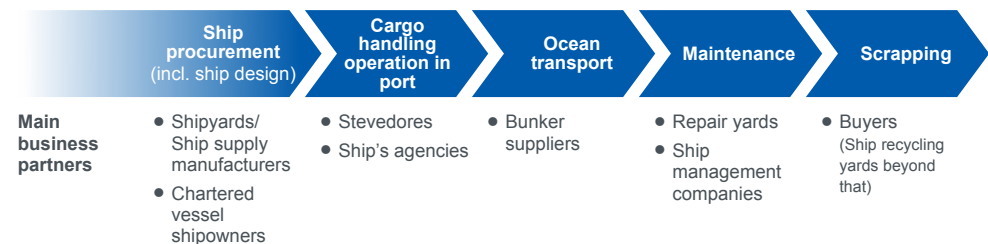


MOL Group Supplier Procurement Guidelines

<https://www.mol.co.jp/en/sustainability/governance/procurement/pdf/guideline.pdf>

### ● MOL Group value chains

In ocean shipping, the core of our group’s business activities, we create value chains with various business partners that span everything from procurement and operation to the eventual scrapping of vessels.





## Responsible Procurement

### ● Value Chain Management — MOL Group Partnership Initiatives —

In order to realise sustainable business activities, the MOL Group implements value chain management to identify and reduce sustainability-related risks in the value chain, including environmental, human rights, anti-bribery and other anti-corruption risks.

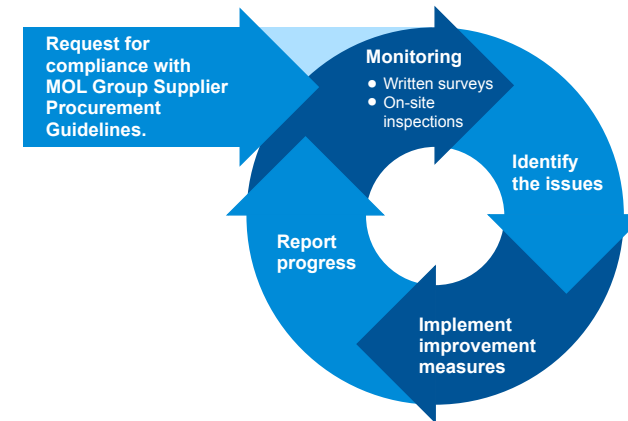
The understanding and cooperation of our business partners in our value chain is essential for building a sustainable value chain, and we hope to further strengthen our partnership with them through this initiative. By mutually reinforcing our partners' and our sustainability initiatives, we will strive to enhance the value of value chain as a whole and continue to be an essential part of society in the future.

The implementation of these initiatives will be monitored by the Environment and Sustainability Committee, a subordinate under the Executive Committee, and the Board of Directors will be responsible for supervising the implementation.



### Basic processes of value chain management

With the aim of ensuring compliance with the MOL Group Supplier Procurement Guidelines, we will introduce and promote the guidelines to our business partners to help them understand the purpose of these initiatives and we will also monitor the status of their initiatives by conducting written surveys covering seven major areas such as the environment, human rights and anti-corruption, including bribery, and detailed interviews and on-site inspections as necessary. If the survey identifies serious issues, we work together with business partners on future countermeasures in cooperation with experts and NGOs, and continue to provide ongoing support.



### Initiatives to Improve Internal Understanding

We hold briefings and workshops on value chain management for employees who work closely with our suppliers. The objective is to deepen understanding of the significance of this initiative, the concerns of external stakeholders, and the MOL Group Supplier Procurement Guidelines.

### ● Initiatives

#### Initiatives for shipbuilding

Ship procurement is a key element of MOL Group business activities.

When we order the construction of a ship, we not only request that the shipyard, a supplier, follow MOL Safety Standards Specifications, which specify our safety and environmental quality standards, but also ask them to address concerns regarding environmental measures, safe working conditions, and so on in the shipyard. We also strive to improve the quality of our ships by assigning shipbuilding superintendents from our group companies to the shipyard, where they are jointly involved in the development and introduction of low environmental impact vessels. This is one way that we work with our business partners toward achieving a sustainable society.

## Responsible Procurement

### Initiatives for chartered vessel shipowners

The MOL Group charters some vessels that are essential to its business from shipowners. We apply MOL Safety Standard Specifications not only to our owned vessels, but also chartered ships (not including those on short-term charters), striving to ensure high fleet-wide standards of quality and safety. In addition, with shipowners, we proactively share safety awareness, exchange information and opinions to improve safety/quality through visits to ships, plus meetings and periodic liaison group activities with shipowners. And in response to the grounding/oil spill incident involving the MOL-chartered bulk carrier Wakashio off the coast of Mauritius in 2020, we recognized anew that we have a profound social responsibility to prevent the reoccurrence of such an incident, even with a chartered vessel, and we have stepped up our efforts to achieve the world's highest level of safety and quality, working closely with shipowners. Beginning in FY2022, we provided liaison group activities with shipowners and other opportunities for them to gain an understanding of the MOL Group Human Rights Policy and Supplier Procurement Guidelines, as well as our approach to value chain management (partnership initiatives). We also pursue value chain management initiatives, including dialogues with some shipowners regarding this initiative.

### Initiatives for ship recycling

#### [Safe and environmentally appropriate ship recycling](#)

Recycled steel from ship scrapping supports the demand for steel in various countries and regions, and demand is also increasing as a measure to promote environmental awareness and reduce the burden on the environment. Recycled steel from vessels is also a valuable resource, but on the other hand, issues related to the management and disposal of hazardous substances during dismantling, environmental impact, and worker health and safety management have been recognized internationally.

In 2009, the Hong Kong Convention for the safe and environmentally sound recycling of ships ("Hong Kong Ship Recycling Convention") was adopted at the International Maritime Organization (IMO) with the objective of addressing issues related to ship recycling, and the ratification process is currently underway. MOL will not only comply with this convention, but also cooperate with ship recycling yards to fulfill its responsibilities as a seller of vessels

to be recycled, while taking into account the environment, human rights, safety and quality, and prevention of corruption, including bribery.

#### [Superior Shiprecycling Standards \(SSS\)](#)

The MOL Group established "Superior Ship recycling Standards (SSS)" in FY2023, which set out its own standards for ship recycling yard selection, with an eye toward promoting sustainable ship recycling in line with the background issues outlined above.

#### [Overview of the screening process:](#)

In screening each ship recycling yard, we established a number of criteria that incorporate a variety of items, such as certification status from Nippon Kaiji Kyokai (ClassNK) regarding the Hong Kong Ship Recycling Convention, as well as compliance with regulations, laws, and international treaties, encompassing concerns for the environment, human rights, safety and quality, and prevention of corruption and bribery, as stipulated in the "MOL Group Supplier Procurement Guidelines." Based on these criteria, we select yards after risk assessment (screening) through a written survey and on-site inspection. In the selection process, we also consider advanced environmental initiatives and activities that contribute to the local community. We further classify the selected yards according to the content of the screening, and establish a system to prioritize collaboration with yards in the higher classifications that meet the criteria.

#### [Operation after screening and selection:](#)

We will confirm that the selected yards are being operated in accordance with the screening criteria even after selection through periodic monitoring such as written surveys and on-site inspections. At that time, yards that do not meet the criteria will be excluded from the selection process. We will also encourage yards that are not selected to improve their facilities and operations through feedback on the content of the screening process, thereby continuing the yard selection activities.

During the vessel dismantling period, we or a third party will be commissioned to conduct on-site monitoring to confirm the status of actual operations.

## Responsible Procurement

### Records of yard screening and selection:

Prior to the establishment of the SSS, in FY2022, we conducted sequential audits of over 50 (at the time of the survey) ship recycling yards, mainly in India and Bangladesh, which had been certified under the Hong Kong Ship Recycling Convention by the Nippon Kaiji Kyokai (ClassNK). Some of the yards identified issues such as employee wage levels through the screening, and we provided feedback for improvement.

#### ► FY2022

Number of yards screened ... 37 yards

Number of yards selected ... 13 yards

### MOL's Records of yard screening (Since 2019)

	Year	Ship name	Yard	Plot #	LDT	Year of Built	Scope
	2019	Green Garnet	NBM Iron and Steel Trading Pvt.Ltd	61 (24G)	9,186	1996	
	2019	Rakiura Maru	Leela Green Ship Recycling Pvt.Ltd	35	8,363	1996	
	2019	Meridian	Triveni Ship Breakers LLP	23	9,142	1996	
Before SSS	2020	Universal Green	Baijnath Melaram	13	10,464	2002	Mitsui O.S.K. Lines, Ltd.
	2020	Tachibana	Diamond Industries	84	19,098	2000	
	2020	Cougar Ace	Anupama Steel limited	15	13,551	1993	
	2021	Senshu Maru	Sachdeva Steel Products (SB) Ltd	65 (24L)	20,296	1984	
After SSS	2023	Siam Ocean	PHP Ship Breaking and Recycling Industries Ltd	-	7,996	1995	

### Dismantling work at our selected ship recycling yard



Dismantling operations after the vessel is pulled ashore



Dismantling operations in cargo hold



Removal of hazardous substances before dismantling



Gas detection in a tank before work



Renewal and repainting of escape routes

## Human Rights

### Policy

#### Human Rights Policy

The MOL Group issued its Human Rights Policy statement based on the MOL Group Corporate Principles, Group Vision, and Group Values (MOL CHARTS). The group respects human rights in all business activities based on the items stipulated in the policy statement, and contributes to realizing a sustainable global society. The policy statement was approved by the Board of Directors on March 31, 2022.

In addition, we work to communicate the MOL Group human rights policy to our business partners and ask them to conduct their business activities in line with human rights concerns. We also established “Suppliers Procurement Guidelines” that include a human rights perspective.

[MOL Group Human Rights Policy](https://www.mol.co.jp/en/sustainability/governance/human/pdf/human_rights_policy.pdf)  
[https://www.mol.co.jp/en/sustainability/governance/human/pdf/human\\_rights\\_policy.pdf](https://www.mol.co.jp/en/sustainability/governance/human/pdf/human_rights_policy.pdf)

### System

To promote respect for human rights, mainly the Environment and Sustainability Committee, a subordinate under the Executive Committee, deliberates issues related to human rights. The committee is chaired by the Representative Director/ Executive Vice President and vice-chaired by the Chief Environment Sustainability Officer (CESO). As the responsible organization, the Board of Directors also has supervisory responsibility for human rights initiatives. The Environment & Sustainability Strategy Division implements specific initiatives in cooperation with other concerned divisions.

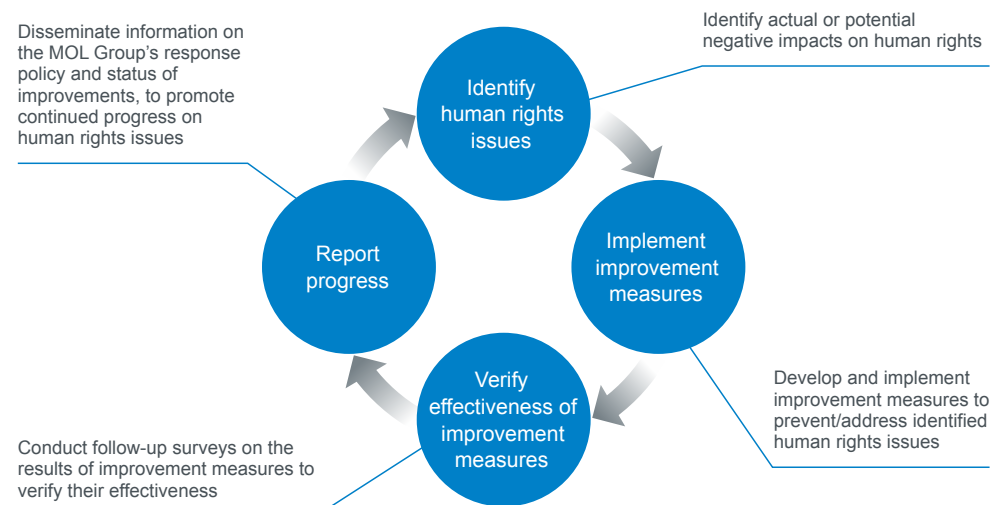


### Human Rights Due Diligence

#### Overall view of initiatives

The MOL Group will establish a human rights due diligence framework based on “the United Nations Guiding Principles on Business and Human Rights,” “the International Bill of Human Rights,” “the International Labour Organization Declaration on Fundamental Principles and Rights at Work” (It provides for the fundamental rights to work, including freedom of association and the right to collective bargaining, the prohibition of forced labor, the abolition of child labor and the prohibition of discrimination in employment and occupation.), the OECD Guidelines for Multinational Enterprises, and “the 2006 Convention on Maritime Labour,” which stipulates the fundamental right of seafarers to work.

Currently, we conduct human rights due diligence under the supervision and direction of the Environment & Sustainability Committee, which is chaired by the Representative Director/ Executive Vice President and vice-chaired by the Chief Environment Sustainability Officer (CESO). We will proceed with a document-based survey and on-site interviews to grasp the current situation regarding human rights issues in our value chains and further enhance our initiatives toward improvement.



## Human Rights

### Human Rights Risk Assessment

Starting in FY2022, MOL identifies human rights risks that should be taken into account when conducting the group's business, based on advice from external experts and international indicators including country-specific human rights risks. We conducted risk assessments through desk analysis with the relevant business divisions, based on the stakeholders that may be affected. As a result, we have identified "Shipping (Seafarers)" and "Logistics" as business fields we will prioritize in future investigations. In the future, we plan to conduct more detailed surveys to pinpoint the risks, in consideration of the human rights issues assumed in each business.

#### Major human rights risks by identified business field

Business	Shipping	Logistics
Main stakeholders that may be affected*1	Seafarers	Employees, subcontractors
Main human rights risks that may arise*2	<ul style="list-style-type: none"> <li>● Inadequate occupational health and safety</li> <li>● Unreasonable working hours</li> <li>● Insufficient/unpaid wages</li> <li>● Harassment and abuse</li> <li>● Violation of rights specific to seafarers</li> <li>Violation of seafarers' rights to be repatriated</li> <li>Abandonment of seafarers</li> <li>No change of crewmembers</li> <li>Violation of seafarers' health and welfare</li> <li>Violation of seafarers' rights of access to medical care</li> <li>Lack of protection of seafarers from crime</li> <li>etc.</li> </ul>	<ul style="list-style-type: none"> <li>● Inadequate occupational health and safety</li> <li>● Unreasonable working hours etc.</li> </ul>

\*1 Employees, business partners, local communities, etc. (including employees of business partners, direct and indirect employees, women, children, indigenous peoples, immigrants, etc.) are considered.

\*2 35 items, including forced labor, child labor, human trafficking, harassment and abuse, discrimination, violations of freedom of association and collective bargaining rights, equal pay for equal work, and violations of the rights of indigenous and local people, are considered.

### Initiatives

#### Initiatives for individual human rights issues

##### [Prevention of child labor and forced labor](#)

We do not engage in child labor or forced labor, and carry forward initiatives aimed at preventing such abuses. In particular, in terms of preventing child labor, we conduct recruitment activities in compliance with the Labor Standards Act and thoroughly implement the initiatives by confirming the age of employees by means of ID cards, etc., at the time of hiring. We also believe it is important to educate our employees and provide human rights training programs including education on child labor and forced labor.

In our value chain initiatives, when selecting a ship recycling yard to dismantle an end-of-life ship, we actually conduct on-site interviews and inspections of recycling yards and confirm that they make sufficient efforts to ensure human rights such as eliminating child labor and forced labor.

##### [Initiatives related to wages](#)

The MOL Group ensures compliance with labor laws, including minimum wages in each country where we do business. We have also established a competitive wage structure that not only exceeds national and local minimum wage levels, but also guarantees a living wage allowing employees to work with peace of mind, and is necessary to secure highly qualified personnel.

Furthermore, we apply a unified compensation system for the same qualifications and the same job level.

##### [Actions on LGBTQ issues](#)

We strive to create a comfortable working environment for LGBTQ (sexual minorities). We provide training programs to prevent unintentional harassment due to discrimination or lack of understanding, and renovations are underway at the Head Office to build more LGBTQ-friendly facilities.



## Human Rights

### [Reduction of Overtime Work](#)

The MOL Group strives to optimize working hours from the perspective of preventing physical and mental health problems among employees.

For more information on our measures, please see the section “Health and Productivity Management: Reduction of Overtime Working Hours.” ( P.76 ) We have taken various measures to reduce overtime work.

### [Harassment Prevention](#)

The MOL Group is undertaking initiatives to prevent any kind of workplace harassment, since this is detrimental to mutual respect. Besides training related to the prevention of harassment, we have formulated a Group declaration on harassment prevention that expresses our non-tolerance of such forms of behavior. We are redoubling our efforts to create harassment-free workplaces.

#### **MOL Group Declaration of Harassment Prevention**

The Mitsui O.S.K. Lines Group will take the following measures to promote the creation of healthy and dynamic workplaces free from harassment.

- We will foster an organizational culture in which each and every employee on land and at sea, will respect each other regardless of position and will be able to freely and energetically demonstrate diverse individuality, values, and viewpoints.
- Employees and the Company will work together to build an organizational culture that enhances knowledge and awareness of harassment prevention and deters or stops any form of harassment.
- We shall establish a system in which anyone can feel safe about reporting harassment issues, and in the event of harassment, we shall take fair and appropriate measures in a resolute manner and establish an organizational structure to prevent recurrence.

Established in December 2020

## Remedy Program

### [Complaint handling mechanism](#)

The MOL Group provides several report and contact desks to promptly cope with concerns related to human rights. For details, please visit Compliance page. ( P.121–122 )

For group employees	<a href="https://www.mol.co.jp/en/sustainability/governance/compliance/">Compliance Advisory Service Desk (Internal/External)</a> <a href="https://www.mol.co.jp/en/sustainability/governance/compliance/">https://www.mol.co.jp/en/sustainability/governance/compliance/</a> Harassment Advisory Service Desk (Internal/External)
For customers, business partners, and external stakeholders	<a href="#">Contact Us &gt; Compliance</a>

## Human rights Education

MOL holds position-specific human rights and harassment prevention training programs every year. These programs are designed to provide a deeper understanding of not only legal compliance related to human rights and harassment of course, but also relevant systems and actual events including background issues, such as how people are affected by human rights abuses and harassment, with the aim of creating a foundation for responsible actions by all MOL Group employees. In addition, these programs are intended to help employees act as good citizens, not only in corporate activities, but also in their everyday lives.

### [Human rights training programs](#)

Online training programs help MOL Group executives and employees in Japan and overseas understand the importance of our initiatives to respect human rights. Besides giving staff a deeper understanding of the fundamental human rights risks that can arise in businesses within the MOL Group value chain, such as forced and child labor, the programs aim to underline the Group’s commitment to enforcing our human rights policy. In addition, we provide rank-specific training programs for managers, general employees, and new employees to prevent various human rights violations.

## Human Rights

### [Harassment prevention training programs](#)

We conduct training programs for staff in both managerial and non-managerial roles that are designed to prevent harassment to ensure workplaces across the entire MOL Group are harassment-free and to cultivate a work culture that reassures and supports everybody. In particular, we have tried to make managerial training more effective by adding content relating to anti-harassment laws; distinguishing between guidance and power-based harassment; and the risks of not tackling workplace harassment. We also organize group training sessions to look at actual examples of harassment in the workplace and consider responses to it.

### Dialogue with stakeholders

#### [Participating in the 2023 Stakeholder Engagement Program](#)

MOL participated in eight stakeholder engagement programs from June 1 to July 27, 2023, sponsored by the non-profit organization Japan Committee of the Caux Round Table.

The program is designed to discuss a wide range of human rights issues with companies from various industries, NPOs and NGOs, academics, and experts, to provide opportunities for companies to understand and put into practice the UN Guiding Principles on Business and Human Rights.

The discussion in FY2023, which was not specific to certain industrial sectors, looked at suspicions of various state involvements in human rights violations during wars and military conflicts, and on trends affecting business and related responses, such as the evolution and adoption of AI.

With transportation and logistics companies participating in the program, we worked to identify “key human rights issues for each industry” using a tool developed by the United Nations Environment Programme Finance Initiative (UNEP FI) to deepen their understanding of human rights issues in transportation and logistics.

 [Stakeholder Engagement Program Final Report](https://crt-japan.jp/files2023/2023%20Human%20Rights%20Due%20Diligence%20Workshop_en.pdf)  
[https://crt-japan.jp/files2023/2023%20Human%20Rights%20Due%20Diligence%20Workshop\\_en.pdf](https://crt-japan.jp/files2023/2023%20Human%20Rights%20Due%20Diligence%20Workshop_en.pdf)

### Support for International Initiatives

#### [Participating in the UN Global Compact](#)

With business activities spread across the globe, the MOL Group believes that building good relationships with various stakeholders worldwide and contributing to the realization of sustainable growth of society are vital as it seeks to realize the ideas set forth in the MOL Group Corporate Principles. In order to contribute to an international framework for realizing these goals, MOL became the first Japanese shipping company to participate in the United Nations Global Compact in 2005.

Since then, MOL has worked to support and practice the 10 principles in 4 areas of the UN Global Compact, which shares the same values as MOL’s Rules of Conduct, which were established as a set of guidelines for executives and employees.



#### [Fundamental Rights of Workers](#)

The treaty concerning the Maritime Labor Convention in 2006 (MLC2006), which stipulates the basic rights of crewmembers, sets forth the following four acts regarding human rights:

1. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
2. The elimination of all forms of forced and compulsory labor;
3. The effective abolition of child labor; and
4. The elimination of discrimination in respect of employment and occupation.

Our vessels adhere to onboard compliance guidelines, respect the four human rights as mentioned above, prohibit discrimination by religion, nationality, age, and gender, and establish procedures to address complaints of harassment. They also hold monthly onboard compliance committee meetings to implement and evaluate efforts on human rights issues, discrimination, and harassment through dialogues between crewmembers and onboard compliance officers.

## Human Rights

### Modern Slavery Statement

As part of our efforts to eliminate any form of forced labor, modern slavery or human trafficking within our business and the MOL Group value chain, we publish a “Modern Slavery Statement” on our website in line with the UK Modern Slavery Act 2015.

#### Modern Slavery Statement

Modern Slavery Statement 2022

[https://www.mol.co.jp/en/sustainability/governance/human/pdf/Modern\\_Slavery\\_Statement\\_2022.pdf](https://www.mol.co.jp/en/sustainability/governance/human/pdf/Modern_Slavery_Statement_2022.pdf)

Modern Slavery Statement 2021

[https://www.mol.co.jp/en/sustainability/governance/human/pdf/Modern\\_Slavery\\_Statement\\_2021.pdf](https://www.mol.co.jp/en/sustainability/governance/human/pdf/Modern_Slavery_Statement_2021.pdf)

Modern Slavery Statement 2020

[https://www.mol.co.jp/en/sustainability/governance/human/pdf/Modern\\_Slavery\\_Statement\\_2020.pdf](https://www.mol.co.jp/en/sustainability/governance/human/pdf/Modern_Slavery_Statement_2020.pdf)

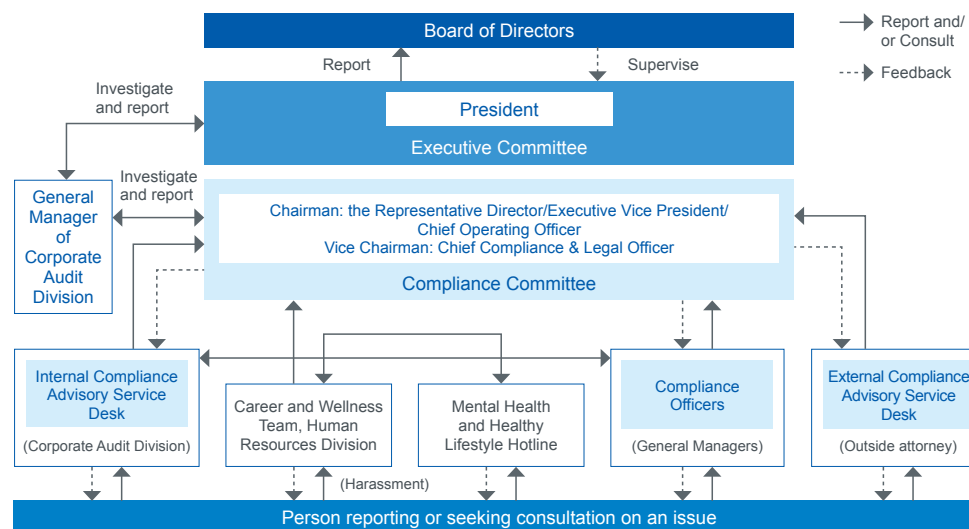
# Compliance

## Approach/System

The MOL Group has instituted compliance regulations to determine behavioral norms so that all our employees and executives are committed to making compliance a prerequisite of everyday business activities and to making the appropriate decisions. This thorough approach is supported by continuous compliance training.

Beyond complying with laws, regulations and Articles of Incorporation, our actions are guided by the Company's values and Code of Conduct (MOL CHARTS), which includes the rule: "Always be cognizant of compliance and act in accordance with social norms and corporate ethics."

We set up the Compliance Committee to manage the development and reinforcement of compliance systems in the MOL Group. Chaired by the Chief Operating Officer (who also serves as the Representative Director and Executive Vice President) and vice-chaired by the Chief Compliance & Legal Officer, the committee meets every three months to monitor Group compliance. The Board of Directors receives regular reports from the Compliance Committee and is responsible for overseeing overall compliance efforts.



## Compliance Committee

The Compliance Committee exists as a subordinate committee under the Executive Committee to study and deliberate compliance-related matters and to develop and enhance the company-wide compliance system.

## Chief Compliance & Legal Officer

The Chief Compliance & Legal Officer manages compliance officers and takes responsibility for enhancing the compliance system, and is appointed by the Board of Directors.

## Compliance Officer

The general manager, unit manager, branch manager, and corporate function manager, and for "group companies belonging to the head office organization," the general manager of the sales division in charge or the director in charge is appointed as the person in charge of compliance (compliance officer). The compliance officers shall ensure that their respective division, office, or group company complies in charge with all laws, regulations, and rules relating to its operations, and that it acts with the due care of a good manager in accordance with social norms and corporate ethics. When a violation or an act suspected to be a violation has been discovered and a compliance officer receives such report or consultation, he/she reports it to the Compliance Committee administrative office, and necessary corrective steps are taken without delay. The confidentiality of the reporter or consulter is strictly maintained.

## Compliance Advisory Service Desk

The MOL Group has established both internal and external compliance advisory service desks that MOL and MOL Group personnel (including full-time, contract and temporary staff) and external stakeholders can consult for advice, or report any issues or violations, related to general compliance (such as monopolistic or corrupt practices, harassment and human rights issues). The compliance advisory service desks are available 24 hours a day, 7 days a week, and accept reports and consultations in Japanese or English by means of email, letter, or telephone. Anonymous reporting is also possible, the confidentiality of those reporting or consulting is strictly maintained, and it is guaranteed that they will not be treated disadvantageously. The Group also guarantees that those who report or consult on

## Compliance

violations and those who cooperate in investigations will not be treated disadvantageously or face retaliation.

In the case of a consultation or report, we will conduct an appropriate investigation after consulting with the parties concerned, and if a violation is found, the cause and its details, including measures to prevent recurrence, will be discussed at the Compliance Committee, and we will instruct the responsible person to make improvements as required.

Unless there are special circumstances, we will promptly interview the person who reported or consulted to confirm the details of the report. As a result, further investigations are carried out if deemed necessary. In addition, the external lawyer representing the person who reports to or consults with the external consultation service will act as an intermediary between the company and the person in charge of the investigation. Employees and executives of MOL and its Group companies are made aware of these internal reporting systems (compliance advisory service desks) through regular training programs and the company intranet. In addition, our intranet discloses cases of compliance violations and the number of cases to ensure the reliability of the “whistle-blowing system” and “prevent the occurrence of compliance incidents.” In FY2023, targeting its improvement and enhanced ease-of-use, we conducted an internal survey of employees, including staff at MOL Group companies, regarding the whistle-blowing system.

Please find below the link for external stakeholders, including domestic and overseas business partners, to submit any compliance-related inquiries.

 [URL for compliance-related inquiries:  
https://www.mol.co.jp/en/contact/compliance/index.php](https://www.mol.co.jp/en/contact/compliance/index.php)

### Compliance Enhancement Month

In an effort to further raise awareness of compliance, and to complement compliance advisory service desks, the Compliance Enhancement Month is held for executives and employees of our company and Group companies. In order to identify potential problems and signs of problems as early as possible, and to take preventive measures, it is conducted every year from 2017, and it receives a wide range of information that shows signs of non-compliance for about 1 month. To date, our company and its group companies

have received 60 consultations and reports, and in some cases were able to cope with problems before they developed into major problems.

Anonymous reporting is also possible, and the confidentiality of consultation and reporting persons is strictly observed, and disadvantageous treatment is guaranteed not to occur.


### Process for Reporting and Corrective Actions for Violations in MOL Group companies

Each MOL Group company has established processes and disciplinary standards for reporting the occurrence of compliance violations, giving remedial instructions and taking corrective actions for violations, and taking disciplinary action in accordance with its own internal compliance rules and regulations. In addition, the Compliance Committee disseminates information on the company intranet within the Group to prevent the occurrence of new violations and their recurrence.

## Initiatives

### Initiatives on Compliance with the Antitrust Act

On March 18, 2014, the Japan Fair Trade Commission (JFTC) found that the MOL Group had violated Article 3 of the Japanese Antimonopoly Act in certain car carrier shipping trades. Having accepted this fact in good faith, the Group is pushing ahead with initiatives aimed at ensuring full anti-trust compliance all the time.

The group has established the “Antimonopoly Act Compliance Action Guidelines” to prevent violations of the Act by officers and employees and follows procedures such as prior notification, etc. to the Chief Compliance and Legal Officer or Compliance Officer in its contacts with competitors. In addition, we regularly conduct e-learning and training sessions to ensure compliance with the Antimonopoly Act. The group’s annual engagement survey includes compliance-related questions, and the results are visualized and shared throughout the organization, while being used for organizational development, including the prevention of compliance violations. For more details on this survey, please visit “Engagement Survey”. ( P.70).



## Compliance

### Initiatives on Anti-corruption

#### [Anti-Corruption Policy](#)

The MOL Group has established a policy on the prevention of corrupt practices in general, including bribery, conflict of interest, facilitation payments, and money laundering, to further promote management in accordance with our values and code of conduct regarding compliance. All Group executives and employees are striving to eliminate bribery and corruption in our business operations through this policy, and we expect all our business partners to support the policy. In addition, we ask our business partners for their cooperation in implementing the “MOL Group Supplier Procurement Guidelines,” which covers the prevention of corruption. For details, please visit “Responsible Procurement” ([P.112](#)).

Note also that the policy was approved at our Executive Committee in 2022. The Board of Directors is also responsible for overseeing this policy.

In addition, we established an internal rule called the “Anti-Corruption Policy” in October 2015 to eliminate bribery and excessive business entertaining of public servants as well as those outside the government. This policy ensures that we “build good relationships based on trust with customers and business partners,” as stated in the Compliance Policy. This policy and rule are communicated to executives and employees through workshops and e-learning to encourage compliance.

 [MOL Group Anti-Corruption Policy](https://www.mol.co.jp/en/sustainability/governance/compliance/pdf/MOL_Group_Anti_Corruption_Policy.pdf)  
[https://www.mol.co.jp/en/sustainability/governance/compliance/pdf/MOL\\_Group\\_Anti\\_Corruption\\_Policy.pdf](https://www.mol.co.jp/en/sustainability/governance/compliance/pdf/MOL_Group_Anti_Corruption_Policy.pdf)

#### [Political Contributions](#)

Political contributions are made in compliance with the Political Funds Control Act and in accordance with appropriate internal procedures. For actual results of political contributions, please refer to “Sustainability Data” ([P.140](#)).

### Compliance Risk Management

The MOL Group conducts a risk assessment of its group companies every year, and among them, we also check for the existence of risks related to overall compliance, such as “bribery,” “Antitrust Act violations,” “various business laws,” “violations of internal rules,” “embezzlement,” and “various types of harassment.” Based on the survey results, we conduct internal audits with priority on companies and divisions that are deemed to have high risk. The audit results are passed through the Executive Committee, which instructs the auditee to take corrective action to remedy the problem. In addition, improvements are monitored and reported quarterly to the Executive Committee.

### Compliance Education/Personnel Evaluation

The MOL Group conducts education to foster and establish compliance awareness in executives and employees. Training programs on antitrust act and anti-corruption are held annually on an ongoing basis, as well as compliance-related e-learning. For actual E-learning participation rates, please refer to “Sustainability Data” ([P.140](#)).

In addition, the MOL Group includes compliance-related items in personnel evaluations and compensation decisions for executives and employees. The MOL Group sets goals for strengthening and fostering the compliance awareness of each individual and for training and guiding subordinates to achieve these goals and conducts annual performance evaluations on the status of achievement of these goals. Through these personnel evaluations, we strive to raise the compliance awareness of each executive and employee.

### Code of Conduct

Approaching the issue from the standpoint of varied stakeholders, MOL has instituted a code of conduct that all employees and executives must observe. Compliance with the code builds the business by improving the work environment, gains the sympathy of various stakeholders, and helps to raise corporate value over time.

 [Code of Conduct](https://www.mol.co.jp/en/sustainability/governance/compliance/pdf/Rules_of_Conduct.pdf)  
[https://www.mol.co.jp/en/sustainability/governance/compliance/pdf/Rules\\_of\\_Conduct.pdf](https://www.mol.co.jp/en/sustainability/governance/compliance/pdf/Rules_of_Conduct.pdf)

## Compliance

### Tax Transparency

As a company that operates globally, the MOL Group believes that tax transparency and payment of taxes are fundamental and important social responsibilities that a company should fulfill. We comply with the spirit of the applicable tax laws and regulations of all countries in which we do business and pay our fair share of taxes.

Furthermore, we understand that the use of tax havens without legitimate business purposes or actual conditions, for the purpose of enjoying excessive tax benefits, hinders the proper payment of taxes in each country and obstructs the development of those countries and regions. Therefore, we do not engage in the use of tax havens for tax evasion purposes.

## Environmental Data

### Energy Consumption

	FY2019	FY2020	FY2021	FY2022	Scope	
<b>Fuel oil</b> *1 (thousand tons)	3,273	2,865	2,925	<b>2,874</b>	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas (cover rate based on consolidated sales :97%)	
<b>Marine Diesel oil</b> *1 (thousand tons)	255	253	282	<b>243</b>		
<b>Diesel oil</b> (K liters)	6,572	6,040	6,944	<b>6,621</b>		
<b>LNG</b> (thousand tons)	37	27	19	<b>47</b>		
<b>Bio-fuel</b> (thousand tons)	–	–	–	<b>9</b>		
<b>Electricity</b> (MWh)	86,924	76,951	80,475	<b>77,604</b>		
	Total renewable energy used *3	237	248	3,532		<b>39,983</b>
	Renewable energy used rate (%)	0.3	0.3	4.4		<b>51.5</b>
<b>Municipal gas</b> (thousand m <sup>3</sup> )	1,648	1,627	1,618	<b>1,663</b>		
<b>Total energy consumption</b> *2 (thousand GJ)	158,105	142,492	146,748	<b>143,150</b>		

\*1 Used mainly for vessel fuel.

\*2 The energy equivalent of heat originated from fuel oil, diesel oil, bio-fuel, electricity, municipal gas and other energy consumed.

\*3 Mainly due to introduction of renewable energy to offices.

## Environmental Data

### Greenhouse Gas Emissions

Organizational boundary for GHG data consolidation is operational control under the control approach.

	FY2019	FY2020	FY2021	FY2022	Scope
<b>Scope1 (tons)*1</b>	11,136,501	9,831,022	10,112,053	<b>10,086,254</b>	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas (cover rate based on consolidated sales :97%)
Vessels	11,114,501	9,811,474	10,088,981	<b>10,063,916</b>	
Others	22,000	19,548	23,072	<b>22,338</b>	
<b>Scope2 (tons)*2</b>					
Location-based	45,116	38,735	39,018	<b>37,224</b>	
Market-based	–	–	35,887	<b>19,483</b>	
<b>Scope3 (tons)*3</b>	3,127,474	2,387,608	2,455,444	<b>3,224,584</b>	
Category1 Purchased goods and services	51,067	40,138	43,292	<b>50,420</b>	
Category2 Capital goods	721,175	481,817	511,873	<b>1,221,693</b>	
Category3 Fuel- and energy related activities (not included in scope 1 or scope 2)	1,546,750	1,402,678	1,454,777	<b>1,397,333</b>	
Category5 Waste generated in operations	477	638	907	<b>653</b>	
Category6 Business travel	7,957	1,774	2,045	<b>9,081</b>	
Category7 Employee commuting	283	282	71	<b>210</b>	
Category11 Use of sold products	799,765	460,281	442,479	<b>545,194</b>	
<b>Scope1+2 (tons)</b>	11,181,617	9,869,757	10,147,940	<b>10,105,737</b>	
<b>Scope1+2+3 (tons)</b>	14,309,091	12,257,365	12,603,384	<b>13,330,321</b>	

\*1 Scope1:CO<sub>2</sub> emissions originating mainly from the combustion of marine fuel.

\*2 Scope2:CO<sub>2</sub> emissions originating mainly from electricity consumption.

\*3 Scope3:GHG emissions originating mainly from when the capital goods and/or ship's stores are produced, fuels the vessels used are generated etc. Main cause of increase in number is the increase of new-built investments in category2.

#### Third-party Verification of GHG Emission Data

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 GHG emission data included in this report. The verification was conducted based on ISO14064-3:2006, ISO14064-1:2006 and GHG protocols.

#### ► Verification Target

Scope1 (Direct emissions), Scope2 (Energy indirect emissions), Scope3 (Other indirect emissions from Applicant's value chain), and Energy Consumption.

Verification Statement

<https://www.mol.co.jp/en/sustainability/data/pdf/environmental/verification-statement.pdf>

## Environmental Data

### GHG Emissions Intensity

		FY2019	FY2020	FY2021	FY2022	Scope
CO <sub>2</sub> emissions per ton-mile (g/ton-mile)	Standard method	10.86	10.46	10.46	<b>10.32</b>	Mitsui O.S.K. Lines, Ltd., major ocean-going vessels MOL Group subsidiaries in Japan and overseas
	Reference method	10.86	9.90	10.74	<b>10.81</b>	

Please refer P.45 of Environmental Vision 2.2 for definitions of the standard and reference methods.

#### Third-party Verification of GHG Emissions Intensity Data

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 GHG emissions intensity data included in this report.

[Independent Assurance Statement](https://www.mol.co.jp/en/sustainability/data/pdf/environmental/assurance-statement.pdf)  
<https://www.mol.co.jp/en/sustainability/data/pdf/environmental/assurance-statement.pdf>

[Appendix](https://www.mol.co.jp/en/sustainability/data/pdf/environmental/appendix.pdf)  
<https://www.mol.co.jp/en/sustainability/data/pdf/environmental/appendix.pdf>

### NO<sub>x</sub> and SO<sub>x</sub> Emissions

	FY2019	FY2020	FY2021	FY2022	Scope
NO <sub>x</sub> emissions (thousand tons)	272	231	231	<b>231</b>	Mitsui O.S.K. Lines, Ltd., MOL Group vessel operating subsidiaries in Japan and overseas (cover rate based on consolidated sales :81%)
SO <sub>x</sub> emissions (thousand tons)	130	24	28	<b>28</b>	

#### Third-party Verification of SO<sub>x</sub> Emissions Data

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 SO<sub>x</sub> emissions data included in this report.

[Verification Statement](https://www.mol.co.jp/en/sustainability/data/pdf/environmental/SOx-verification-statement.pdf)  
<https://www.mol.co.jp/en/sustainability/data/pdf/environmental/SOx-verification-statement.pdf>

### NO<sub>x</sub> and SO<sub>x</sub> Emissions Intensity

	FY2019	FY2020	FY2021	FY2022	Scope
NO <sub>x</sub> emissions per ton-mile (g/ton-mile)	0.25	0.23	0.22	<b>0.21</b>	Mitsui O.S.K. Lines, Ltd., major ocean-going vessels MOL Group subsidiaries in Japan and overseas
SO <sub>x</sub> emissions per ton-mile (g/ton-mile)	0.12	0.02	0.03	<b>0.02</b>	



## Environmental Data

### Other Resources

	FY2019	FY2020	FY2021	FY2022	Scope
<b>Total waste</b> *1 (tons)	2,723	2,478	2,905	<b>3,531</b>	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan (cover rate based on consolidated sales:97%)
Recyclable	1,637	1,323	1,340	<b>1,825</b>	
Non-recyclable	1,086	1,155	1,565	<b>1,706</b>	
<b>Recycling ratio</b> (%)	60.1	53.4	46.1	<b>51.7</b>	
<b>Total water intake</b> *2 (m <sup>3</sup> )	599,478	410,230	403,406	<b>632,754</b>	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas (cover rate based on consolidated sales :97%)
Tap water	599,478	410,230	403,406	<b>632,754</b>	
River water	–	–	–	–	
Seawater (cyclic usage)	–	–	–	–	
<b>Total ship recycling</b> (tons)	37,160	75,007	–	–	Mitsui O.S.K. Lines, Ltd.

\*1 The total of waste from offices etc.

\*2 The volume of water used in offices. Most of the water used in vessels is made from seawater and recycled. The increase in the number from previous year is due to coverage increase.

### Hazardous Waste Generation

	FY2019	FY2020	FY2021	FY2022	Scope
<b>Hazardous Waste Generation</b> (tons) *1	1.84	15.01	8.86	<b>0.57</b>	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan (cover rate based on consolidated sales:77%)

\*1 Total amount of PCB-containing equipment disposed of.

## Environmental Data

### Environment Investment Amount

	FY2020	FY2021	FY2022	Scope
<b>Environment Investment Amount (billion yen)</b>	64.4	119.4	<b>206.6</b>	Mitsui O.S.K. Lines, Ltd., MOL Group consolidated subsidiaries in Japan and overseas
Alternative Fueled Fleet *1	5.6	22.4	<b>38.0</b>	
Growth of Low- & Zero Emission Business *2	58.8	97.0	<b>168.6</b>	

\*1 Investment in the development and ordering LNG-fueled bulkers, PCCs, etc. Zero emission vessel to reduce emissions of GHG, NOx, SOx, and other environmentally harmful substances in its own operations.  
This corresponds to the R&D cost and the business area costs in Environmental Accounting Guidelines, the Ministry of the Environment.

\*2 Investment in the development of LNG carriers, LPG/Ammonia carriers, Wind Power business and its associated business to contribute to reduce GHG emissions in society.

### Violations of environmental laws and regulations

	FY2020	FY2021	FY2022	Scope
<b>Violations of environmental laws and regulations</b>				Mitsui O.S.K. Lines, Ltd.
Number of cases	0	0	<b>0</b>	
Fine (million yen)	0	0	<b>0</b>	

Note: Violations resulting in fines exceeding US\$10,000.

## Social Data

- This report contains consolidated data (Mitsui O.S.K. Lines, Ltd. and MOL Group consolidated subsidiaries) and non-consolidated data (Mitsui O.S.K. Lines, Ltd. only).
- Coverage in this report is the ratio of the number of employees in each item to the number of employees (consolidated).

In case “-” is indicated in “Coverage,” it refers to data of Mitsui O.S.K. Lines, Ltd..

- Third-party Verification

MOL acquired third-party verification by Class NK to ensure the fairness, accuracy, and transparency of FY2022 social data marked with “★” included in this report.

### Assurance Statement

<https://www.mol.co.jp/en/sustainability/data/pdf/social/assurance-statement.pdf>

## Human Capital & Diversity

		FY2019	FY2020	FY2021	FY2022	Coverage	
Number of all employees	consolidated*	8,931	8,571	8,547	8,748	100%	
	non-consolidated**	1,436	1,465	1,493	1,577	-	
	Male	1,157	1,174	1,193	1,255	-	
	Female	279	291	300	322	-	
Number of employees by job type	non-consolidated**	Office Workers	919	940	958	1,029	-
		Male	654	661	670	721	-
	Female	265	279	288	308	-	
	Seafarers		517	525	535	548	-
		Male	503	513	523	534	-
		Female	14	12	12	14	-

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

\*1 The approximate average number of temporary workforce is indicated in parentheses. The employees indicated as company-wide (common) belong to administrative departments, which cannot be classified in any specific segment.

The number of employees in the Port Logistics Division, which was included in the Containership Business until FY2021, has been included in the Product Transport Business other than the Containership Business since FY2022.

		FY2019	FY2020	FY2021	FY2022	Coverage
Number of employees by department *1	consolidated*	276	295	306	245	100%
	Dry Bulk Business	(45)	(47)	(48)	(41)	
	Energy Transport Business	826	807	857	902	100%
		(71)	(87)	(82)	(75)	
	Product Transport Business	3,719	4,431	4,343	4,398	100%
		(340)	(691)	(850)	(814)	
	Containerships	1,035	3,391	3,353	52	100%
		(138)	(549)	(696)	(9)	
	Real Property Business				1,152	100%
					(1,044)	
Associated Businesses	2,096	2,058	1,996	859	100%	
	(1,653)	(1,462)	(1,322)	(261)		
Others	651	642	681	699	100%	
	(46)	(87)	(77)	(85)		
Company-wide (common)	328	338	364	493	100%	
	(84)	(89)	(115)	(165)		
Total	8,931	8,571	8,547	8,748	100%	
	(2,377)	(2,463)	(2,494)	(2,485)		
Number of temporary workforce	consolidated*	-	-	-	2,485	100%
	non-consolidated**	-	-	-	308	-
Ratio of temporary workforce	non-consolidated**	-	-	-	16.3%	-

## Social Data

### Human Capital & Diversity

		FY2019	FY2020	FY2021	FY2022	Coverage	
Ratio of employees by age group	<b>consolidated*</b>	Under 25 years old	–	–	–	4.6%	98%
		25-29 years old	–	–	–	12.6%	98%
		30-34 years old	–	–	–	13.9%	98%
		35-39 years old	–	–	–	14.5%	98%
		40-44 years old	–	–	–	13.9%	98%
		45-49 years old	–	–	–	13.8%	98%
		50 years old & over	–	–	–	26.8%	98%
	Total	–	–	–	100.0%	98%	
	<b>non-consolidated*</b>	Under 25 years old	–	–	–	5.0%	–
		25-29 years old	–	–	–	17.8%	–
		30-34 years old	–	–	–	20.0%	–
		35-39 years old	–	–	–	16.4%	–
		40-44 years old	–	–	–	11.7%	–
		45-49 years old	–	–	–	10.1%	–
50 years old & over		–	–	–	19.0%	–	
Total	–	–	–	100.0%	–		
Ratio of employees in managerial positions by age group	<b>non-consolidated*</b>	Under 30 years old	–	–	–	0.0%	–
		30-34 years old	–	–	–	0.0%	–
		35-39 years old	–	–	–	7.5%	–
		40-44 years old	–	–	–	27.5%	–
		45-49 years old	–	–	–	27.0%	–
		50 years old & over	–	–	–	38.0%	–
		Total	–	–	–	100.0%	–

		FY2019	FY2020	FY2021	FY2022	Coverage
Number of women in executive positions	<b>consolidated*</b>	–	–	–	16	100%
	<b>non-consolidated*</b>	–	–	–	3	100%
Ratio of women in managerial positions	<b>consolidated*</b>	–	–	–	13.3%★	100%
	General management positions	–	–	–	8.5%	100%
	Sectional management positions	–	–	–	15.0%	100%
	<b>non-consolidated* (Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.)</b>	–	–	–	7.3%	–
	General management positions	–	–	–	7.3%	–
	Sectional management positions	–	–	–	7.3%	–
	<b>non-consolidated** (Excludes loaned employees. Includes expatriate employees outside MOL.)</b>	4.3%	4.5%	4.9%	5.9%	–
	Office Workers*2	6.5%	6.9%	7.5%	9.2%	–
	Seafarers	0.4%	0.4%	0.4%	0.4%	–
	General management positions	2.1%	1.9%	3.1%	4.6%	–
Office Workers	2.6%	2.3%	3.8%	5.8%	–	
Seafarers	0.0%	0.0%	0.0%	0.0%	–	
Senior management positions	1.6%	1.5%	1.6%	1.6%	–	
Office Workers	2.6%	2.5%	2.6%	2.6%	–	
Seafarers	0.0%	0.0%	0.0%	0.0%	–	
Sectional management positions	8.3%	9.3%	9.7%	11.0%	–	
Office Workers	12.8%	14.1%	15.0%	17.5%	–	
Seafarers	1.1%	1.1%	1.1%	0.9%	–	

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

\*2 Core KPIs in the management plan "BLUE ACTION 2035"

## Social Data

### Human Capital & Diversity

		FY2019	FY2020	FY2021	FY2022	Coverage
Ratio of women in workforce	<b>consolidated*</b>	–	–	–	<b>39.4%</b>	100%
	Indefinite contracts	–	–	–	<b>30.0%★</b>	100%
	Definite contracts	–	–	–	<b>39.4%</b>	100%
	<b>non-consolidated**</b>	19.4%	19.9%	20.1%	<b>20.4%</b>	–
	Office Workers**	35.3%	35.4%	36.7%	<b>29.9%</b>	–
	Seafarers**	3.2%	2.4%	2.1%	<b>2.6%</b>	–
	Indefinite contracts*	–	–	–	<b>24.2%</b>	–
	Definite contracts*	–	–	–	<b>61.8%</b>	–
Ratio of employees with disabilities	<b>consolidated*</b>	–	–	–	<b>0.3%</b>	97%
	<b>non-consolidated**</b>	2.2%	2.2%	3.3%	<b>3.3%</b>	–
Ratio of employees in managerial positions with disabilities	<b>consolidated*</b>	–	–	–	<b>0.5%</b>	97%
	<b>non-consolidated*</b>	–	–	–	<b>0.2%</b>	–
Number of staff per management employee* <sup>3</sup>	<b>non-consolidated*</b>	–	–	–	<b>2.8</b>	–
Succession Effectiveness Rate (Ratio of internal hire/external hire for important position)* <sup>4</sup>	<b>non-consolidated*</b>	–	–	–	<b>825%</b>	–

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

\*<sup>3</sup> Calculated by total number of employees/total number of employees in managerial positions.

\*<sup>4</sup> Important positions are employees in managerial positions.

### Number of Hires & Retention Rate

		FY2019	FY2020	FY2021	FY2022	Coverage	
Number of new hires	<b>consolidated*</b>	–	–	–	<b>709</b>	98%	
	<b>non-consolidated**</b>	–	–	–	<b>129</b>	–	
	Number of new graduates hires	50	53	58	<b>53</b>	–	
	Male	40	40	44	<b>40</b>	–	
	Female	10	13	14	<b>13</b>	–	
	Number of mid-carrier hires	26	15	24	<b>76</b>	–	
	Male	8	5	14	<b>57</b>	–	
	Female	18	10	10	<b>19</b>	–	
	Number/Rate of new hires by age group	<b>consolidated*</b>					
		Under 25 years old	–	–	–	<b>176/24.8%</b>	98%
25-29 years old		–	–	–	<b>156/22.0%</b>	98%	
30-34 years old		–	–	–	<b>129/18.2%</b>	98%	
35-39 years old		–	–	–	<b>84/11.8%</b>	98%	
40-44 years old		–	–	–	<b>57/8.0%</b>	98%	
45-49 years old		–	–	–	<b>43/6.1%</b>	98%	
50 years old & over		–	–	–	<b>64/9.0%</b>	98%	
Total					<b>709/100.0%</b>	98%	



## Social Data

### Number of Hires & Retention Rate

			FY2019	FY2020	FY2021	FY2022	Coverage
Number/Rate of new hires by age group	non-consolidated*	Under 25 years old	–	–	–	41/33.3%	–
		25-29 years old	–	–	–	26/21.1%	–
		30-34 years old	–	–	–	40/32.5%	–
		35-39 years old	–	–	–	15/12.2%	–
		40-44 years old	–	–	–	1/0.8%	–
		45-49 years old	–	–	–	0/0.0%	–
		50 years old & over	–	–	–	0/0.0%	–
		Total	–	–	–	123/100.0%	–
Number/Rate of new hires by gender	consolidated*	Male	–	–	–	444/62.6%	98%
		Female	–	–	–	265/37.4%	98%
	non-consolidated*	Male	–	–	–	91/74.0%	–
		Female	–	–	–	32/26.0%	–
Number/Rate of new hires by region	consolidated*	Japan	–	–	–	441/62.2%	98%
		East Asia · Southeast Asia · Oceania	–	–	–	213/30.0%	98%
		Europe · Africa	–	–	–	41/5.8%	98%
		North America · Central America · The Caribbean	–	–	–	14/2.0%	98%

			FY2019	FY2020	FY2021	FY2022	Coverage
Total employees turnover rate	consolidated*		–	–	–	7.2%	98%
		Voluntary employee turnover rate	–	–	–	6.2%	98%
	non-consolidated**		3.0%	3.1%	3.3%	2.2%	–
		Voluntary employee turnover rate	1.7%	1.2%	1.7%	1.1%	–
Turnover rate of new graduates hires within three years of employment*1	non-consolidated	Office Workers	4.7%	4.5%	5.3%	0.0%	–
		Seafarers	10.1%	7.4%	2.7%	4.9%	–
	consolidated*		–	–	–	492/100.0%	98%
		Under 25 years old	–	–	–	50/10.2%	98%
Total Number/Rate of employees turnover by age group	consolidated*	25-29 years old	–	–	–	87/17.7%	98%
		30-34 years old	–	–	–	85/17.3%	98%
		35-39 years old	–	–	–	76/15.4%	98%
		40-44 years old	–	–	–	47/9.6%	98%
		45-49 years old	–	–	–	34/6.9%	98%
		50 years old & over	–	–	–	113/23.0%	98%
		Important voluntary employee turnover rate*2	–	–	–	3.7%	–

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

\*1 Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group, contract employees, and part-timers, etc.

Calculated by the number of new graduates hires who have retired within three years of joining the company/the number of new graduates hires in the last three years.

\*2 Important voluntary employee turnover is the retirement of employees in managerial positions for personal reasons.

## Social Data

### Number of Hires & Retention Rate

		FY2019	FY2020	FY2021	FY2022	Coverage
Total Number/ Rate of employees turnover by age group	<b>non-consolidated*</b>	–	–	–	27/100.0%	–
	Under 25 years old	–	–	–	1/3.7%	–
	25-29 years old	–	–	–	11/40.7%	–
	30-34 years old	–	–	–	0/0.0%	–
	35-39 years old	–	–	–	2/7.4%	–
	40-44 years old	–	–	–	0/0.0%	–
	45-49 years old	–	–	–	1/3.7%	–
	50 years old & over	–	–	–	12/44.4%	–
Total Number/Rate of employees turnover by gender	<b>consolidated*</b>	–	–	–	317/64.4%	98%
	Male	–	–	–	175/35.6%	98%
	<b>non-consolidated*</b>	–	–	–	22/81.5%	–
	Female	–	–	–	5/18.5%	–
Total Number/Rate of employees turnover by region	<b>consolidated*</b>	–	–	–	264/53.7%	98%
	Japan	–	–	–	181/36.8%	98%
	East Asia · Southeast Asia · Oceania	–	–	–	34/6.9%	98%
	Europe · Africa	–	–	–	13/2.6%	98%
	North America · Central America · The Caribbean	–	–	–	–	–
Average years of continuous service	<b>non-consolidated**</b>	15.5	15.6	15.6	15.1	–
	Male	15.4	15.7	15.9	15.4	–
	Female	15.8	15.3	14.7	13.9	–

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

### Payroll, Compensation & Productivity

		FY2019	FY2020	FY2021	FY2022	Coverage
Annual employee compensation (thousand yen)	<b>consolidated*</b>	–	–	–	59,142,848	100%
	<b>non-consolidated*</b>	–	–	–	18,471,200	–
Average annual employee compensation (thousand yen)	<b>consolidated*</b>	–	–	–	7,980	100%
	<b>non-consolidated*</b>	–	–	–	15,174	–
Annual CEO compensation (thousand yen)	<b>non-consolidated</b>	–	–	–	302,960	–
Ratio of average annual employee compensation excluding CEO and annual CEO compensation	<b>consolidated*</b>	–	–	–	2.6%	100%
	<b>non-consolidated*</b>	–	–	–	4.9%	–
Ratio of gender wage gap	<b>consolidated*</b>	–	–	–	63.6%★	100%
	Total employees	–	–	–	68.9%★	100%
	Indefinite contracts	–	–	–	71.6%★	100%
	Definite contracts	–	–	–	–	–
	<b>non-consolidated*</b>	–	–	–	56.3%	–
	Total employees	–	–	–	69.4%	–
Indefinite contracts	–	–	–	38.9%	–	
Definite contracts	–	–	–	–	–	
Employee benefits (thousand yen)	<b>consolidated*</b>	–	–	–	12,337,833	98%
	<b>non-consolidated*</b>	–	–	–	4,230,320	–
Turnover per employee (thousand yen)	<b>consolidated*</b>	–	–	–	184,269	100%
	<b>non-consolidated*</b>	–	–	–	520,847	–

## Social Data

### Payroll, Compensation & Productivity

		FY2019	FY2020	FY2021	FY2022	Coverage
Profit per employee (Operating Income) (thousand yen)	consolidated*	–	–	–	12,427	100%
	non-consolidated*	–	–	–	39,128	–
EBIT per employee (thousand yen)	consolidated*	–	–	–	93,640	100%
	non-consolidated*	–	–	–	295,144	–

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

Note: The salary system in our company adopts a qualification grade system, and there is no gender or regional pay gap within the same qualification grade.

### Human Capital Skill Development

		FY2019	FY2020	FY2021	FY2022	Coverage	
Average training days per employee	consolidated*	–	–	–	1.8	93%	
	non-consolidated**	Office Workers	2.0	2.0	2.0	3.0	–
		Seafarers	5.0	4.0	7.0	10.0	–
Average training hours per employee	consolidated*	–	–	–	14	90%	
	non-consolidated*		–	–	–	32	–
		Male (indefinite contracts)	–	–	–	33	–
		Female (indefinite contracts)	–	–	–	29	–
Training costs per employee (thousand yen)	non-consolidated**	Office Workers	105	98	91	155	–
		Seafarers	93	74	143	118	–
Total HR developing & training costs (thousand yen)	consolidated*	–	–	–	640,788	90%	
	non-consolidated*	–	–	–	456,039	–	
Investment in training as % of payroll	consolidated*	–	–	–	0.8%	92%	
	non-consolidated*	–	–	–	2.4%	–	
Time spent on employee development training	consolidated*	–	–	–	87,515	87%	
	non-consolidated*	–	–	–	40,207	–	

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

## Social Data

### Occupational Health and Safety

		FY2019	FY2020	FY2021	FY2022	Coverage
Number of industrial accidents	<b>non-consolidated**</b> Office Workers	1	0	1	0	–
	Seafarers	0	1	2	1	–
Number of fatal industrial accidents	<b>consolidated*</b>	–	–	–	0	96%
	<b>non-consolidated**</b> Office Workers	0	0	0	0	–
	Seafarers	0	0	0	0	–
Number of work-related injuries* <sup>1</sup>	<b>consolidated*</b>	–	–	–	16	94%
	<b>non-consolidated**</b> Office Workers	–	–	–	0	–
	Seafarers	–	–	–	1	–
Number of employees work-related fatalities	<b>consolidated*</b>	–	–	–	0	96%
	<b>non-consolidated**</b> Office Workers	0	0	0	0	–
	Seafarers	0	0	0	0	–
Rate of employees work-related fatalities	<b>consolidated*</b>	–	–	–	0	96%
	<b>non-consolidated**</b> Office Workers	0	0	0	0	–
	Seafarers	0	0	0	0	–
LTIF (Lost Time Injury Frequency)* <sup>2</sup>	<b>non-consolidated*</b> Office Workers	–	–	–	0	–
	<b>Seafarers of MOL Group-operated vessels including MOL-managed and chartered vessels</b> <sup>3</sup>	–	–	0.19	0.19	–

		FY2019	FY2020	FY2021	FY2022	Coverage
Rate of OHSAS1800/ISO45001 offices	<b>consolidated*</b>	–	–	–	0.8%	87%
	<b>non-consolidated*</b>	–	–	–	0.0%	–
Occupational health and safety training	<b>consolidated*</b> Number of participants	–	–	–	2,225	82%
	<b>non-consolidated**</b> Safety Culture e-learning* <sup>4</sup> Number of participants	2,157	2,407	2,252	3,146	–
	Rate of participants	89.5%	95.5%	90.3%	96.6%	–
	Operational Safety Workshops* <sup>5</sup> Number of participants	–	926	300	309	–
	Safety Campaign* <sup>6</sup> Number of participants	367	576	693	635	–
	Safety Conference* <sup>7</sup> Number of participants	769	872	1,019	787	–
Rate of employees belongs to trade union	<b>consolidated*</b>	–	–	–	55.6%	96%
	<b>non-consolidated**</b> Office Workers	100.0%	100.0%	100.0%	100.0%	–
	Seafarers	100.0%	100.0%	100.0%	100.0%	–

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

\*<sup>1</sup> Injuries that leave aftereffects

\*<sup>2</sup> Number of lost time injuries occurring in a workplace per 1 million hours worked.

\*<sup>3</sup> MOL uses "on board time" as denominator. These figures include occupational injuries and illnesses that did not result in disembarkation but did not result in a return to work, including light work, on the day of the accident. The indicator also covers seafarers outside of the MOL Group.

\*<sup>4</sup> Includes for temporary and contract employees.

\*<sup>5</sup> Total number of participants in each session. Includes for temporary and contract employees.

\*<sup>6</sup> Total number of participants in each session (only office workers). Includes for temporary and contract employees.

\*<sup>7</sup> Total number of participants in each session. The target is seafarers on leave on ships managed by a ship management company in MOL group, including permanent employees in our group as well as employees of five partner companies.

## Social Data

### Wellbeing

			FY2019	FY2020	FY2021	FY2022	Coverage	
Work hours (annual average)	consolidated*		–	–	–	1,752	75%	
	non-consolidated*		–	–	–	1,958	–	
Overtime work hours (monthly average)	non-consolidated**		16.8	23.8	23.4	18.8	–	
Paid leave* <sup>1</sup> (including summer vacation)	non-consolidated**	Days taken	14.3	12.8	14.0	15.2	–	
		Usage rate	57.1%	47.6%	52.9%	60.7%	–	
Rate of Engagement Survey	consolidated*		–	–	–	37.0%	98%	
Rate of Engagement Survey Response	consolidated*		–	–	–	84.0%	98%	
Maternity leave* <sup>2</sup>	non-consolidated	Number of employees taken	13	10	21	23	–	
		Usage rate	100.0%	100.0%	100.0%	100.0%	–	
Special leave for spousal childbirth* <sup>3</sup>	non-consolidated	Number of employees taken	24	22	17	22	–	
		Usage rate	100.0%	100.0%	68.0%	69.0%	–	
Child-care leave	consolidated*	Usage rate (Male)	indefinite contracts	–	–	–	7.4%★	100%
			definite contracts	–	–	–	2.7%	97%
		Usage rate (Female)	indefinite contracts	–	–	–	19.2%	98%
			definite contracts	–	–	–	54.3%	95%
	non-consolidated**	Number of employees taken (Male)		12	17	17	34	–
		Number of employees taken (Female)		21	20	25	41	–
		Usage rate (Male)		26.1%	49.0%	46.0%	54.0%	–
		Usage rate (Female)		100.0%	100.0%	100.0%	100.0%	–
		Return rate (Male)		100.0%	100.0%	92.0%	100.0%	–
		Return rate (Female)		100.0%	100.0%	100.0%	–	

		FY2019	FY2020	FY2021	FY2022	Coverage
Average days of men taking child-care leave* <sup>4</sup>	non-consolidated	48.6	64.8	63	43	–
Number of employees used short-time work shift for childcare	non-consolidated**	7	7	3	8	–
Number of working mothers* <sup>5</sup>	non-consolidated	48	54	51	63	–
Number of employees used rehiring system after spousal transfer	non-consolidated**	1	0	4	2	–
Number of employees used nursing care leave	non-consolidated**	1	1	0	1	–

\* Includes expatriate employees within MOL group. Excludes expatriate employees outside MOL group.

\*\* Excludes loaned employees. Includes expatriate employees outside MOL.

\*<sup>1</sup> Excludes seafarers.

\*<sup>2</sup> Excludes loaned employees, contract employees, and part-timers, etc.

\*<sup>3</sup> Excludes seafarers, loaned employees, contract employees, and part-timers, etc.

\*<sup>4</sup> Excludes expatriate employees.

\*<sup>5</sup> Number of female employees raising children (15 years old or younger) who have not completed compulsory education (excludes seafarers, loaned employees, contract employees, and part-timers, etc.)



## Governance Data

### Number and Ratio of Officers (As of June 20, 2023)

	Male		Female		Total	
	Number of people	Ratio	Number of people	Ratio	Number of people	Ratio
<b>Directors</b>	7	77.8%	2	22.2%	9	–
Outside directors	3	33.3%	1	11.1%	4	44.4%
<b>Auditors</b>	3	75.0%	1	25.0%	4	–
Outside auditors	1	25.0%	1	25.0%	2	50.0%
<b>Executive officers</b>	30	93.8%	2	6.3%	32	–

Note: The term of office of Directors shall be one year from the conclusion of the Ordinary General Meeting of Shareholders held on June 20, 2023.

### Risk Management

#### Information Security

	FY2019	FY2020	FY2021	FY2022	Scope*1
<b>Number of Serious ICT Incidents</b>	0	0	0	0	Mitsui O.S.K. Lines, Ltd., Major subsidiaries and affiliates in Japan and overseas*1
<b>E-learning Participation Rate of Information Security</b>	97.3%	95.7%	92.8%	93.9%	

\*1 Includes temporary and contract staffs.

### Number of shares held, and Attendance of Board of Directors / Audit and Supervisory Board, etc. (As of June 20, 2023)

Title	Name	Term of office served as officer (years)	Number of shares held (100 shares) (As of March 31, 2023)	The Board of Directors (FY2022)		Audit Committee (FY2022)	
				Attendance	Attendance rate	Attendance	Attendance rate
<b>Chairman of the Board</b>	Junichiro Ikeda	10	1,243	15/15	100%	–	–
<b>Representative Director President, Chief Executive Officer</b>	Takeshi Hashimoto	8	722	15/15	100%	–	–
<b>Representative Director Executive Vice President, Executive Officer</b>	Toshiaki Tanaka	3	410	15/15	100%	–	–
<b>Adviser</b>	Junko Moro	–	348	–	–	–	–
<b>Managing Executive Officer</b>	Hisashi Umemura	–	114	–	–	–	–
<b>Outside Director</b>	Hideto Fujii	7	339	15/15	100%	–	–
<b>Outside Director</b>	Etsuko Katsu	7	222	15/15	100%	–	–
<b>Outside Director</b>	Masaru Onishi	4	98	15/15	100%	–	–
<b>Outside Director</b>	Mitsunobu Koshiba	–	–	–	–	–	–
<b>Full-time Audit &amp; Supervisory Board Member</b>	Masanori Kato	2	330	15/15	100%	14/14	100%
<b>Full-time Audit &amp; Supervisory Board Member</b>	Yutaka Hinooka	–	342	15/15	100%	–	–
<b>Outside Audit &amp; Supervisory Board Member</b>	Satoru Mitsumori	1	–	10/10	100%	10/10	100%
<b>Outside Audit &amp; Supervisory Board Member</b>	Fumiko Takeda	–	–	–	–	–	–

Note: For Outside Auditor Satoru Mitsumori, the number of meetings attended since their appointment on 21 June 2022.  
Director Kenta Matsuzaki and Outside Auditor Toshiaki Takeda and Junko Imura resigned on 20 June 2023.  
Director Yutaka Hinooka assumed office as Full-time Auditor on 20 June 2023.

## Governance Data

### Compliance

Number of Reports to Compliance Advisor Service Desks, Compliance Violations, and Amount of Fines, etc.

		FY2019	FY2020	FY2021	FY2022	Scope
<b>Number of Reports to Compliance Advisory Service Desk, etc.*1</b>		74	46	43	79	Mitsui O.S.K. Lines, Ltd., Subsidiaries and affiliates in Japan and overseas
Violations of laws and regulations		34	15	16	34	
Violations of human rights*2		23	20	11	24	
Violations of internal rules and others		17	11	16	21	
<b>Serious Violations of Laws*3</b>	<b>Number of cases</b>	1	1	0	1	
	<b>Fine (10,000 yen)</b>	0	20	0	0	
Antitrust act / Competition law	<b>Number of cases</b>	0	0	0	0	
	<b>Fine (10,000 yen)</b>	0	0	0	0	
Anti-bribery*4	<b>Number of cases</b>	0	0	0	0	
	<b>Fine (10,000 yen)</b>	0	0	0	0	
Labor law	<b>Number of cases</b>	0	0	0	0	
	<b>Fine (10,000 yen)</b>	0	0	0	0	
Other violations of laws and regulations*5	<b>Number of cases</b>	1	1	0	1	
	<b>Fine (10,000 yen)</b>	0	20	0	0	
<b>Serious Violations of Business Ethics *3</b>	<b>Number of cases</b>	0	0	1	0	
Violations of human rights *2	<b>Number of cases</b>	0	0	0	0	
Confidentiality Obligations, Leakage of Information*6	<b>Number of cases</b>	0	0	0	0	
Others	<b>Number of cases</b>	0	0	1	0	

## Governance Data

### Compliance

	FY2019	FY2020	FY2021	FY2022	Scope
<b>Within the Serious Violations of Laws on page 139, Number of Employees Subject to Disciplinary Dismissal</b>	1	1	1	1	Mitsui O.S.K. Lines, Ltd., Subsidiaries and affiliates in Japan and overseas
Antitrust act / Competition law	0	0	0	0	
Anti-bribery <sup>*4</sup>	0	0	0	0	
Others	1	1	1	1	
<b>Political Contributions (10,000 yen)<sup>*7</sup></b>	200	200	200	200	Mitsui O.S.K. Lines, Ltd.

\*1 Number of reports to internal and external compliance advisory service desks, compliance enhancement months, and management departments of Group companies.

\*2 Including harassment, discrimination, etc.

\*3 Cases in which disciplinary dismissal was imposed.

\*4 Including conflict of interest, money laundering, etc.

\*5 Including insider trading, etc.

\*6 Including leakage of customer privacy data, etc.

\*7 One donation each year, to The People's Political Association.

### E-learning Participation Rate of Compliance

	FY2019	FY2020	FY2021 <sup>*1</sup>	FY2022	Scope <sup>*2</sup>
<b>Antitrust Act /Competition Law</b>	97.4%	95.5%	88.7%	<b>95.1%</b>	Mitsui O.S.K. Lines, Ltd., Major subsidiaries and affiliates in Japan and overseas
<b>Anti-bribery</b>	97.9%	96.4%	89.0%	<b>94.8%</b>	
<b>Insider Trading</b>	96.7%	95.8%	89.7%	<b>94.2%</b>	Mitsui O.S.K. Lines, Ltd., Major subsidiaries and affiliates in Japan
<b>Internal Control</b>	86.2%	90.9%	87.1%	<b>91.1%</b>	Mitsui O.S.K. Lines, Ltd.








\*1 The decrease in the participation rate is due to changes in the e-learning participation system.

\*2 Includes temporary and contract staffs.



## Corporate Profile

(as of March 31, 2023)

Company Name	Mitsui O.S.K. Lines, Ltd.
Head Office	1-1, Toranomom 2-chome, Minato-ku, Tokyo 105-8688, Japan
Capital	¥65,589,827,533
Number of Shares Issued	362,010,900
Number of Shareholders	384,381
Shares listed on	Tokyo Stock Exchange
Number of Employees (MOL only)	1,168 (829 on land, 339 at sea)
Total Number of MOL Group Companies	509 (Consolidated subsidiaries and equity-method affiliate companies)
Total Number of MOL Group Employees	8,748 (MOL and consolidated subsidiaries)
The Scale of MOL Group Operating Fleet	697 vessels, a total of 50.7 million deadweight tons (MOL and consolidated subsidiaries)
Communication materials	<p> <a href="https://ir.mol.co.jp/en/ir/library/integrated_report.html">MOL Report</a> <a href="https://ir.mol.co.jp/en/ir/library/integrated_report.html">https://ir.mol.co.jp/en/ir/library/integrated_report.html</a></p> <p> <a href="https://www.mol.co.jp/en/sustainability/library/">Sustainability Fact Book</a> <a href="https://www.mol.co.jp/en/sustainability/library/">https://www.mol.co.jp/en/sustainability/library/</a></p> <p> <a href="https://www.mol.co.jp/en/sustainability/">Website (Sustainability)</a> <a href="https://www.mol.co.jp/en/sustainability/">https://www.mol.co.jp/en/sustainability/</a></p> <p> <a href="https://www.mol.co.jp/en/bam/">Website (BLUE ACTION MOL)</a> <a href="https://www.mol.co.jp/en/bam/">https://www.mol.co.jp/en/bam/</a></p> <p> <a href="https://www.mol.co.jp/en/formauritius/">Website (MOL for Mauritius)</a> <a href="https://www.mol.co.jp/en/formauritius/">https://www.mol.co.jp/en/formauritius/</a></p> <p> <a href="https://www.mol-service.com/en/">Website (Service Site)</a> <a href="https://www.mol-service.com/en/">https://www.mol-service.com/en/</a></p> <p> <a href="https://www.youtube.com/@molofficialchannelenglish9003">YouTube Official Channel</a> <a href="https://www.youtube.com/@molofficialchannelenglish9003">https://www.youtube.com/@molofficialchannelenglish9003</a></p>



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