2025 PAN OCEAN
Sustainability Report

About this Report

Pan Ocean Co., Ltd. (hereinafter referred to as "Pan Ocean") releases an annual sustainability report to communicate its sustainability management vision, strategies, and performance to stakeholders.

Principles

Pan Ocean's sustainability report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards 2021, an international sustainability reporting guideline. In accordance with Korean International Financial Reporting Standards (K-IFRS), financial information has been generated from consolidated financial statements. The compilation of non-financial information has been conducted with reference to the GRI Standards, the industry-specific standards of the Sustainability Accounting Standards Board (SASB), and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Scope

This report covers the activities and performance of Pan Ocean Co., Ltd. and 10 subsidiaries on a consolidated basis, for the reporting period from January 1, 2024 to December 31, 2024. Selected qualitative performance data includes achievements from the first half of 2025, while quantitative performance data is presented for the past three years. Information on any changes to the reporting scope and boundaries are provided on page 82, and additional remarks are provided in the notes section where further clarification of certain data is required.

Reliability

To ensure reliability and fairness, this report underwent third party verification by an independent external organization, The British Standards Institution (BSI), in accordance with the AA1000AS international verification standards.

Considerations for Forecasting Data

Forward-looking statements included in this report reflect Pan Ocean's current circumstances and strategies. These statements represent expectations regarding future sustainability outcomes, though unforeseen variables may cause actual results to differ from these projections. Pan Ocean does not intend to amend this report based on changes or new developments and will instead disclose any such updates in upcoming sustainability reports.

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Interactive PDF Guide

This report has been published in the interactive PDF format to allow readers to go to the relevant pages and websites.

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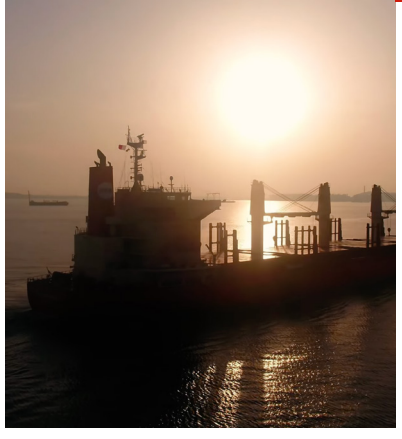

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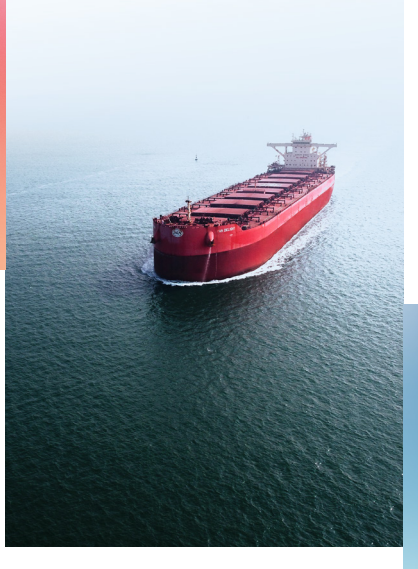

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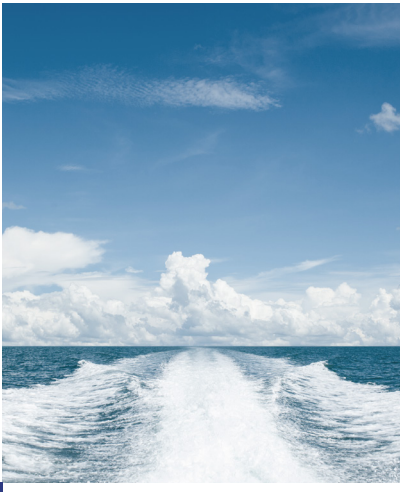

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CEO Statement

Dear Stakeholders, I am Joong Ho Ahn, CEO of Pan Ocean Co., Ltd.
It is my pleasure to greet you through the publication of our fourth sustainability report since its launch in 2022.
I would like to express my sincere gratitude for your unwavering support and encouragement.

The maritime logistics industry faced a challenging business environment in 2024. From the escalating climate crisis and geopolitical instability to global economic volatility and tightening environmental and governance regulations, the year brought a series of challenges and required change from us. Despite these pressures, Pan Ocean remained committed to the principle of sustainable management, continuing to make tangible progress toward our medium- and long-term roadmap.

Pan Ocean has broadened the reporting scope of sustainability report to encompass nine overseas entities in China, Japan, Singapore, the United States, and Brazil, in addition to the Korea headquarters and one subsidiary (POS SM), starting with this report.

This is a substantial development in the demonstration of responsible management and transparent disclosure in accordance with global standards, which comprehensively reflects the company's ESG performance and activities not only at the Korean headquarters but also across our global network.

In particular, Pan Ocean continues with transparent data disclosure and systematic management in relation to greenhouse gas (GHG) emissions. In 2024, emissions from the company's owned vessels reached 2,780,572tCO_2eq, presenting a slight increase from 2,678,663 tCO_2eq in 2023. The emissions intensity (gCO_2/ton-mile) also rose moderately to 6.05gCO_2 per ton-mile, compared to 5.94 the previous year. External factors, including the increased transport volumes and deployment of new vessels, were the primary drivers of this increase. In response, Pan Ocean is reviewing its mid- to long-term reduction plans by comparing actual performance against the "2030 Carbon Reduction Strategy" established in 2022 while also taking into account changing market conditions and preparing additional countermeasures as needed.

Ensuring the safety and health of our employees also remains our utmost priority. Pan Ocean maintains ISO 45001 certification for occupational health and safety management and consistently carries out on-site improvement initiatives. These include holding regular meetings of the onboard Safety, Health, and Environment Committee, proactively identifying risks, enforcing a stop-work policy, and conducting joint emergency drills involving both onshore and offshore employees. Especially for the promotion of health and welfare of our offshore employees, we have expanded the range of items included in regular medical check-ups, introduced psychological counseling services, and enhanced family insurance support. In addition, Pan Ocean continues to strengthen training and welfare programs to ensure that offshore employees of diverse nationalities can work safely and with confidence.

CEO Statement

Pan Ocean also endeavors to enhance our supply chain management practices. Since establishing 'The Supplier Code of Conduct' in 2023, we have been continuously engaging with our suppliers to explain its contents and encourage their adherence. Additionally, we plan to implement ESG self-assessments for our suppliers and enhance our due diligence and evaluation systems to support improvement efforts. We aim to minimize potential ESG-related shortcomings within our supply chain by incorporating ESG risk analysis into the supplier selection process and conducting regular assessment.

Pan Ocean's corporate culture is deeply rooted in ethical and compliant management. We have implemented an effective surveillance system, including anonymous reporting channels and compliance self-checks, in addition to enhancing our anti-corruption and fair-trade compliance programs. Every employee, without exception, has signed a compliance pledge and completed relevant training, enhancing Ethics and Compliance awareness.

At Pan Ocean, we prioritize transparent communication with all stakeholders, including employees, suppliers, and local communities. We are dedicated to fostering mutual growth by enhancing employee welfare programs through internal feedback, expanding collaborative activities with local communities, and engaging investors and customers in open communication. We are committed to pursuing sustainable management across economic, environmental, and social dimensions, beyond short-term achievements. At the same time, we are fully aware of the areas that require further improvement: establishing emission reduction strategies aligned with global climate targets, strengthening the management of greenhouse gas emissions across Scopes 1 to 3, advancing our health and safety systems, and improving our ability to handle ESG-related risks within the supply chain. To reinforce the trust of our stakeholders, we will set clear goals for each of these areas, rigorously track performance, and regularly disclose our progress.

Businesses will continue to face strong headwinds. We may encounter instances where it becomes challenging to focus on non-financial goals and plans that are often referred to as ESG, because of unforeseen external situations that result in financial difficulties. However, Pan Ocean has been resilient in overcoming countless hardships since its establishment in 1966, building a strong foundation to recover from any crisis. We will remain steadfast in pursuing our goals regardless of temporary delays or interruptions in regulations. Based on people-centered management, we will continue shaping a sound future of the maritime industry and accomplish sustainable development. Your warm support and advice are invaluable to our pursuit of facing challenges and making innovations. We sincerely ask for your continued support in our path.

June 2025

Joong Ho Ahn

Chief Executive Officer
Pan Ocean Co., Ltd.

Pan Ocean

Company Overview

General Status

Company	Pan Ocean Co., Ltd.
Establishment	May 1966
CEO	Kim Hong Kuk, Ahn Joong Ho
Head Office	Tower 8, 7, Jong-ro 5-gil, Jongno-gu, Seoul, Republic of Korea
Fleet	290 Vessels (Owned 114, Chartered 176)
Main Business	Maritime logistics (bulk carriers, containers, tankers, LNG), agri-trading
Employees	1,624 employees (on a consolidated basis)

2024 Key Achievements

Sales
Approximately KRW **5.16** trillion

Operating Profit
Approximately KRW **471.1** billion

Cargo Volume
96.06 million tons

Credit Rating
Korea Investors Service (KIS) / Korea Ratings (KR) **A**

Korea Institute of Corporate Governance and Sustainability (KCGS)
Overall Rating **A**
(*Environment A, Social A+, Governance A)

Carbon Disclosure Project (CDP)
(*Climate Change) **B**

MSCI
Overall Rating **BB**

Sustinvest
Overall Rating **BB**

Vision and Mission

Vision > Global Leading Shipping & Logistics Company

Mission > Value Creation of the Life & Sharing Happiness

Core Value >

01 A Future Leader
- We take the initiative in leading the industry toward the future.

02 A Partner to Customers
- We grow with customers and stakeholders and share achievements with them.

03 A Global Corporate Citizen that Fulfills Social Responsibility
- We value safety more than anything. By complying with environmental laws and regulations, we pursue sustainable management guided by corporate social responsibility.

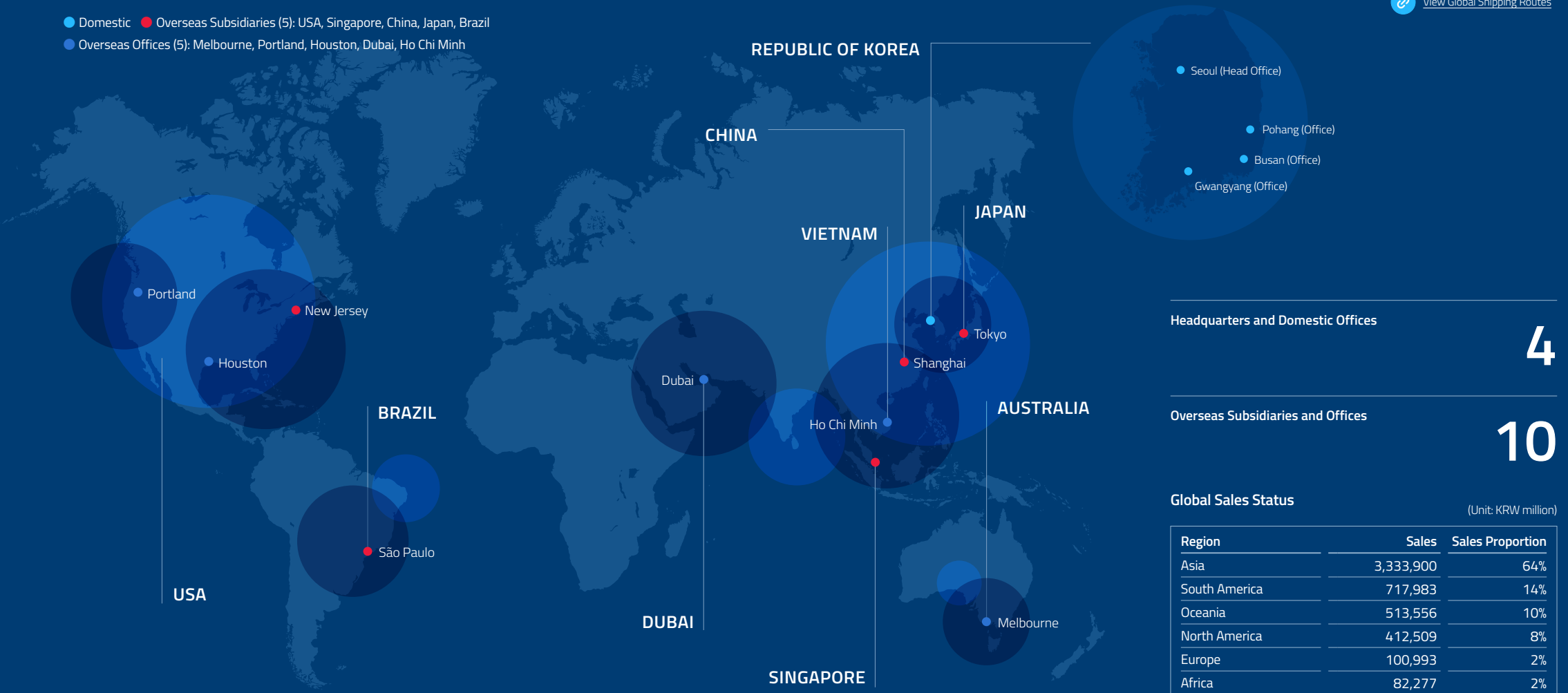
04 Organizational Culture that Respects Talents
- We foster talents with professional skills and diversity and treat them fairly and reasonably to bring out their best potential.

Pan Ocean

Global Network

Pan Ocean continues to strengthen its global presence and network to provide world-class maritime logistics services. As of the end of June 2025, the company maintains one headquarters and three offices in Korea, in addition to five international subsidiaries and five offices throughout Asia, the Americas, and Oceania.

View Global Shipping Routes



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Global Sales Status

(Unit: KRW million)

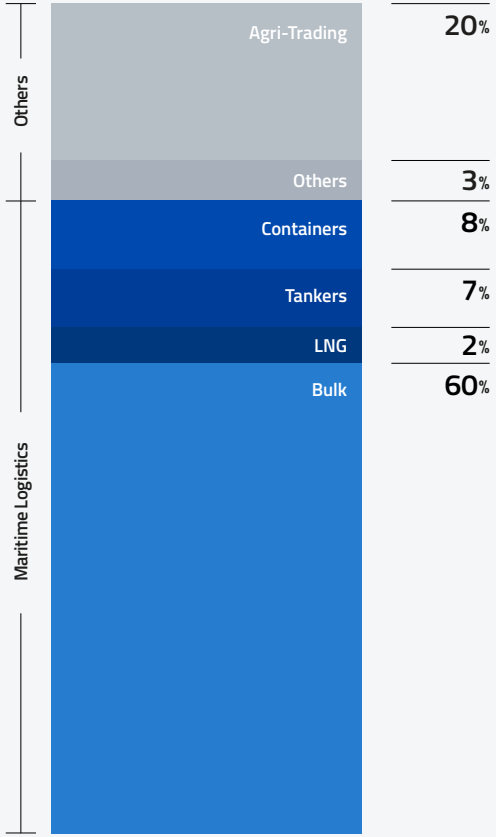
Region	Sales	Sales Proportion
Asia	3,333,900	64%
South America	717,983	14%
Oceania	513,556	10%
North America	412,509	8%
Europe	100,993	2%
Africa	82,277	2%

Pan Ocean

Business Portfolio

Total revenue in 2024

KRW **5.16** trillion



Pan Ocean is a prominent South Korean global shipping company, offering reliable maritime transport services to customers worldwide. Its diverse fleet includes bulk carriers, container vessels, tankers, LNG carriers, and heavy-lift ships. In addition, the company continues to expand its growth foundation by exploring new business areas such as agri trading and logistics. Pan Ocean aims to enhance its capabilities in the shipping business, which is its primary business, while pursuing growth in related sectors by striving to establish itself as a global leader in the shipping and logistics industry.

01 Bulk

Based on over 50 years of experience in dry bulk cargo transportation, Pan Ocean has established a strong reputation with major shippers worldwide—including POSCO, Hyundai Steel, KEPCO Power Generation Subsidiaries and major overseas steel mills and resource developers—and has secured stable revenue sources through long-term cargo contracts with them. Leveraging its worldwide network, the company offers shipping services customized to schedules and routes requested by customers, transporting a wide range of cargo across global shipping routes. In particular, Pan Ocean maintains a strong market position in grain transportation on the North American and Australian routes. It is also recognized as a Pacific Leading Carrier for exceptional service quality in transporting coal, raw sugar, fertilizer, logs, and alumina across the Pacific and Oceania regions, including Australia and New Zealand. The company is expanding its influence in the Atlantic region as well, based on top-notch services, competing with European shipping companies in the transportation of cargoes such as grain, raw sugar, steel products, fertilizer, scrap, and pulp. Going forward, Pan Ocean will continue to pursue both qualitative and quantitative growth in its bulk carrier services by securing additional long-term, low-cost tonnage and contracts of affreightment, while focusing on securing new growth drivers in the Australian and Southeast Asian mineral markets and the Latin American grain market.

02 Container

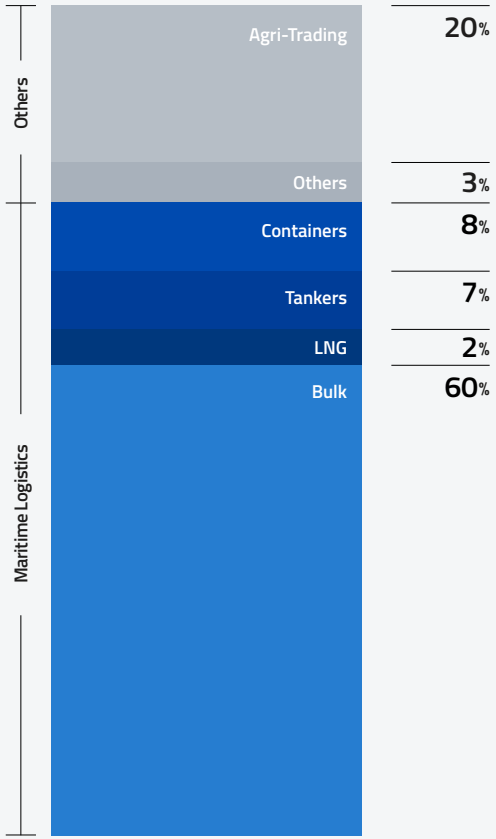
Pan Ocean launched its container shipping service between Korea and Japan in 1984 and introduced the Korea-China route in 1994. Over time, the company has expanded its network to Southeast Asian countries such as Vietnam, Thailand, and the Philippines, developing as a leading container shipping company across Intra-Asia. In 2020, Pan Ocean joined the K-Alliance, Korea's national shipping alliance, strengthening collaboration with domestic carriers and enhancing competitiveness in the Southeast Asian shipping market. In addition, the company has developed its own customer relationship management (CRM) platform, continuously upgraded its IT system (EasyCon), and enhanced internal capabilities to deliver efficient transport services, thereby improving customer satisfaction. Pan Ocean will continue developing new routes to proactively address the changing requirements of our customers in the future. It is also dedicated to strengthening customer and service management systems to facilitate more efficient and precise operations, as well as extending its global network to establish itself as a leading Intra-Asia carrier.

Pan Ocean

Business Portfolio

Total revenue in 2024

KRW **5.16** trillion



03 Tankers

Pan Ocean operates Korea's largest owned fleet of medium-range (MR) tankers and has built strong partnerships with global oil majors such as Shell, BP, ExxonMobil, Chevron, and Total, as well as leading oil traders including Vitol, Trafigura, and Mercuria. The company's small chemical tanker fleet safely transports key petrochemical products such as benzene, toluene, xylene, base oil, and caustic soda over routes between the Middle East and Asia, and between Northeast and Southeast Asia. Furthermore, Pan Ocean is expanding investments in very large crude carriers (VLCCs) to strengthen its competitiveness in crude oil transportation. The company also provides stable transport services to major domestic fuel suppliers, including S-OIL and SK Energy, as well as to leading food companies such as Dongseo, Lotte, Nongshim, Ottogi, Samyang Foods, and CUREXO, solidifying its position as a leading tanker carrier in Korea.

04 LNG

Since December 2008, Pan Ocean has operated the 153,000 CBM LNG carrier "LNG KOLT" for Korea Gas Corporation (KOGAS), transporting about 1.5 million CBM of LNG annually from major loading ports in the Middle East (Yemen, Qatar, Oman), Southeast Asia, Russia, and Australia to Korea. Recognized for years of experience and management capabilities of LNG vessel operations and management, the company has largely expanded the LNG business by securing additional long-term charter contracts since 2020, including participation in LNG projects for global oil major Shell, Portugal's leading energy company GALP, and Qatar's first large-scale LNGC project, the world's largest LNG exporter. The company plans to expand its LNG fleet to 13 vessels (including LNG bunkering ships) and will further strengthen strategic partnerships with leading domestic and global gas and energy customers to enhance its LNG business.

05 Agri-Trading

Pan Ocean's expansion into the grain distribution industry was not merely an extension of its shipping operations into a related sector; rather, it was a strategic decision with the intention of enhancing South Korea's food security. At present, imports comprise more than 85% of the nation's total grain demand, with import dependency for critical crops like soybeans, maize, and wheat exceeding 97%. In this context, the company acquired a stake in EGT, a grain export elevator located on the U.S. West Coast, to secure a stable grain procurement source. Also, by leveraging the existing global network in expanding the global sales routes, Pan Ocean accomplished an annual sales volume of 3.12 million tons in 2024, which is more than double the 1.45 million tons in 2023. The company intends to expand its business by entering new markets such as China, Taiwan, and Vietnam, while continuously seeking opportunities in emerging markets such as Cambodia, Malaysia, and Indonesia. Pan Ocean is dedicated to expanding the business scope and enhancing profitability through these initiatives.

06 Vessel management

POS SM Co., Ltd. (hereinafter referred to as "POS SM") offers comprehensive vessel operation and management services such as vessel maintenance, technical management, offshore employee management, and safety management to support stable navigation. POS SM consistently enhances the efficiency and competitiveness of vessel operation through the best management services that adhere to international standards and relevant regulations. The company is also committed to strengthening the health and safety of offshore employees as well as preventing serious accidents and diseases.

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Pan Ocean Sustainability Management

Governance

Board of Directors

The Board of Directors serves as Pan Ocean's highest decision-making body, with its CEO also holding the position of board chair. Details and reasons for this dual responsibility are disclosed through the annual Corporate Governance Report. Pan Ocean has proactively established and operated an ESG Committee within the board, granting it independent authority to review and deliberate ESG-related issues. Decisions made by the ESG Committee are reported to the board, maintaining an interdependent decision-making system.

ESG Committee

View Regulations on the Operation of ESG Committee

The ESG Committee is responsible for determining and approving Pan Ocean's ESG-related business plans, supervising, evaluating, and reviewing relevant activities. The committee mainly takes charge of approving and monitoring the implementation of mid- to long-term ESG management strategies, establishing and revising ESG-related systems and policies, and reviewing and deliberating on safety and health policies in accordance with the Serious Accidents Punishment Act. It holds regular meetings twice a year in compliance with the regulations and may convene additional meetings as needed.

ESG TF

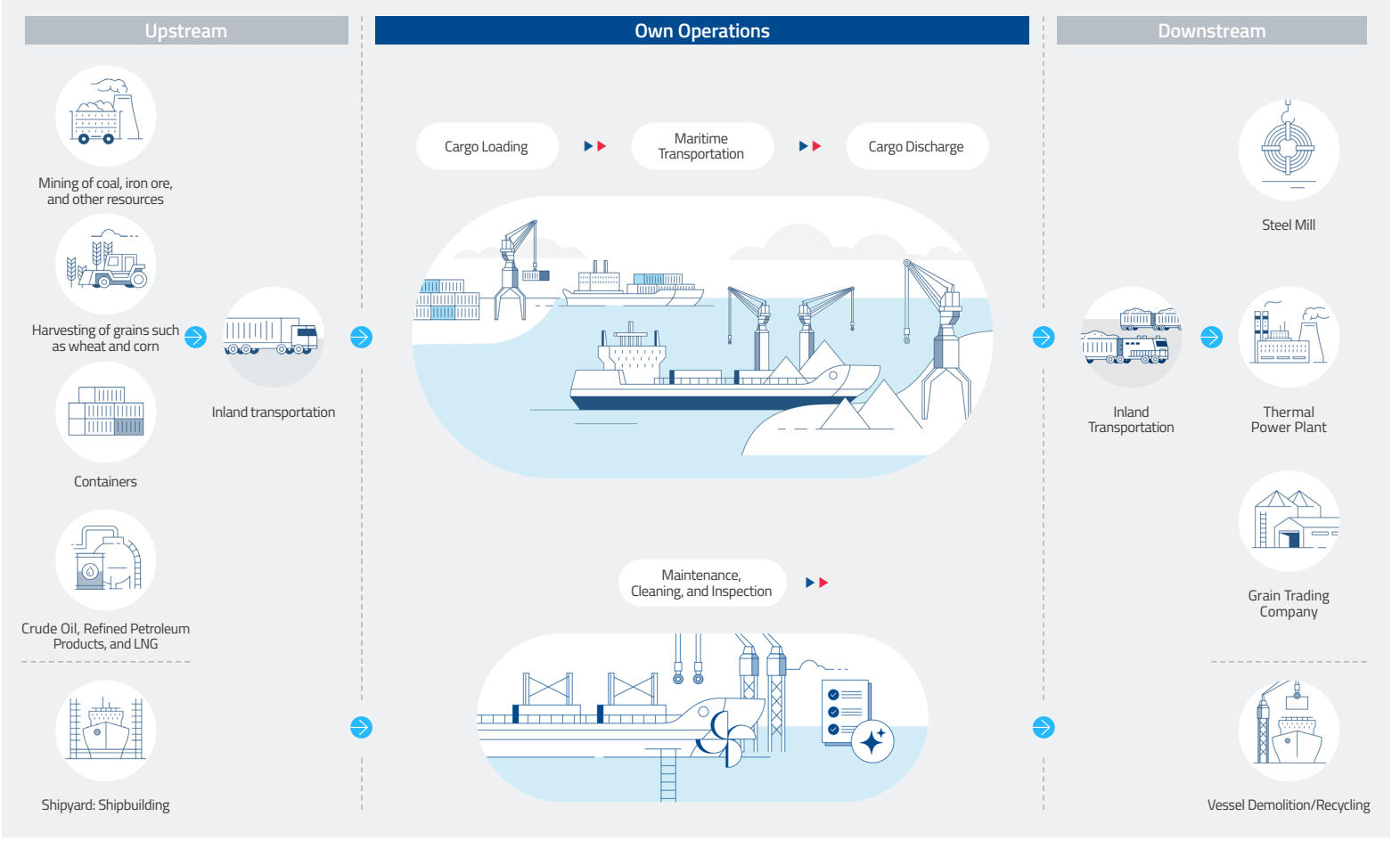
The ESG TF consists of department chiefs and working-level staff responsible for ESG-related tasks at Pan Ocean. It establishes overall ESG management goals and develops detailed strategies to meet them, as well as carrying them out. Furthermore, the task force handles various external collaborations and response activities associated with ESG, such as addressing key stakeholders' requests for sustainability performance assessments and responding to assessments from various ESG rating agencies.

Summary of Key ESG Committee Agendas

Date	Agenda	Status
Feb. 2024	To approve 2024 Safety & Health Management Plan	Approved
June 2024	To approve appointment of ESG Committee Chair	Approved
	To approve 2023 environmental performance and 2024 environmental targets	Approved
	To approve the Sustainability Report publication	Approved
Feb. 2025	To approve 2025 Safety & Health Management Plan	Approved
May 2025	To report on the 2025 ESG Materiality Topics	Approved

Environmental and Social Impacts Across the Business Value Chain

Pan Ocean provides maritime transportation services for a diverse range of cargo, including dry bulk commodities such as coal, iron ore, and grains, as well as fuel cargo like crude oil, refined petroleum products, and LNG, in addition to container cargo. In the course of its business value chain, the company both exerts and experiences significant impacts on the environment, society, and people. Particularly within the directly operated and managed maritime transport operations, the use of fossil fuels results in substantial GHG and air pollutant emissions, and waste generation, thereby posing considerable environmental impacts. Moreover, there are considerable human and social impacts regarding issues such as the safety of offshore employees and port workers and the company's cooperative relationships with suppliers. Recognizing these business traits, Pan Ocean has identified critical environmental, social, and human-related issues as material topics, practicing sustainability management by minimizing negative impacts and maximizing positive contributions across the value chain.



Own Operations Impacts

Environment

- <Material Topic 1> Greenhouse gas (GHG) emissions: GHG emissions from the use of fossil fuels during maritime transportation
- Air pollutant emissions: Emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and other air pollutants generated from fossil fuel combustion
- Domestic waste disposal: Disposal of general waste and sewage generated from daily operations on the vessel
- Cargo handling waste disposal: Dust and residue generated during the loading and discharging of cargo such as coal, iron ore, and grains
- Discharge of external organisms: Release of materials attached to the surface of the ship, such as barnacles and seaweed
- Ballast water discharge: Causing ecological disturbance and biodiversity loss by introducing invasive species through ballast water
- Vessel dismantling waste: Generation of hazardous substances while dismantling vessels

Social

- <Material Topic 2> Maritime safety: Safety incidents occurring during cargo loading, discharging, and vessel operations
- <Material Topic 4> Supply chain partnership and ESG management: Encouraging mutual growth with small and medium-sized suppliers and Promoting ESG management in the areas, including environment, human rights, and safety
- Human rights: Protection and respect for the human rights of port workers and offshore employees1
- Labor rights: Protection and respect for the labor rights of port workers and offshore employees
- Fair trade: Conducting fair trade with customers (shippers) and suppliers
- Local community: Management of the social impacts on local communities that are major business locations, such as port areas

1 Throughout this report, the term "offshore employee" refers to all seafarers who serve on Pan Ocean's owned vessels.

Stakeholder Engagement

Pan Ocean actively communicates with key stakeholders, including employees, customers, suppliers, shareholders, investors, and local communities. The company operates a wide range of communication channels to incorporate stakeholder opinions on our management activities. Pan Ocean aims to implement sustainability management through proactive operation of these communication channels to address potential sustainability issues and faithfully reflect stakeholder expectations. By effectively managing these channels, Pan Ocean endeavors to proactively address potential sustainability issues and integrate stakeholders' perspectives into its management practices, promoting sustainability management.

Group		Key Communication Channels	Key Interests
Employees	Internal stakeholders who develop in tandem with the organization by working in a safe environment and through growth opportunities	▪ Labor Management Council ▪ Grievance handling system ▪ Onboard grievance handling system (Open reporting) ▪ Helpline (Anonymous reporting system) ▪ Proposal system ▪ Internal company portal ▪ Employee satisfaction survey ▪ Sustainability report	▪ Work environment ▪ Talent attraction and retention ▪ Employee development and fair performance review ▪ Human rights protection and respect for diversity
Customers	Key users of Pan Ocean's maritime transportation services who form a long-term relationship with the company based on trust and satisfaction	▪ Website ▪ Helpline (Anonymous reporting system) ▪ Customer satisfaction survey for container shipping service users ▪ Sustainability report	▪ Listening to customer feedback ▪ Provision of sustainable services
Suppliers	Suppliers engaging in Pan Ocean's shipping services that pursue mutual growth through fair and sustainable business practices	▪ Purchase portal site ▪ Helpline (Anonymous reporting system) ▪ Sustainability report	▪ Win-win partnerships and collaboration ▪ Compliance with laws and regulations
Shareholders and Investors	Stakeholders expecting an increase in corporate value based on the company's capital and trust	▪ Shareholders' meeting ▪ IR ▪ Domestic and international Non-Deal Roadshows (NDRs) and conferences ▪ Sustainability report	▪ Transparent disclosure of management performance and financial information ▪ Shareholder engagement enhancement
Governments	Institutions shaping Pan Ocean's management environment through laws and policies to whom the company fulfills its responsibilities through legal compliance and public cooperation.	▪ Sustainability report	▪ Compliance with maritime and marine environmental regulations ▪ Implementation of government policies on carbon neutrality and sustainability management ▪ Industrial accidents prevention and operation of industrial safety and health system for workers
International Organizations and NGOs	External stakeholders who establish standards for the maritime industry and monitor their practice. Pan Ocean fulfills its responsibilities as a global company through active communication and responses.	▪ Sustainability report	▪ Efforts to reduce carbon emissions from vessels ▪ Response to shipping carbon regulations ▪ Protection of human rights and labor condition improvement for offshore employees ▪ Management of human rights and environmental risks across the supply chain
Local Communities	Residents or groups of regions where Pan Ocean's business sites are located. They share the company's impacts and responsibilities on the local communities.	▪ Seoul Senior Welfare Center ▪ Seoul National Cemetery	▪ Management of environmental impact around business sites ▪ Local community-based social contribution activities ▪ Collaborative growth with the local economy

Materiality Assessment

Pan Ocean performed a materiality assessment with the aim of promoting not only corporate sustainability but also environmental, social, and human sustainability. The double materiality approach was adopted in line with the GRI guidelines for the company to assess its impacts across environmental, social, human, and economic dimensions, as well as the associated risks and opportunities. In 2025, the issue pool developed in 2024 was updated through working-level workshops, benchmarking of peer companies' material topics, and a review of the latest regulatory trends of the International Maritime Organization (IMO). The company also reevaluated the risks, opportunities, and impacts of the four material topics reported in the previous sustainability report to align with current business conditions. Following this review, Pan Ocean maintained the four existing material topics while refining their descriptions for clarification. Specifically, "Enhancing Safety and Health Management" was adjusted to "Strengthening Maritime Safety and Health Management" to better address high-risk areas, and "Establishing Ethical and Compliance Management" was revised to "Strengthening Ethical and Compliance Management" to reflect a heightened commitment. The updated materiality assessment was approved at the 2nd ESG Committee in May 2025 and reported to the 3rd Board of Directors meeting.

Material Topic Selection Process

STEP 1. Sustainability/ESG Issue Pool Development: Identified 31 Issues

Pan Ocean identified the most relevant sustainability and ESG issues within the maritime logistics industry through a frequency analysis and established an issue pool consisting of 31 issues.

Sources for Issue Pool Development

International Organizations' Sustainability/ ESG Agreements	IMO, UN, OECD, ILO, etc.
Global Sustainability/ESG Guidelines	GRI, EU ESRS, IFRS ISSB, TCFD, TNFD, etc.
ESG Evaluation Indicators	MSCI, DJSI, KCGS, etc.
Material Topics of Leading Global Shipping Companies	MSC, Maersk, CMA CGM, COSCO Shipping, Star Bulk Carriers Corp., etc.

* Issue pool was updated to reflect the latest IMO regulatory developments in the second half of 2024 and a review of current material topics from other companies in the industry.

E Environment 10	• Greenhouse Gas and Energy Management • Water Resources Management • Biodiversity Protection • Response to Climate Change • Management of Environmental Pollutants • Expansion of Eco-friendly Product Use • Waste Management and Contribution to Circular Economy • Strengthening of Environmental Management Promotion System • Compliance with Environmental Laws and Regulations • Investment in Eco-friendly Vessels
S Social 11	• Establishment of a Human Rights Management System • Respect for Diversity and Prohibition of Discrimination • Job Creation and Employment Stability • Pursuit of Work-life Balance • Healthy Labor-management Relations • Talent Retention and Development • Enhancement of Safety and Health Management • Social Value Creation through Social Contribution • Collaborative Growth Activities and Supply Chain Sustainability Management • Management of Impact on Local Communities • Quality Management and Customer Satisfaction
G Governance 8	• Board Transparency and Integrity • Establishment of Sustainable Management Governance • Establishment of Ethics and Compliance Management • Strengthening of Anti-Corruption Measures • Fair Trade Practices and Regulatory Compliance • Information Security and Cybersecurity • Enhancement of Company-wide Risk Management • Tax Policy
Others 2	• Securing New Growth Engines • Protection of Shareholder Rights

STEP 2. Stakeholder Interest Assessment: Survey

Pan Ocean carried out a survey involving 127 internal stakeholders, including employees from both Pan Ocean and POS SM, along with 103 external stakeholders comprising customers, suppliers, local communities and NGOs, government and affiliated agencies, media, ESG rating firms, consulting and advisory organizations, as well as shareholders and investors. Through this survey, the level of interest in 31 issues was assessed, and a total of nine issues were identified as key areas of interest for stakeholders.

E Environment 4	• Response to Climate Change • Greenhouse Gas and Energy Management • Management of Environmental Pollutants • Investment in Eco-friendly Vessels
S Social 4	• Enhancement of Safety and Health Management • Establishment of a Human Rights Management System • Respect for Diversity and Prohibition of Discrimination • Collaborative Growth Activities and Supply Chain Sustainability Management
G Governance 1	• Establishment of Ethics and Compliance Management

* External stakeholders' opinions in the second half of 2024, such as customer and investor requests, were reflected in the interest level.

STEP 3. Impacts and Opportunities & Risks Analysis

Employees from Pan Ocean and POS SM's operational departments engaged in mapping out the business value chain. Sustainability issues identified through the issue pool and stakeholder interest survey were then integrated into each phase of the value chain. This approach evaluated the actual impacts, risks, opportunities, and materiality of these issues on the management opera-tions of Pan Ocean and POS SM. This analysis identified four issues as the most significant topics for sustainable management.

E	• Greenhouse Gas and Energy Management
S	• Maritime Safety and Health Management Enhancement • Collaborative Growth Activities and Supply Chain Sustainability Management
G	• Strengthening Ethics and Compliance Management

STEP 4. Management and Board Review and Approval

The four material topics determined through steps 1, 2, and 3 were reviewed by the management, approved by the ESG Committee, and reported to the Board of Directors.

Material Topics Analysis

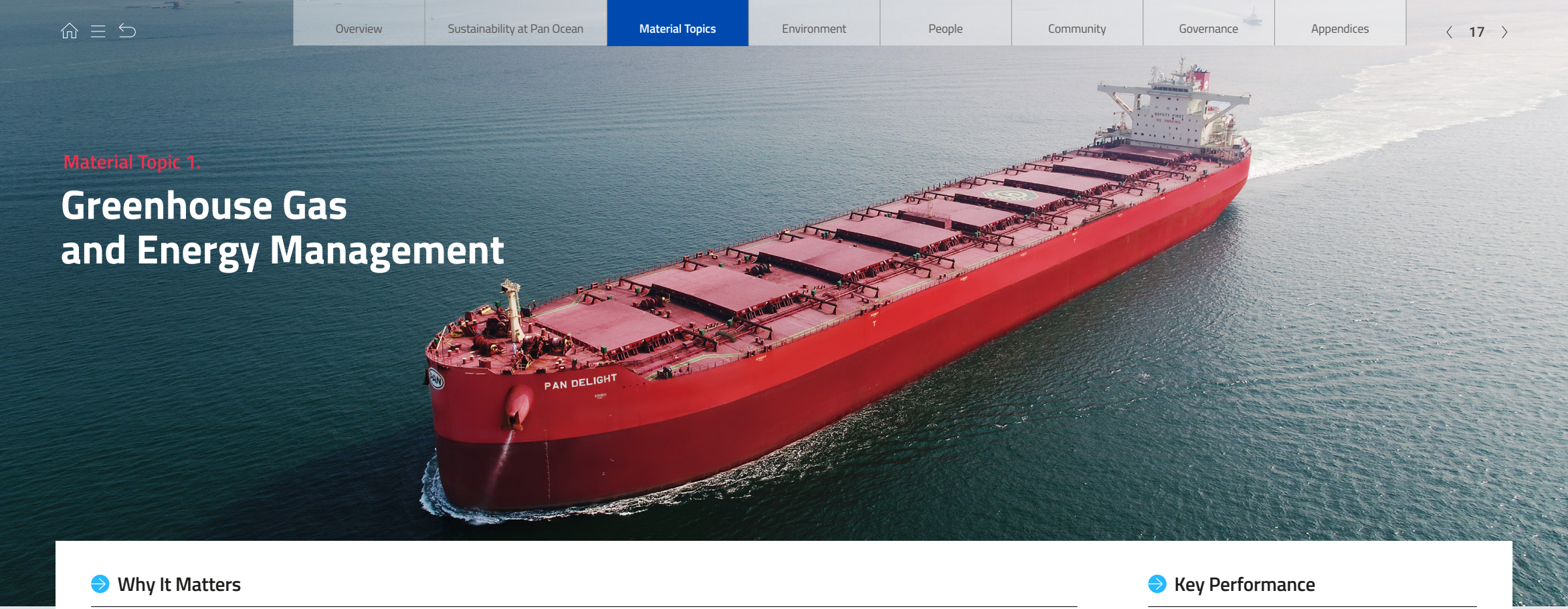
Analysis and response to impacts, risks, and opportunities of the material topics

Pan Ocean and POS SM applied four material topics to the business value chain to assess the impacts of operations on the environment, society, people, and the economy. Additionally, the companies evaluated how these impacts could become potential risks and opportunities for their business activities.

Area	Environment	Social		Governance
Topic	Greenhouse Gas and Energy Management	Maritime Safety and Health Management Enhancement	Collaborative Growth Activities and Supply Chain Sustainability Management	Strengthening Ethics and Compliance Management
Impact	▪ Due to the characteristics of the maritime logistics industry, fossil fuels are used for vessels, resulting in greenhouse gas emissions. ▪ Without efforts to reduce GHG, the company could adversely affect the environment, such as contributing to climate change.	▪ The majority of incidents at Pan Ocean and POS SM occur at sea, including in port areas. The nature of these incidents entails a high likelihood of serious accidents, resulting in significant risks to employee life and health. ▪ Given the nature of the maritime logistics industry, offshore employees spend a long time at sea, which greatly impacts their health and safety.	▪ Given the maritime logistics industry's extensive engagement with customers and suppliers, failure to ensure shared growth with suppliers and improper management of supply chain sustainability may result in recurring risks across environmental, social, human, and economic dimensions.	▪ Failure to properly implement ethical and compliance management may adversely affect the overall trust and reputation of the maritime logistics industry and the company.
Risk	▪ With the strengthening of regulations on carbon emission reduction such as IMO midterm measures, the EU Emissions Trading System (EU ETS), and FuelEU Maritime, etc., a sharp rise in related costs is expected. ▪ Carbon reduction demands that are mostly from EU customers are becoming more stringent.	▪ Inadequate management of health and safety can lead to incidents and illnesses that pose serious threats to individual employees and the company. ▪ Following the enhancement of safety and health regulations such as Serious Accidents Punishment Act, accidents may bring significant risks, including punishment of the management and financial penalties. ▪ Accidents can damage the company reputation and credibility, lower employee morale and pose difficulties in recruitment.	▪ Insufficient management of small-scale suppliers involved in shipping and port operations may lead to issues such as environmental incidents, safety accidents, human rights violations, labor disputes, and unfair trade practices. Such risks can impede the stable business operations and long-term growth of Pan Ocean and POS SM.	▪ With growing societal expectations for ethical and compliant business conduct, failure to meet these standards may lead to loss of trust among key stakeholders such as shareholders, customers, employees, and suppliers, becoming a risk to the company's operational stability and long-term sustainability.
Opportunity	▪ Opportunities to attract new customers occur when the greenhouse gas emissions are reduced through transitioning to alternative fuels and improving energy management efficiency.	▪ Thorough management of maritime health and safety prevents accidents and creates opportunities to strengthen the company's reputation and credibility, stabilize operations, reduce costs, boost employee satisfaction, and enhance overall productivity.	▪ Suppliers' strong sustainability performance strengthens partnerships built on trust and reduces the accidents and disruptions, providing stable management and growth opportunities as well as improved customer satisfaction.	▪ Maintaining strong ethical and compliance practices, without issues, can build trust with key stakeholders, creating opportunities for revenue growth, enhanced corporate reputation, and greater efficiency and performance of employees.
Management Goal	▪ Targeting a 10.4% reduction by 2030 and carbon neutrality by 2050	▪ ZERO cases of serious industrial accidents	▪ Maintaining and improving the quality of services offered by suppliers ▪ Ensuring compliance with and embedding 'The Supplier Code of Conduct'	▪ ZERO cases of ethical and legal non-compliance
2024 Performance	▪ Enhancement and expansion of greenhouse gas emissions management scope ▪ Delivery of four LNG carriers (LNG Dual Fuel) with lower GHG emissions compared to existing fossil fuel-powered vessels	▪ ZERO serious industrial accidents recorded in 2024 ▪ Expansion and operation of onshore and offshore cross-functional task forces ▪ Internalization of policies such as the onboard Stop-Work Campaign ▪ Implementation of onboard proposal system and adoption of 30 proposals for on-site improvement	▪ Expansion of in-person briefings on 'The Supplier Code of Conduct'	▪ 100% of resolution for cases received via the Anonymous Reporting System ▪ 100% of completion for signing the Ethical Management-Practicing / Law-Abiding Covenant pledge ▪ 100% of implementation of voluntary Self-Compliance Management
GRI	▪ 302-1~5 / 305-1~5	▪ 403-1~10	▪ 308-1, 414-1	▪ 205-1~3, 206-1
Changes Compared to the Previous Year	▪ No changes have been made. ▪ With commitment to the 2050 carbon neutrality target, "GHG and energy management" remains as a material topic.	▪ In 2024, the focus was on "Safety and Health Management," while in 2025, greater emphasis was placed on "Maritime Safety and Health Management." ▪ Since most of the major incidents at Pan Ocean and POS SM occur at sea, maritime safety has been selected and focused on as the key management area.	▪ No changes have been made. ▪ The issue is consistently recognized as a highly material topic in accordance with Pan Ocean's dedication to gradually expanding the scope of sustainable management.	▪ Compared to 2024, when the report emphasized establishing ethics and compliance management, the 2025 edition places a stronger focus on strengthening these practices. ▪ The term "establishing" was replaced with "strengthening" to emphasize the significance of internalizing and embedding ethical and compliance practices after their initial establishment.

Material Topics

17 Greenhouse Gas and Energy Management | **30** Maritime Safety and Health Management Enhancement | **39** Strengthening Ethics and Compliance Management |
44 Collaborative Growth Activities and Supply Chain Sustainability Management



Material Topic 1.

Greenhouse Gas and Energy Management

Why It Matters

The majority of vessels operated by Pan Ocean for its core maritime transportation business rely on fossil fuels (Bunker C oil), generating significant greenhouse gas (GHG) emissions. Recognizing the critical contribution of shipping-related emissions to climate change and their threat to global sustainability, the International Maritime Organization (IMO) adopted an initial strategy in 2018 aiming to reduce GHG emissions by at least 50% by 2050 compared to 2008 levels. This target was subsequently raised in 2023, setting a new goal of achieving Net Zero emissions by 2050. Consequently, in April 2025, the IMO member states formally authorized a regulatory framework for mid-term GHG reduction measures. This framework mandates that vessels with gross tons of 5,000 or more must pay fees that are proportional to any GHG emissions that exceed the permitted intensity levels established by the IMO. The European Union (EU) has already introduced financial regulatory mechanisms such as the EU Emissions Trading System (EU ETS) and FuelEU Maritime to address GHG emissions.

As a result, reducing GHG emissions has become a requirement for shipping companies to remain competitive and ensure long-term business sustainability. However, reducing GHG emissions is an extremely difficult and challenging task. Replacing fossil fuel-powered vessels with those using hydrogen, renewable, or alternative energy cannot be achieved by a single company. It requires simultaneous advancements in shipbuilding technology and port infrastructure capable of supporting new energy sources. Nevertheless, Pan Ocean has set mid- to long-term emission reduction goals, continuously monitors its performance, and explores practical solutions. The Company strategically addresses climate change through emission reduction and energy efficiency initiatives as a responsible company, while strengthening collaboration with international organizations, governments, associations, industry peers, and customers to jointly overcome the challenges facing the maritime industry.

Key Performance

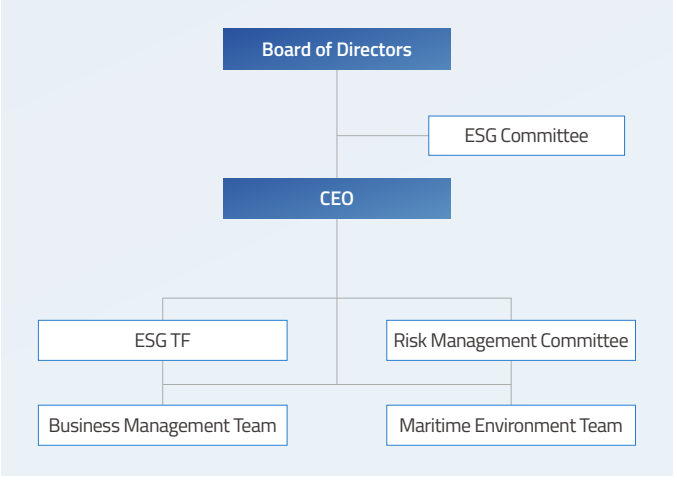
- Enhancement and expansion of greenhouse gas emissions management scope
- Delivery of four LNG carriers (LNG Dual Fuel) with lower GHG emissions compared to existing fossil fuel-powered vessels

Material Topic 1.

Greenhouse Gas and Energy Management

GOVERNANCE

Operational Structure



Board of Directors/ESG Committee

Pan Ocean's ESG Committee annually reviews, deliberates, and approves the company's environmental management performance, including greenhouse gas reduction, energy efficiency, and climate change response in accordance with TCFD guidelines, as well as setting targets for the following year. The resolutions adopted by the ESG Committee are immediately reported to the Board of Directors.

Agenda Deliberated and Approved by the ESG Committee

Date	Agenda	Status
June 13, 2024	To approve 2023 environmental performance and 2024 environmental targets	Approved

Management

The CEO of Pan Ocean, who also serves as the highest decision-maker and Chair of the Board of Directors, is ultimately responsible for addressing climate change issues. The CEO conducts an annual evaluation of the environmental management system to establish environmental objectives and establish implementation strategies. Furthermore, the CEO is responsible for the comprehensive climate change response, which includes the management of budgets and the assessment of investments that are essential for climate-related initiatives.

Risk Management Committee, ESG TF

Pan Ocean's Risk Management Committee, which meets quarterly, brings together team heads from key departments to identify, assess, and discuss company-wide risks including those related to greenhouse gas emissions and climate change. The committee collaborates on developing effective response strategies to address these challenges. In addition, the ESG Task Force, led by the Business Management Team and convened monthly, serves as a cross-functional working group. It facilitates interdepartmental collaboration by sharing progress and initiatives on ESG topics such as greenhouse gas reduction, energy management, and climate change response, thereby enhancing the overall effectiveness of Pan Ocean's ESG efforts.

Dedicated Team

The Maritime Environment Team is dedicated to developing and implementing Pan Ocean's environmental policies, with a focus on greenhouse gas reduction, energy efficiency, and climate change response in line with TCFD standards. The team manages the company's greenhouse gas inventory, introduces new technologies for emission and energy reduction, oversees efficient energy management, and formulates climate action strategies. Working closely with POS SM, the Maritime Environment Team also leads initiatives to reduce emissions from vessel operations, improve energy efficiency, and ensure safe navigation in response to climate change.

Policies and Guidelines

In order to facilitate the reduction of GHG and the efficient management of energy, Pan Ocean has implemented policies and guidelines, such as Environmental Policy, Energy Efficiency Management Policy, and Hull Coating Management Policy. The organization ensures that these policies are effectively implemented by conducting employee training, posting notices onshore and onboard, monitoring operational data, and sharing improvement outcomes throughout the organization.

Performance-Based Compensation System

Management and operational staff implement responsible environmental management by reflecting the ESG environmental management assessment results regarding areas such as greenhouse gas reduction, efficient energy management, and response to climate change to incentives.

Subject	Key Performance Indicators (KPIs)	Compensation
CEO	ESG environmental management assessment results	Reflected in incentives
Head of Maritime Technology	Greenhouse gas emission reduction	
Maritime Environment Team	Greenhouse gas reduction rate, response to climate change regulations, internal training	

Material Topic 1.

Greenhouse Gas and Energy Management

STRATEGY

2050 Net Zero Declaration and Implementation Roadmap

Pan Ocean aligns itself with the 2050 Net Zero Goal put forward by the IMO. In 2022, with a resolution from the Board of Directors, the company officially declared its commitment to achieving the 2050 carbon neutrality goal, joining the global effort to reduce greenhouse gas emissions. Pan Ocean has set a practical medium-term target to reduce the total emissions by 10.4% by 2030 compared to 2021, tracking performance and reviewing improvement measures each year. Furthermore, by 2030, Pan Ocean aims to obtain approval from the Science Based Targets initiative (SBTi) to enhance the credibility of its greenhouse gas reduction strategies and achievements.

Environmental Targets

Decarbonizing Pan Ocean by 2050

- We aim for net zero by 2050 as a key environmental target, and have integrated this commitment within our ESG (environmental, social, and governance) management framework.

Strategic Targets

By 2030: Implement the 2030 Carbon Reduction Strategy

- Reduce total emissions by 10.4% and emissions intensity by 15.2%, using 2021 as the base year.
- Pursue external validation from the SBTi (Science Based Targets initiative)

By 2050: Accomplish Carbon Neutrality

- Achieve net zero emissions across all business areas.
- Provide all customers and stakeholders with comprehensive net zero solutions.

Commitments

Leading the Decarbonization of the Bulk Shipping Industry

- By leading the charge in decarbonization, we are setting the course for a sustainable future in the industry. We have implemented comprehensive decarbonization policies and are vigorously applying them.
- Our aim is to progress together with our customers and stakeholders, ensuring they benefit from these initiatives as well.

Implementation Measures

01 Enhancement of Energy Efficiency

- Enhancement and expansion of greenhouse gas emissions management scope
- Establishment of Energy Management System (EnMS)
- Management of the Carbon Intensity Indicator (CII) for Vessels
- Management of the Energy Efficiency Design Index (EEDI, EEXI) for vessels
- Improvement and maintenance of hull coatings
- Enhancement of fuel efficiency, application of AI solutions, etc.

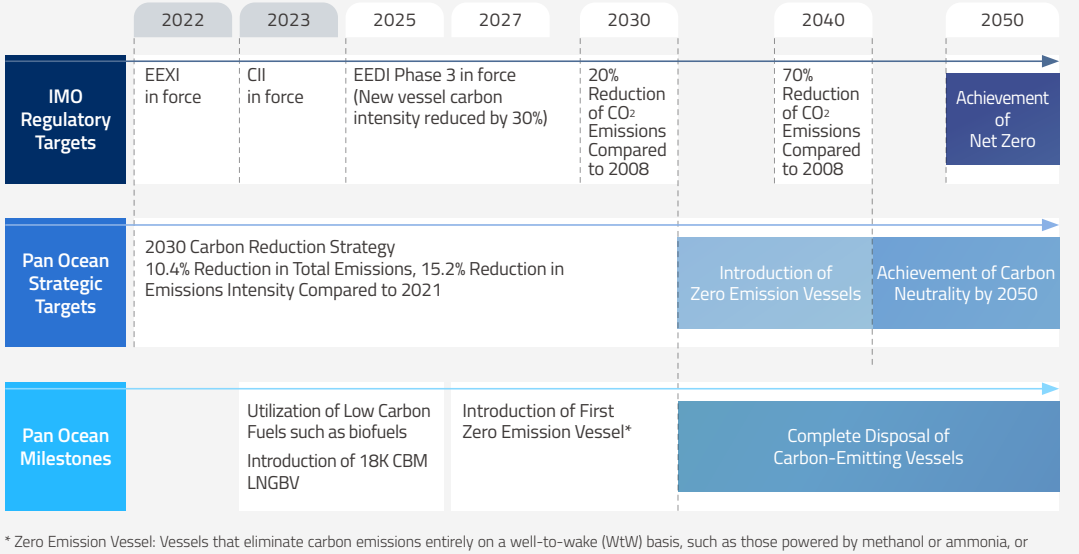
02 Expansion of Eco-Friendly Investments

- Introduction of energy-saving and high-efficiency operational equipment
- Installation of Engine Power Limitation (EPL) devices to control maximum vessel speed
- Replacement of corporate vehicles with high-efficiency models

03 Utilization of Sustainable Fuels

- Pilot introduction of biofuels, with plans for expansion following efficiency verification

Greenhouse Gas Emissions Reduction Roadmap



* Zero Emission Vessel: Vessels that eliminate carbon emissions entirely on a well-to-wake (WtW) basis, such as those powered by methanol or ammonia, or equipped with carbon capture, utilization and storage (CCUS) systems

Material Topic 1.

Greenhouse Gas and Energy Management

STRATEGY

Enhancement and expansion of greenhouse gas emissions management scope

Since establishing its Greenhouse Gas Inventory System in 2009, Pan Ocean has continuously enhanced the system, enabling real-time calculation of greenhouse gas emissions based on fuel consumption data by vessel, vessel type, and year. In 2024, the company broadened the scope of environmental data disclosure from a separate to a consolidated financial statement basis, in line with its advanced greenhouse gas emissions management plan. Recognizing the importance of Scope 3 emissions management, Pan Ocean redefined its emissions measurement boundaries, taking into account the characteristics and material impacts of its core business operations. Particular focus is given to managing indirect emissions across the supply chain, such as fuel consumption from chartered vessels, procurement of ship supplies, and employee travel and commuting. The company is committed to further enhancing the accuracy of emissions management and ensuring transparent data disclosure by gradually expanding the scope of reporting.

Introduction of Eco-Friendly Technologies

Pan Ocean employs a variety of eco-friendly technologies in the design and construction of its owned vessels, with a particular emphasis on the active adoption of new technologies for vessels constructed and delivered in 2024.

Hull Coating

To reduce frictional resistance with seawater, the vessel hulls have been coated with a premium silyl methacrylate type anti-fouling (A/F) coating. This coating effectively prevents marine organisms from adhering to the hull surface, helps maintain vessel speed, and contributes to the reduction of fuel consumption.

Hull Design Optimization

The vessel design has been optimized to reduce hydrodynamic resistance. The adoption of a streamlined form that considers fluid flow reduces turbulence and drag, directly enhancing propulsion efficiency and contributing to lower fuel consumption.

Air Lubricating System

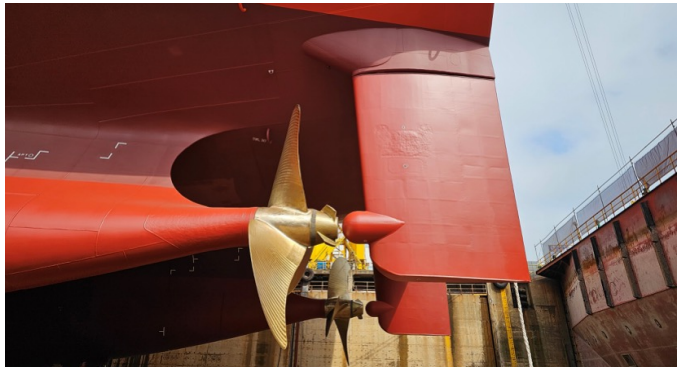
An air lubrication system has been applied to form a thin layer of air beneath the vessel, reducing the contact area between the hull and seawater. This technology reduces frictional resistance, decreasing energy consumption during operation.

Propulsion Improving Device

A propulsion enhancement device has been installed to improve propulsion efficiency by reducing vortex generation around the propeller. This device enables vessels to move more smoothly, stably, and efficiently through the water, contributing to further reductions in energy use.

Lighting & Electric System Optimization

To improve the vessel's energy efficiency, high-efficiency LED lighting has been installed, and frequency controlled electric motors have been adopted as key auxiliary equipment. Compared to traditional lighting, LED fixtures markedly decrease power consumption and provide exceptional energy efficiency over long voyages. Furthermore, electric motors with inverter control technology have been installed for various auxiliary systems, including air compressors, pumps, and ventilation fans, ensuring that only the required power is delivered according to the vessel's operational demands. The optimization of electrical systems improves the vessel's energy efficiency, contributing to cost savings and decreased greenhouse gas emissions.



Propeller Boss Cap Fin on a Newbuild Vessel

Material Topic 1.

Greenhouse Gas and Energy Management

STRATEGY

Energy Efficiency Management

Management of the Vessel Energy Efficiency Index (CII)

Pan Ocean has established a system to regulate fluctuations in energy efficiency during vessel operations by analyzing and compiling the Carbon Intensity Indicator (CII). The company has been simulating expected CII values and rating changes for all Pan Ocean vessels up to 2030. Using this data, Pan Ocean intends to respond flexibly and promptly to the International Maritime Organization (IMO) CII regulations, which took effect in 2023.

Management of the Energy Efficiency Design Index (EEDI/EEXI)

Pan Ocean complies with the IMO regulations regarding the Energy Efficiency Design Index (EEDI) for new vessels. The company measures the energy efficiency index of vessels constructed after 2013 and documents these indices in each vessel's Ship Energy Efficiency Management Plan (SEEMP). To comply with the EEXI regulation enforced in 2023, Pan Ocean has finalized the implementation of Engine Power Limitation (EPL) measures on existing vessels. Additionally, Pan Ocean utilizes energy-saving equipment, including the Rotor Sail System, on its dedicated vessels in partnership with major international customers.

Establishment and Operation of an Energy Management System (EnMS)

Pan Ocean implements an Energy Management System (EnMS) that is structured around the Plan-Do-Check-Act (PDCA) cycle in order to encourage the practice of efficient energy conservation measures onboard. Energy efficiency management guidelines are posted on all vessels, informing employees the significance of energy conservation in daily operations.

Energy-Efficient Hull Coating and Maintenance

Energy efficiency and hull condition are influenced by the friction between vessels and seawater or marine debris. Furthermore, operational performance is adversely affected by deteriorated coatings and fouled vessel surfaces.

Pan Ocean has implemented systematic hull coating management practices, which include hull cleaning, full blasting, and coating upgrades. The company inspects and cleans vessel hulls and propellers every six months for owned vessels and conducts full blasting for large vessels over 10 years old. Also, high-performance anti-fouling coatings have been pilot-tested on selected vessels, which are anticipated to enhance operational performance by 5% to 20%.

Use of Fuel Additives

Pan Ocean applies fuel additives for vessels to improve fuel combustion efficiency and reduce fuel consumption, which disperse sludge and promote combustion. These additives prevent the aggregation of asphaltenes, reduce fuel filter clogging, and suppress sludge formation, while improving the combustion of fine fuel particles. Fuel additives have been demonstrated to reduce fuel consumption by approximately 3%.

Participation in ECO Steaming

Pan Ocean minimizes fuel consumption and enhances operational efficiency by sustaining optimal shipping routes and implementing Eco Steaming through a real-time voyage monitoring system.

Adoption of AI-Based Solutions

In 2024, Pan Ocean entered into a business agreement with HD Korea Shipbuilding & Offshore Engineering, HD Hyundai Marine Solution, POS SM, and the American Bureau of Shipping (ABS) on the implementation of AI solutions for improving onboard safety management and decreasing carbon emissions.

The company plans to employ Hyundai Marine Solution's AI platform, 'OceanWise' to investigate strategies for reducing carbon emissions and fuel consumption. OceanWise utilizes big data and AI algorithms in estimating and forecasting carbon emissions based solely on vessel position information to provide optimal energy-efficient routes. This approach enhances operational performance and contributes to reductions in operating costs.

Material Topic 1.

Greenhouse Gas and Energy Management

STRATEGY

Expansion of Eco-Friendly Investment

Investments in Newbuild Vessels

Pan Ocean is strengthening its sustainability management by actively pursuing the introduction of highly energy-efficient newbuild vessels. Since 2021, the company has accelerated its entry into the LNG transportation market by ordering 174,000-cbm LNG carriers and 18,000-cbm LNG bunkering vessels. Pan Ocean has acquired a total of 12 vessels, valued at approximately $2.09 billion, to fulfill long-term charter contracts with Galp, Shell, and Qatar Energy. Notably, 10 of these LNG carriers are equipped with dual-fuel engines capable of operating on both LNG and fuel oil, significantly reducing greenhouse gas emissions. Pan Ocean remains committed to proactively and promptly responding to environmental regulations from organizations such as the IMO and the EU, while continuing to invest in eco-friendly vessels in line with its established mid- to long-term emissions reduction roadmap.

Eco-Friendly Equipment Investment Status and Plan

(Unit: KRW million)

Classification	2022	2023	2024	2025 Target
Ballast Water Management Systems	25,989	4,377	5,709	4,078
SOx Reduction Equipment	-	2,468	997	3,712
Engine Power Limitation Device	-	1,326	254	-

Sustainable Product Procurement

Pan Ocean is committed to advancing sustainability across own fleet by sourcing and supplying environmentally responsible products. The company has adopted lubricants and chemicals that comply with the U.S. Environmental Protection Agency (EPA) standards, including environmentally acceptable lubricants (EALs) and biodegradable chemicals. Looking ahead, Pan Ocean plans to further expand its procurement of sustainable products, reinforcing its dedication to environmentally conscious operations.

(Unit: KRW million)

Classification	2022	2023	2024
Environmentally Acceptable Lubricants	269	416	416
Biodegradable Chemicals	59	93	99
Total Sustainable Product Procurement	328	509	515
Total Procurement Amount	82,894	88,940	99,523
Percentage of Sustainable Product Procurement	0.4%	0.6%	0.5%

Replacement of Corporate Vehicles with Hybrid Models

Pan Ocean is committed to transitioning its corporate rental vehicles to eco-friendly ones. As of June 2025, three out of the seven rental vehicles are hybrids.

Transition to Sustainable Fuels

Utilization of Biofuel

Pan Ocean is actively reducing reliance on fossil fuels and expanding the use of biofuels in efforts to reduce GHG emissions. In 2024, the company applied biofuels to two of its vessels and verified their effectiveness in significantly lowering emissions compared to conventional fossil fuels. Pan Ocean will persist in utilizing biofuels to comply with global environmental regulations and achieve additional GHG reductions in the future.

Material Topic 1.

Greenhouse Gas and Energy Management

RISK MANAGEMENT

Monitoring and Response to Maritime Environmental Regulations

Pan Ocean proactively monitors and responds to regulatory trends concerning maritime environmental regulations set by the IMO and the EU. Following the enforcement of the IMO's EEXI regulation on January 1, 2023, Pan Ocean installed Engine Power Limitation (EPL) devices on 36 vessels in its fleet to ensure compliance. Also, for the Carbon Intensity Indicator (CII) regulation, Pan Ocean has enhanced vessel operational efficiency through slow steaming, minimizing anchorage time, improving hull coating management, etc. Furthermore, for a systematic response to the EU Emissions Trading System (ETS) and the FuelEU Maritime regulations, the company has developed an analysis system to track port call records within the EU and analyze associated costs. Additionally, Pan Ocean is closely monitoring upcoming mid-term greenhouse gas reduction measures under discussion at the IMO level and is formulating proactive response strategies.

IMO and EU Regulatory Compliance Strategy

Laws/Regulations	Key Details	Regulated GHGs	Compliance Strategies
IMO EEXI	Regulations on the Energy Efficiency Existing Ship Index (EEXI)	CO_2	▪ Completion of the Engine Power Limitation (EPL) installation for all 36 owned vessels subject to regulation
IMO CII	Assignment of CII ratings based on operational performance	CO_2	▪ Developing CII rating monitoring system within the internal Sales & Operation Management (SOM) system
EU ETS	Market-based measure for the trading of Emission Allowances (EUAs) covering GHG emissions from maritime fuel use, implemented from 2024	CO_2 (Year 2024~), N_2O, CH_4 (Year 2026~)	▪ Securing and settling EU ETS emission allowances totaling USD 10 million in 2024; developing EU ETS management system ▪ Purchasing emission allowances
FuelEU Maritime	Achieving a transition to zero- and low-carbon fuels through GHG intensity regulations based on the well-to-wake (WtW) lifecycle of marine fuels, effective from 2025	CO_2, N_2O, CH_4	▪ Purchasing and utilizing bio fuels ▪ Developing an autonomous calculation program to determine the amount of bio fuels needed for regulatory compliance

Status of Environmental Regulation Violations

In February 2024, a fuel oil spill occurred at sea during bunkering operations on the Pan Horizon. In response, Pan Ocean thoroughly reviewed its bunkering procedures to prevent similar incidents. The company also implemented additional training sessions focused on marine pollution prevention for all relevant employees.

(Unit: Case)

Classification	2022	2023	2024
Violation of Environmental Regulations	0	0	1

RISK MANAGEMENT / Response to Climate Change Incorporating TCFD Recommendations

Governance for Response to Climate Change

At Pan Ocean, the board of directors is the highest decision-making body, and the CEO and the management oversee the implementation of the decisions made by the board. The Risk Management Committee and the ESG TF serve as consultative bodies at the working level, collaborating closely with the Maritime Coordination Team and POS SM to address climate change. The governance structure and details are consistent with the governance system for energy and greenhouse gas management outlined on page 18.

Process for Response to Climate Change

Pan Ocean conducts an annual materiality assessment to identify risks and opportunities associated with climate change and to analyze which issues could significantly impact on its business. The company periodically assesses regulatory, technological, market, and environmental changes driven by climate change and evaluate their materiality based on the probability of occurrence and the potential business and financial impact.

STEP 1 Analysis of Climate-Related Risks and Opportunities	▪ Develop an issue pool of climate change risks and opportunities in reference to guidelines for climate action, such as TCFD and NDC, IPCC reports, policies, and industry trends.
↓	
STEP 2 Identification of Material Risks and Opportunities	▪ Identify material risks based on elements such as likelihood of occurrence and potential impact.
↓	
STEP 3 Scenario Analysis	▪ Conduct a scenario analysis for material risks and opportunities of climate change. ▪ Apply IPCC and IEA scenarios.
↓	
STEP 4 Incorporation into Business Strategy and Establishment of Action Plans	▪ Reflect the analysis results in business strategies and establish action plans.

Material Topic 1.

Greenhouse Gas and Energy Management

RISK MANAGEMENT / Response to Climate Change Incorporating TCFD Recommendations

Material Climate Risks, Responses, and Impacts

Pan Ocean has identified climate change risks and opportunities by monitoring relevant factors, including climate change, domestic and international regulatory and policy trends, and shifts within the maritime logistics industry. Through this process, the company has selected 4 risk issues and 2 opportunity issues with high impact and high probability.

Category	Issue	Risk Factors	Time Period	Likelihood	Impact	Response Status	Financial Implications
Transition Risk	Response to greenhouse gas emissions regulations for existing vessels (IMO EEDI, EEXI, CII, EU ETS, FuelEU Maritime, etc.)	▪ Capital investment increase due to the strengthening of IMO regulations (EEDI and EEXI) and compliance with management agreements ▪ Increased costs due to introduction of carbon tax and emissions trading under EU ETS and FuelEU Maritime regulations ▪ Risk of rapid devaluation and scrapping of low-rated vessels due to CII regulations	Short-term[1]	High	High	▪ EPL installation and minimization of operational delays ▪ Emissions allowance cost-sharing consultation with long-term charters, EU ETS management system development, and emissions purchase/price fluctuation risk hedge ▪ Introduction of high-efficiency vessels and ESD installation	▪ Emission allowance costs incurred under the EU ETS (USD 10 million in 2024, USD 18 million in 2025, and estimated USD 25 million in 2026) ▪ Scrapping instead of resale due to a rapid decline in the market value of low-grade vessels
	Response to greenhouse gas emissions regulations for new vessels (Mid-term measures for vessel GHG reduction)	▪ Increased operating costs and investment burden due to the shipping structure based on the existing fossil fuel use ▪ Potential non-compliance with environmental regulations and weakened market competitiveness if fuel transition is delayed	Medium-term[1]	High	High	▪ Review of fuel alternatives and transition to eco-friendly vessels ▪ Enhancement of emissions management by fuel based on the Total Environmental System (TES) ▪ Risk analysis and strategic investment review based on regulatory response scenarios	▪ Increased environmental costs due to IMO mid-term measures (fuel expenses + compliance costs) ▪ Expanded capital investment required for adopting or retrofitting eco-friendly vessels
Physical Risk	Increase in natural disasters (Typhoons, heavy rainfall, etc.)	▪ Increased risk of vessel accidents due to greater frequency of tropical cyclones, including typhoons and heavy rainfalls	Short-term[1]	Medium	Medium	▪ Managing real-time vessel operations and safety oversight through the Fleet Operation e-Center ▪ Enrollment in hull and liability insurance coverage	▪ Increased costs for safety management and vessel operations ▪ Increased costs for vessel insurance, vessel damage repair, and cargo damage compensation
	Rise of average temperature and sea levels due to global warming	▪ Safety risks for offshore employees and cargo caused by the rise in air temperature, seawater temperature, and sea levels due to global warming ▪ Impact on vessel operating patterns, including routes, sailing speeds, and fuel consumption, due to changes in conditions such as currents, wave heights, and wind patterns	Medium/ Long-term[1]	Medium	Medium	▪ Developing and operating a comprehensive system for monitoring vessel movements and weather conditions through the Fleet Operation e-Center ▪ Exploration of alternative ports in preparation for potential restrictions at primary ports	▪ Estimated USD 2.8 million required for system development ▪ Increased cooling expenses to maintain internal temperatures in vessels, containers, and buildings ▪ Increased costs associated with exploring alternative ports

1 Short term: 0~2 years, Medium term: 3~5 years, Long term: 6 years or more

Material Topic 1.

Greenhouse Gas and Energy Management

RISK MANAGEMENT / Response to Climate Change Incorporating TCFD Recommendations

Material Climate Opportunities, Responses, and Impacts

Category	Issue	Opportunity Factors	Time Period	Likelihood	Impact	Response Status	Financial Implications
Opportunity	IMO CII regulation and greenhouse gas reduction strategy	▪ Increase in demands for eco-friendly vessels and high-efficiency operational technologies due to introduction of IMO Carbon Intensity Indicator (CII) rating system and greenhouse gas emissions reduction strategies ▪ High rating and emissions reduction performance provide a competitive advantage in transactions with shippers and charterers.	Short-term[1]	High	High	▪ Maintaining CII performance by reducing hull resistance, installing fuel-saving technologies, and implementing engine power limitations (EPL) ▪ Adoption of environmentally friendly, fuel-efficient designs in the development of newbuild vessels ▪ Establishing a system for monitoring and analyzing carbon emissions, with the enhancement of GHG emissions inventory system	▪ Expanded chartering opportunities and potential freight rate incentives for vessels preserving high ratings ▪ Minimization of carbon emission cost risks through the early introduction of vessels in line with emission reduction strategies
	Increased necessity to adopt eco-friendly and energy-efficient vessels	▪ Enhancement of fleet competitiveness through optimization of operational efficiency	Short-term[1]	Medium	High	▪ Expansion of investments in LNG transportation and LNG bunkering	▪ Expected revenue of approximately USD 281 million generated by long-term charter of two LNG bunkering vessels (LNGBVs) ▪ Anticipation of fuel cost reduction due to increased fuel efficiency

1 Short term: 0~2 years, Medium term: 3~5 years, Long term: 6 years or more

Risk and Opportunity Selection Criteria

Classification	High	Medium	Low
Likelihood	▪ Risks expected to have a near-term impact, such as those associated with regulations set to take effect within 1–2 years, commercially available related technologies, precedent legal cases, or issues that are continuously raised in the market	▪ Risks expected to materialize within 2–3 years, including enacted regulations with a future effective date (3–5 years), technologies still in the development phase, potential legal risks with no precedent, and market topics that are beginning to draw attention	▪ Risks considered low in probability or not yet clearly defined, such as regulations under preliminary discussion with no set timeline, technologies in the early stages of development, absence of foreseeable legal action, and minimal recognition of the issue in the market
Impact	▪ Risks with an estimated financial impact exceeding USD 3 million, or those for which progress and impacts are reported regularly to the CEO	▪ Risks with an estimated financial impact spanning from USD 100,000 to USD 3 million, or those considered significant enough to be reported to the CEO	▪ Risks with an estimated financial impact of less than USD 100,000, or those considered sufficient enough to be addressed through internal reporting within the relevant department

Material Topic 1.

Greenhouse Gas and Energy Management

RISK MANAGEMENT / Response to Climate Change Incorporating TCFD Recommendations

Climate Change Scenario Analysis

Pan Ocean conducted a climate change scenario analysis to evaluate the potential impact of climate-related risks on its future business and to develop response measures. The analysis covers the period from 2030 to 2050. The company referred to the International Energy Agency (IEA)'s Net Zero Emissions (NZE) and Stated Policies Scenario (STEPS) for transition risks, and the Intergovernmental Panel on Climate Change (IPCC)'s scenario models, including the Shared Socioeconomic Pathways (SSP) and Representative Concentration Pathways (RCP) for physical risks. The scenarios applied in this report are based on a limited set of indicators, such as international energy and carbon pricing trends, and precipitation patterns—among numerous potential variables that may influence Pan Ocean's business environment.

Transition Risk Scenario Selection

The IEA's NZE and STEPS scenarios incorporate anticipated shifts in global policy, technology, and market dynamics in response to climate change. They evaluate the potential impacts of international carbon and energy price trends during the transition to a low-carbon economy. Pan Ocean assessed the business and financial impacts of major climate related risks based on the IEA NZE scenarios that outline a pathway to achieving Net Zero by 2050.

Classification	Scenario	Temperature Rise by 2030 (Median figure)	Temperature Rise by 2050 (Median figure)	Assumption
Transition Risk Scenario Analysis	IEA NZE (Net Zero Emissions by 2050)	1.5°C	1.5°C	Transition pathway aligned with the Paris Agreement's 1.5°C target, based on the premise of accomplishing global net-zero emissions by 2050
	IEA STEPS (Stated Policies Scenario)	1.5°C	2.0°C	Provides conservative anticipation on the overall direction of the energy system based on currently implemented or developing policies

Oil, Natural Gas, and CO_2 Price Outlook [1]

Classification	2022	2030	2040	2050
Natural Gas Price (Japan) (US$/MBtu)	15.9	5.5	5.3	5.3
Crude Oil Price (IEA Benchmark) (US$/bbl)	98	42	30	25
CO_2 Price (Based on the industrial sector, advanced economies, US$/t$CO_2$)	-	140	205	250

EU ETS Carbon Price Outlook[2]

Classification	2024	2030	2035	2040
CO_2 Price (€/tCO_2)	65	70	77	130

1 The price outlook is based on the IEA NZE scenario, which assumes that fossil fuel demand such as for oil and natural gas will decline sharply in the future, causing energy prices to fall to the level of marginal project operating costs. The scenario analysis employs Japan's natural gas price outlooks for natural gas due to the similarity in energy import structures and market systems between Korea and Japan (domestic projection data is unavailable).

2 EU ETS carbon price outlooks are based on outlooks published by BloombergNEF and Enerdata.

Results of Transition Risk Scenario Application

According to the IEA's NZE scenario (1.5°C pathway), carbon price is expected to rise to USD 140 per ton by 2030 and USD 250 per ton by 2050, which is expected to have a direct impact on Pan Ocean's operation costs. Additionally, under the EU Emissions Trading System (EU ETS), the carbon emissions price is anticipated to escalate from EUR 65 per ton in 2024 to EUR 130 per ton by 2040, resulting in a substantial carbon cost burden for operation in EU countries.

Regarding fuels, the rapid transition to renewable energy under the 1.5°C scenario suggests a potential decrease in oil prices, which are the primary fuel for Pan Ocean's fleet. Conversely, carbon prices or carbon taxes are anticipated to continue increasing. Also, as the volume of fossil fuel cargoes, such as coal, decreases, vessels that are specifically designed to transport these cargoes may gradually become stranded assets. Simultaneously, the Energy Efficiency Existing Ship Index (EEXI) and the Carbon Intensity Indicator (CII) imposed by the IMO are compelling existing vessels to diminish their engine capacity and improve their operational efficiency. Also, the EU's FuelEU Maritime initiative is increasing the threshold for the greenhouse gas intensity of marine fuels, which is exacerbating the necessity of transitioning to low-emission fuels and investing in sustainable technologies. Overall, these regulatory trends indicate that Pan Ocean is likely to face significant long-term financial obstacles when transitioning the conventional fossil-fueled vessels to more eco-friendly alternatives, as well as steadily rising expenses related to regulatory compliance and energy efficiency enhancements in the medium term.

Material Topic 1.

Greenhouse Gas and Energy Management

RISK MANAGEMENT / Response to Climate Change Incorporating TCFD Recommendations

Physical Risk Scenario Selection

To forecast the potential physical risks and impacts of temperature rise, Pan Ocean utilized the IPCC[1]'s SSP1-2.6 and SSP5-8.5 scenarios as well as the Korea Meteorological Administration's Climate Change Scenario Maps for domestic ports. For overseas ports, the company utilized IPCC's RCP 4.5 and RCP 8.5 scenarios along with the Climate Impact Platform (CIP)'s Site-specific Report tool. SSP-based scenarios were used for domestic ports as associated forecast data was publicly available under these scenarios. For China and Singapore, RCP-based scenarios were utilized as only RCP scenario-based analysis results were disclosed.

Scenario	Year of Publication	Covered Regions	2100 Temperature Rise	Assumption	Physical Climate Change
IPCC SSP1-2.6	2016	Domestic Gwangyang, Busan, Incheon	+ 2.3°C (South Korea)	Minimal fossil fuel consumption and environmentally sustainable economic growth due to advanced renewable energy technologies	The likelihood of unpredictable natural disasters caused by global warming is relatively low compared to other scenarios.
IPCC SSP5-8.5			+ 6.3°C (South Korea)	Continued growth of fossil fuel consumption and indiscriminate urban-centered development	The likelihood of unpredictable natural disasters caused by global warming is relatively high compared to other scenarios.
IPCC RCP 4.5	2010	Overseas Singapore, Qingdao, China	+ 2.4°C (Singapore) + 2.0°C (Qingdao, China)	Scenario wherein the greenhouse gas reduction policies are partially implemented	The likelihood of unpredictable natural disasters caused by global warming is relatively low compared to other scenarios.
IPCC RCP 8.5			+ 4.6°C (Singapore) + 4.0°C (Qingdao, China)	Scenario wherein the greenhouse gas reduction policies are barely or not implemented	The likelihood of unpredictable natural disasters caused by global warming is relatively high compared to other scenarios

1 The Intergovernmental Panel on Climate Change (IPCC) updates its climate projection models approximately every 5 to 6 years. Each country's meteorological agency customizes the scenarios to align with specific national conditions. However, since these scenarios rely on projections, their accuracy cannot be assured with complete certainty.

Physical Risk Scenario Application and Analysis Results

Pan Ocean analyzed its port call records from 2022 to 2024 and identified the five ports with the highest frequency of calls: Gwangyang, Busan, and Incheon in South Korea, as well as Singapore and Qingdao in China. The analysis centered on weather forecasts for these port cities to assess potential physical risks. The analysis revealed that a gradual rise in precipitation is expected in these regions where high-traffic ports are located. In South Korea, increasing rainfall in Gwangyang, Busan, and Incheon may lead to a higher risk of heavy rainfall and flooding. Among the overseas ports, Qingdao may experience a decline in precipitation under certain scenarios, while Singapore is projected to see up to a 15% increase in rainfall under the RCP 8.5 scenario. This could result in flooding risks to port infrastructure and potential delays in cargo handling and vessel operations. These changes may impact vessel operations and logistics safety. The comprehensive analysis indicates that Pan Ocean must promptly identify main routes and ports of call and facilitate immediate reflection of the information for safe vessel operations and cargo protection as response measures to anticipated physical risks.

Rainfall Projections for Key Domestic Ports

(Unit: mm, annual average)

Scenario and City / Period	SSP1-2.6			SSP5-8.5		
	Gwangyang	Busan	Incheon	Gwangyang	Busan	Incheon
Current (2000~2019)	1,509.0	1,465.2	1,135.7	1,509.0	1,465.2	1,135.7
Near Term (2021~2040)	1,637.5	1,542.7	1,205.0	1,562.6	1,537.0	1,199.4
Mid Term (2041~2060)	1,649.8	1,607.0	1,317.0	1,657.0	1,596.8	1,292.6

Rainfall Projections for Key Overseas Ports

(Unit: mm, annual average)

Scenario and City / Period	RCP 4.5		RCP 8.5	
	Qingdao, China	Singapore	Qingdao, China	Singapore
2011~2040	-8% decrease	+5% increase	+0% remains stable	+9% increase
2041~2070	+3% increase	+14% increase	-2% decrease	+15% increase

Material Topic 1.

Greenhouse Gas and Energy Management

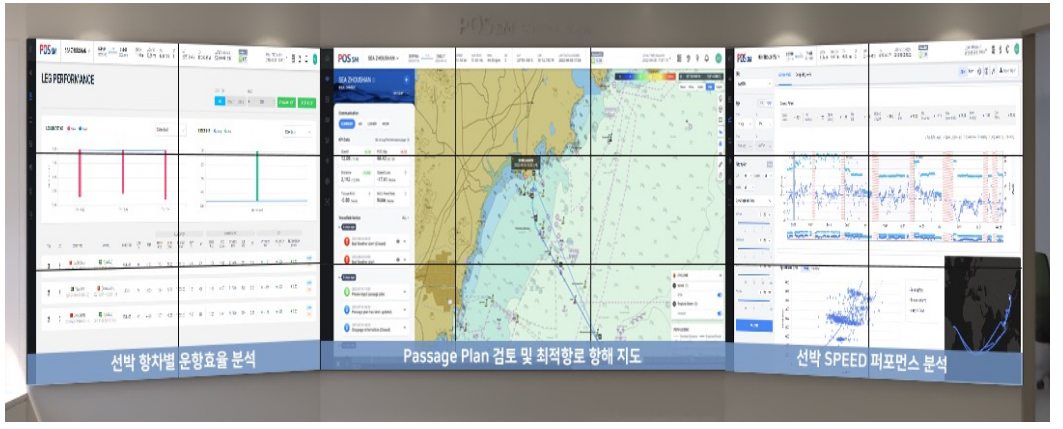
RISK MANAGEMENT / Response to Climate Change Incorporating TCFD Recommendations

Response to Transition Risks

Enhancement of the greenhouse gas emissions regulations for existing and new vessels is a material transition risk that Pan Ocean should address in the path to decarbonized economy, and our key response strategy is focused on reducing greenhouse gas emissions. Details are found on pages 18 to 23 of this report.

Response to Physical Risks

With the increasing likelihood of natural disasters caused by climate change, ensuring the safety of vessel operations against extreme weather conditions has become an important task. In particular, the increasing frequency of unpredictable natural disasters, such as typhoons and heavy rainfall, is heightening the risk of adverse weather conditions along maritime routes, as well as the potential for port damage and flooding. These developments pose significant physical risks, including disruptions to vessel operations, delays in loading and discharging schedules, logistics delays, and threats to the safety of maritime personnel. Since 2022, Pan Ocean has been operating an autonomous operational control center, Fleet Operation e-Center. The Fleet Operation e-Center is capable of real-time monitoring of vessel locations, fuel consumption, and cargo status. It facilitates improved operational efficiency and navigational safety through proactive risk management and remote inspections.



Purpose of the E-Center	Real-Time Integrated Monitoring	▪ Track vessel locations and provide safe navigation guidance
	Two-Way Information Exchange Between Onshore and Offshore	▪ Facilitate optimal operations through smooth onshore-offshore communication
	Support for Autonomous Vessel Operation System	▪ Serve as an onshore control tower for autonomous vessels in the future
Functions of the E-Center	Safety Management	▪ Prevent major accidents and disasters and enable rapid initial response to accidents through the real-time integrated monitoring
	Operational Efficiency Management	▪ Analyze vessel operating efficiency through the real-time data and recommend optimal routes
	Environmental Regulation Compliance	▪ Manage compliance with regulations such as CII, EU ETS, and Fuel EU Maritime. through the integrated greenhouse gas regulation monitoring system

Material Topic 1.

Greenhouse Gas and Energy Management

METRICS AND TARGETS

2030 Carbon Reduction Targets by Scope

Scope 1

Responses to maritime regulations	▪ IMO EEXI Regulation: Completion of the Engine Power Limitation (EPL) installation for all 36 owned vessels subject to the regulation ▪ IMO CII Regulation: Introduction of high-efficiency vessels and optimization of navigational patterns, etc. ▪ Market-Based Regulations such as EU ETS and FuelEU Maritime: Carrying out trials using low-carbon biofuels sourced from biomass and reviewing the implementation of zero-emission vessels
Optimization of operational patterns	▪ Maximizing reduction by slowing down and maintaining a consistent navigational speed, considering the exponential increase in carbon emissions per unit with higher engine output ▪ Developing a data-driven route monitoring system to optimize navigational efficiency in the long term
Replacement with high-efficiency fleets and introduction of ESD equipment	▪ Phasing out of 26 existing vessels with low energy efficiency ▪ Placing orders for 24 new energy-efficient vessels with eco-friendly technologies such as optimized hull design and Propeller Boss Cap Fins (PBCF) ▪ Selective adoption of efficient ESD equipment such as rotor sails and air lubrication systems
Transition to zero emission vessels	▪ Phasing out of 10 existing vessels with carbon emissions ▪ Establishing a goal to cease orders for carbon-emitting vessels ▪ Introduction of 6 vessels with zero carbon emission

Scope 2

Review of RE100 Participation	▪ Participating in a campaign to obtain 100% of internal electricity consumption from renewable energy sources ▪ Purchasing Renewable Energy Certificates (RECs) or engaging in third-party Power Purchase Agreements (PPAs) for implementation

Scope 3

Reduction of emissions from capital goods such as vessels	▪ Collaborating with shipyards to increase the use of eco-friendly materials and components for reduction of carbon emissions generated during the construction of owned vessels ▪ Engaging with equipment manufacturers and technical managers to minimize emissions associated with the production and logistics of vessel components and spare parts
Reduction of fuel consumption from chartered vessels	▪ Reducing carbon emissions from chartered vessels by prioritizing high-efficiency vessels in chartering decisions
Reduction of waste emissions	▪ Reducing carbon emissions through efforts, such as enhancing recycling rates and minimizing waste disposal amount in the treatment of general vessel waste and sludge ▪ Continuous implementation of company-wide campaigns, including manufacturing and distribution of reusable tumblers in 2023 to promote efforts to use less amount of disposable products

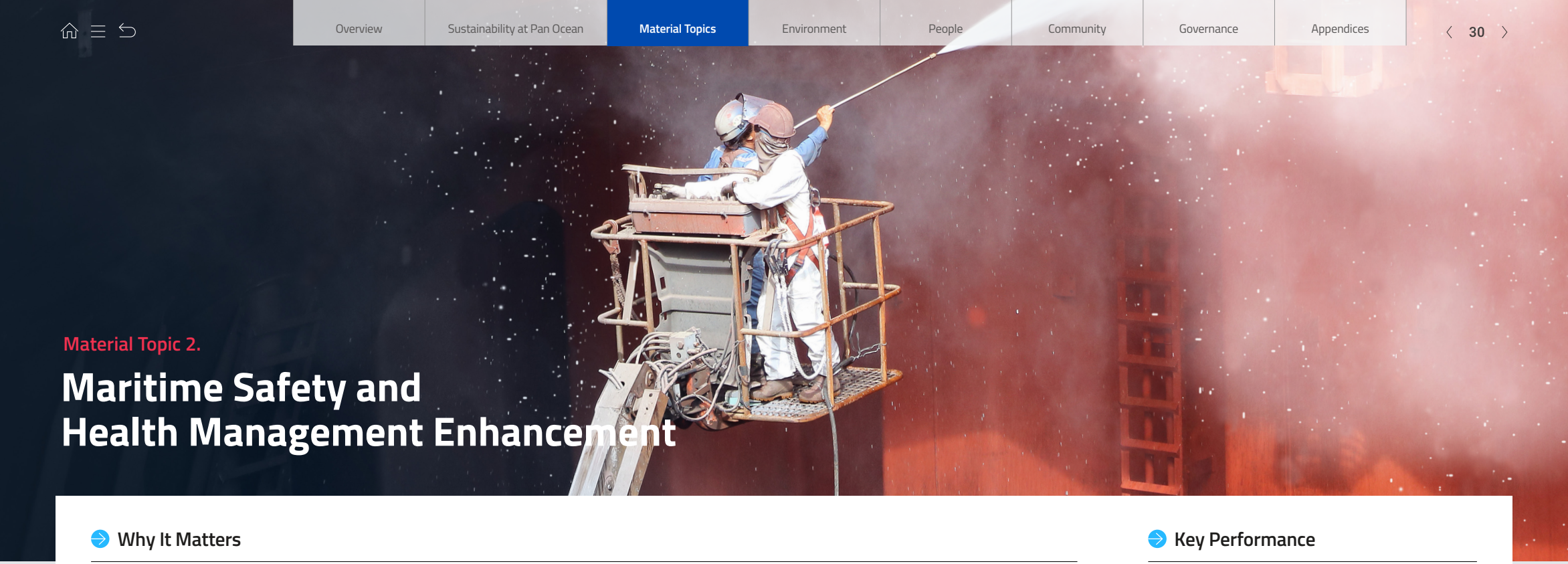
2030 Carbon Reduction Targets and 2024 Reduction Performance

2030 Targets

Classification	Unit	2021 Emissions (Base Year)	2030 Target	Compared to 2021	
				Amount	Rate
Total Emissions	tCO_2eq	2,745,000	2,458,000	287,000	10.4%
Intensity	gCO_2/ton-mile	6.59	5.59	1.00	15.2%

2024 Targets and Performance

Classification	Unit	2024 Target	2024 Performance
GHG Emissions (Scope 1, Owned Vessels)	tCO_2eq	2,549,417	2,780,572
GHG Intensity (Scope 1, Owned Vessels)	gCO_2/ton-mile	6.01	6.05
Energy Consumption (Scope 1 and 2)	TOE	866,324	955,522



Material Topic 2.

Maritime Safety and Health Management Enhancement

Why It Matters

In the maritime logistics industry, maritime safety and health management is a critical issue, as it is not only directly tied to protecting the lives and wellbeing of offshore employees but also holds significant strategic value for managing financial risks and opportunities. In the outbreak of serious accidents at sea, swift emergency response is required in relatively more challenging environments compared to onshore, which makes it difficult to protect the lives and health of offshore employees. Furthermore, such incidents can negatively impact offshore employees' morale and job satisfaction, necessitating strong preventive measures. The International Maritime Organization (IMO) has designated "enhancing the safety and welfare of offshore employees" as one of its three principal priorities for 2025, underscoring the increasing significance of safety and health within the shipping sector. From a financial standpoint, beyond immediate costs, accidents may cause significant financial risks such as legal liabilities, fines, and increased insurance premiums.

Pan Ocean's offshore employees and other onboard workforce face a range of safety and health hazards at all stages of vessel operations, including bunkering, loading, navigation, and discharging. Enclosed spaces on vessels pose a high risk of asphyxiation due to oxygen deficiency or exposure to toxic gases. During cargo loading and discharging, there exists a significant risk of injury from working at elevated heights, handling heavy materials, or getting impacted by falling objects. The bunkering process also involves potential hazards such as oil spills, explosions, and fires, and navigational operations can increase the probability of accidents influenced by environmental conditions at sea, persistent vibration and commotion, and fatigue from extended working hours.

Furthermore, the multicultural working environment can become an additional risk factor, as it entails difficulties due to language and cultural differences against daily communication and delivery of safety education and instruction. In contrast, maintaining a high standard of safety and health management not only protects the lives and wellbeing of offshore employees but also improves job satisfaction and work efficiency. It also has potential to result in reduced insurance premiums, simplified port clearance procedures, and increased trust from suppliers and investors. In this context, strengthening maritime safety and health management is a critical aspect of Pan Ocean's sustainability management.

Key Performance

- ZERO serious industrial accidents recorded in 2024
- Expansion and operation of onshore and offshore cross-functional task forces
- Internalization of policies such as the onboard Stop-Work Campaign
- Implementation of onboard proposal system and adoption of 30 proposals for on-site improvement

Material Topic 2.

Maritime Safety and Health Management Enhancement

GOVERNANCE

Operational Structure

Classification	Pan Ocean	POS SM	Vessel
Responsibility	▪ Vessel owner ▪ Approval of onshore and offshore safety and health management plans, as well as supervision of overall safety and health system operations and performance	▪ Vessel management company ▪ Establishment and distribution of onboard safety and health management policies ▪ Accident and recurrence prevention	▪ Vessel ▪ Operation of the Onboard Health and Safety System led by the master
Routine Health and Safety Management	▪ Monitoring of onshore and offshore safety and health systems	▪ Operation of onshore and offshore safety and health systems ▪ Internal audits ▪ Shipboard inspections	▪ Daily risk assessment and implementation of accident prevention measures ▪ Operation of weekly PMS ▪ Awareness improvement campaigns, etc.
Emergency Response	▪ Convening of the Accident Response Committee	▪ Convening of the Accident Response Team and management of vessels and offshore employees ▪ Reporting of incidents to the shipowner and relevant institutions ▪ Development of recurrence prevention measures	▪ Emergency response measure activation, and taking measures onboard
Consultative Body	▪ Board of Directors and ESG Committee ▪ Occupational Safety and Health (OSH) Committee ▪ Safety Management Measures Meetings	▪ Onshore Safety and Health Environment Committee ▪ Safety Management Measures Meetings	▪ Onboard Safety and Health Environment Committee

2024 Safety and Health Reporting to the Pan Ocean Board of Directors

- To approve 2024 Safety & Health Management Plan (February 2024)

Pan Ocean

Pan Ocean submits its safety and health management plans to the ESG Committee and Board of Directors for annual review and approval. As the highest decision-making body, the Board reviews the safety and health system implementation across the onshore and offshore operations and evaluates performance against established goals. Pan Ocean's Safety and Health Deputy Head also serves as the Chief Safety and Health Officer (CSHO), holding quarterly Occupational Safety and Health (OSH) Committee meetings. The OSH Committee deliberates and makes resolutions on matters such as the establishment and revision of safety regulations, the formulation of safety and health plans, training programs, investigations into serious accidents, and the development of preventive measures.

POS SM

POS SM is Pan Ocean's subsidiary specialized in vessel management which carries out comprehensive management of vessels and offshore employees. The company establishes and distributes onboard health and safety management policies, continuously monitoring their implementation. Head of the Safety & Quality Team at POS SM takes responsibility for developing, maintaining, and improving health and safety management systems on behalf of the management. Additionally, the heads of the Vessel Operation Team and the Offshore Human Resources Team each define relevant safety and health goals, establish action plans, and ensure these are implemented onsite. POS SM also holds a monthly Onshore Safety and Health, Environment Committee meeting to review the status of onboard safety management, discuss necessary improvements, and communicate them to all vessels. Furthermore, the company participates in Pan Ocean's semiannual Safety Management Measures Meetings to report its safety peformance and discuss enhancement measures for the safety and health management system.

Vessel

Masters are responsible for compliance with POS SM's health and safety policies and procedures as well as their implementation on board. They hold daily meetings with chief engineer, chief officer, and first engineer to discuss routine vessel operations, including inspections, audits, training, drills, maintenance, and repairs. Additionally, a monthly Onboard Safety and Health Environment Committee meeting is held under master's leadership to foster a culture of safety and to collaboratively address matters related to health, safety, environment, and security.

Material Topic 2.

Maritime Safety and Health Management Enhancement

GOVERNANCE

Occupational Health and Safety Management System

Pan Ocean and POS SM have obtained ISO 45001 certification, the international standard for health and safety management systems established by the International Organization for Standardization (ISO). Based on this certification, the companies have established and implemented a comprehensive health and safety management framework that applies across both vessels and onshore operations. In addition to complying with the Korean Occupational Safety and Health Act, Pan Ocean and POS SM are committed to continuous improvements aimed at achieving global standards in safety and health management. The companies also put in place specific systems and procedures to protect the lives and well-being of their employees and suppliers while fostering a safe and secure working environment.

Dry Bulk Vessel Management Standard Assessment

In 2024, Pan Ocean and POS SM became the first in Korea to undergo an assessment for the Dry Bulk Management Standard (Dry BMS). This standard was jointly developed in 2021 by Intercargo, a dry bulk shipping association, and RightShip, a risk management platform. The Dry BMS aims to enhance safety, efficiency, and environmental responsibility within the dry bulk maritime logistics industry. In collaboration with global shipper VALE, the companies successfully completed the shore-based assessment in November 2024, further reinforcing their international competitiveness.

Policies and Guidelines

- Safety and Health Management Policy
- Safety Quality Policy
- Shipboard Life Etiquette Policy
- Health & Welfare Policy
- Environmental Policy
- Drug and Alcohol Policy
- Security Policy
- Stop Work Policy

STRATEGY

Zero-Accident Campaign

Pan Ocean and POS SM are actively promoting the Zero-Accident Campaign (POS-4P) to establish a strong safety culture onboard and to enhance safety awareness among all personnel. Originally introduced in 1992 as part of its company-wide Total Quality Control (TQC) program, this campaign was implemented with the goal of achieving zero accidents and injuries across the company's vessels and offshore workforce. The campaign focuses on eliminating potential hazards in every task and maintaining a high level of risk awareness across the organization.

Campaign Details

Toolbox Meeting	Ensure awareness and confirm detailed work instructions, safety attire and health conditions before starting or resuming work
Operating the Daily Safety Duty System	Inspect potential onboard hazards and document daily safety activities in a log
Using Safety Instruction Cards	Display safety instruction cards in designated areas before work to raise awareness and remind individuals about safety precautions relevant to their specific tasks
Pointing out and Confirming	Clearly identify and address targets of action to prevent unconscious human errors
Sharing and Utilizing Incident Case Studies	Display significant cases from the distributed incident casebook on the bulletin board and integrate them into training sessions
Risk Awareness Training	Conduct monthly drills for task groups to improve risk sensitivity and risk identification skills

Zero-Accident Vessels in 2024

Pan Ocean rewards vessels that maintain zero-accident records every 600 days. In 2024, a total of 40 vessels reached this milestone. As of May and June 2024, SUPER HERO and SUPER INFINITY have each recorded 5,400 consecutive days without an accident.

Zero-Accident Vessels TOP10

SUPER HERO	PAN BONA
SUPER INFINITY	GRANDIS
PAN RAPIDO	SUPER EASTERN
PAN ACACIA	BUM SHIN
SEA PONTA DA MADEIRA	SEA MARANHAO

Material Topic 2.

Maritime Safety and Health Management Enhancement

STRATEGY

Strengthening Safety Training for Offshore Employees

Strengthening Practical Training through On-Site and Simulation-Based Programs

Pan Ocean and POS SM are enhancing practical safety training by identifying job roles, equipment, and facilities with high risks of accidents. To prevent and manage major safety incidents during vessel operations and management, the companies offer a combination of in-person and online internal training, along with external programs such as Ship Handling Simulation, Bridge Resource Management, and Engine Room Resource Management. To overcome the limitations of online theoretical training for foreign offshore employees, POS SM provides opportunities for hands-on training through external institutions. Participants first complete safety and system training developed by POS SM, followed by simulation and on-site training in areas including cargo management, mooring, and ballast water management systems (BWMS). In June 2025, the company established the operational framework for the HR Training Center at Busan office, and starting in the second half of the year, it will begin offering simulation and field training to Korean offshore employees as well.

2024–2025 Practical Safety Training for Offshore Employees

		Theoretical Training (Standard)		Practical Training (Simulation + On-site)
Korean Offshore Employees	In-person	Current employees	Trainings and workshops for masters, chief engineers, officers and ratings	Simulation training: SHS, ERS, LCHS[1] Practical training scheduled to begin in the second half of 2025
		New employees	New officer training	
		Promotion candidates	Position-specific promotion training	
		Vessel transfer crew	Practical training for assigned vessels	
Foreign Offshore Employees	Online	Individual online learning + group training + periodic assessments		Simulation training: SHS, ERS, LCHS
		Safety awareness training Case studies of incidents PSC inspection countermeasures Manual-based e-POS system training		Safety awareness and communication skills training
		Position-specific training		On-site training: Cargo handling, mooring, BWMS, etc.

POS SM delivers position-specific safety training for Pan Ocean's Korean offshore employees, including masters, chief engineers, officers, and ratings, based on their respective responsibilities. For foreign offshore employees, the company provides theoretical training through an online platform, offering English-language training materials we have developed in-house, including modules on safety awareness and accident prevention. Additionally, foreign offshore employees who complete online theoretical training are given opportunities to participate in simulation and on-site practical training through external training providers.

1 Ship Handling Simulation, Engine Room Simulation, Liquid Cargo & Ballast Handling Simulation

HR Training Center

POS SM established the HR Training Center as a specialized training facility for offshore employees, drawing on its core values and long-standing expertise as a vessel management company. Through the development of skilled maritime professionals, it aims to prevent major operational and safety incidents while fostering shared growth with customers, suppliers, and local communities. The center ultimate goal is to contribute to a sustainable future for all by providing best-in-class safety management services.

Material Topic 2.

Maritime Safety and Health Management Enhancement

STRATEGY

Enhancing Health and Well-being at Sea

According to the 2023 Seafarers Happiness Index by the International Seafarers' Welfare and Assistance Network (ISWAN), extended periods onboard, limited medical access, and lack of rest are key factors that reduce job satisfaction among offshore employees. Such challenges may lead to higher turnover and a shortage of experienced offshore employees, ultimately raising the risk of safety incidents at sea. Pan Ocean and POS SM operate a range of programs designed to strengthen the job capabilities and safety awareness of offshore employees, with the goal of improving job satisfaction, retention, and rehire rates. In particular, the companies offer tailored healthcare services for offshore employees that reflect the unique demands of seafaring life and continue to increase their investment in physical and mental health programs.

Enhanced Health Checkups and Counseling Programs

In 2024, Pan Ocean and POS SM strengthened their health screening system to address the challenges offshore employees face, such as limited access to medical care and difficulty detecting illnesses early, due to the nature of their work. The companies conduct annual medical checkups for all offshore employees, and for Korean employees, cardiac CT scans have been added to support more effective cardiovascular monitoring. Offshore employees who are prescribed long-term medication for chronic conditions are required to submit a medication pledge form to prevent misuse. Captains also conduct monthly health check-ins with offshore employees to help identify potential health concerns. In addition, returning foreign officers and senior ratings receive supplemental health insurance for themselves and their families. This coverage ensures that family members residing in their home countries can receive financial support for local medical treatments.

Health Management Training for Offshore Employees

Pan Ocean and POS SM offer training focused on the prevention and management of health conditions commonly affecting offshore employees, including cardiovascular and cerebrovascular diseases, noise-induced hearing loss, and illnesses caused by extreme heat or cold. In addition, training has been updated to emphasize practical instruction, covering emergency care for injuries in high-risk settings, as well as essential life-saving techniques such as CPR and the operation of Automated External Defibrillators (AEDs).

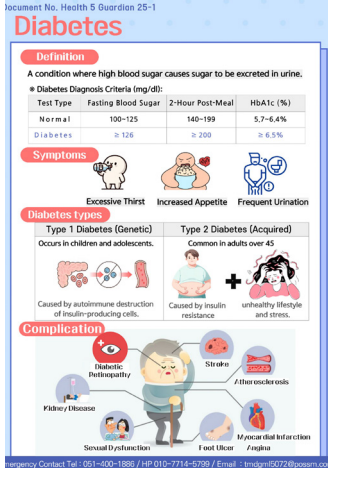
Safety and Health Services

Offshore		
Occupational health services	Provision of Personal Protective Equipment (PPE)	Essential PPE provided: helmets, shoes, uniforms, winter jackets
	Vessel-specific safety plans	HSE policy-based activities for offshore employees and vessel managers
	Inspections by vessel managers	Held semiannually or more frequently
	Medical screenings and consultations	One health checkup per year, monthly health interviews by the master
	Remote consultations with medical centers	Linked with Busan National University Hospital ER and provides telemedicine services
Mental health counseling		Korean: Information for Seafarers' Mental Health Center Foreigner: Operation of mental health counseling desk (Designated contact persons by agency)
Resilience activities		Group activities and stress management programs for offshore employees
Onboard fitness room		Physical fitness programs and health maintenance

Onshore	
Health counseling office	Experienced nursing staff, Health data monitoring, High risk group management for those with symptoms and those who need attention
Medical checkups	Annual health checkups with results retained for 5 years
Mental health counseling	Job stress assessments, counseling, and HomeFit program support
Accident prevention incentive program	Incentives awarded upon achieving safety accident prevention goals

Distributing Health Awareness Posters

Since 2024, POS SM has been producing and distributing monthly posters throughout its fleet to provide offshore employees with practical health management information. Each poster highlights common conditions frequently detected through routine medical examinations—including musculoskeletal disorders, heat-related illnesses, high blood pressure, shingles, dyslipidemia, and kidney stones—and offers guidance and prevention strategies in both Korean and English.



Onboard Newsletter – POS VIEW

POS SM publishes the onboard newsletter, POS VIEW, every quarter in both Korean and English, sharing essential updates on safety management activities, health information, and accident case studies across its entire fleet. This newsletter plays a critical role in ensuring that offshore employees of various nationalities can readily understand and implement key safety measures to prevent accidents at sea. In particular, by highlighting and rewarding vessels that have achieved zero-accidents, and by showcasing exemplary cases of risk identification and improvement, POS SM actively promotes and strengthens a culture of safety onboard all its vessels.

Material Topic 2.

Maritime Safety and Health Management Enhancement

RISK MANAGEMENT

Hazard Identification and Risk Assessment

In line with the internal risk management system, Pan Ocean and POS SM identify potential hazards during onboard operations and implement suitable preventive and mitigation measures. Risk assessments are conducted for all activities that may involve safety or health risks—this includes both routine and non-routine tasks carried out by offshore employees and repair personnel, every stage of vessel operations such as berthing, departure, navigation, anchorage, and cargo handling, as well as equipment operation on deck and in the engine room, firefighting drills, and evacuation exercises. Assessments are led by the responsible officer, and the master gives final approval after carefully reviewing offshore employee fatigue, equipment availability, and environmental factors. The master also monitors the effectiveness of risk control measures and conducts an annual review of the results to determine whether updates are needed for task classifications or internal manuals. The report is submitted as an agenda item to the Safety and Health Environment Committee, which convenes monthly.

Onboard Risk Assessment Process

Assessment Report Preparation	▪ Identify targets during weekly PMS planning ▪ Evaluate based on likelihood and impact ▪ Propose control measures for high-risk tasks
↓	
Approval	▪ Final approval granted by the master after review by onshore management
↓	
Utilization and Posting	▪ Use approved assessments as TBM topics and post onboard
↓	
Implementation and Task Execution	▪ Verify and apply control measures before starting the task

Stop Work Policy

Pan Ocean and POS SM uphold the right of all offshore employees, suppliers, and other relevant stakeholders on board to immediately halt any task or operation they perceive as unsafe. This policy is triggered the moment a hazardous situation is identified. When a task is suspended, it must be reported without delay to the safety manager. The process then proceeds through the following steps: investigation->implementation of corrective measures->resumption of work->follow-up actions->and safety training.

Suggestion System

Pan Ocean and POS SM operate a suggestion system in accordance with the Ship Administration Manual. The system is designed to foster employees' creative problem-solving and contribute to safer, more efficient vessel operations by strengthening safety awareness and supporting the companies' success and fleet safety. All offshore and onshore employees, including foreign offshore employees, are encouraged to freely submit their suggestions through the program. Submissions are made via POS SM's e-POS platform, and offshore employees currently serving onboard may also submit their suggestions directly during duty. Suggestions may be submitted individually, jointly by two or more people, or by entire departments or vessel teams. Proposals related to specially designated topics are also accepted. The Suggestion Review Committee evaluates and reviews each entry and grants awards to contributors whose proposals offer outstanding value. Approved suggestions are assigned to the relevant team leader, who must develop a detailed implementation plan and report it to the committee chair within 30 days of receiving notice. Additionally, team leaders are obligated to submit semi-annual reports on the implementation status of approved suggestions. In 2024, a total of 324 suggestions were submitted, with a significant increase in safety-related proposals compared to the previous year. Among them, 30 suggestions were adopted, and a total of KRW 2,152,000 was awarded as incentives. Notable examples include enhanced safety helmet quality for workers; installation of hooks to prevent falls during pilot embarkation and disembarkation; improvements to safety harnesses for working at heights; and reinforcement of anti-slip mats and non-slip tape in offshore employee cabins — all of which have contributed to increased workplace safety.

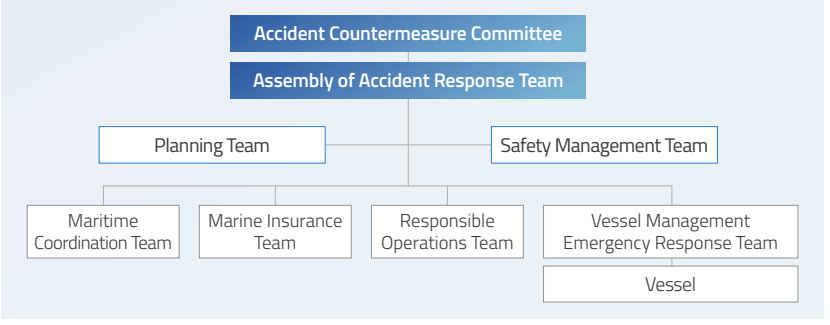
Material Topic 2.

Maritime Safety and Health Management Enhancement

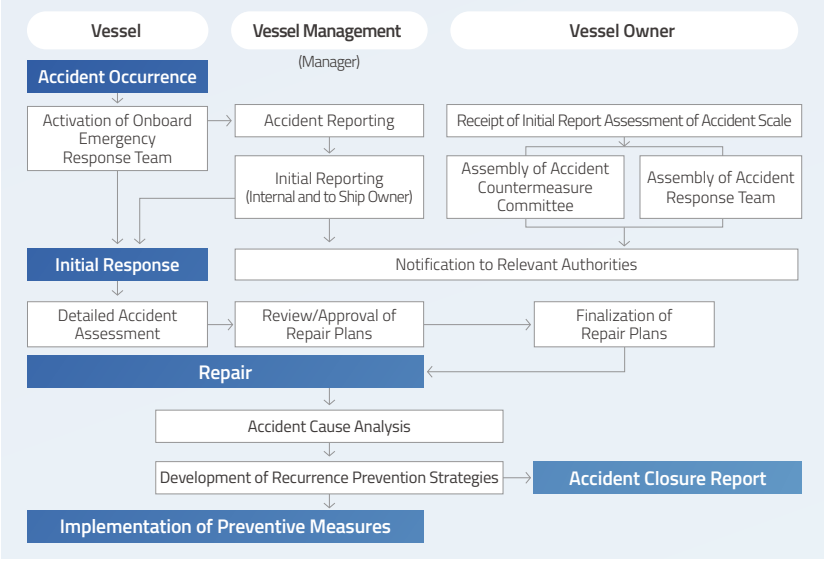
RISK MANAGEMENT

Response to Emergency

Emergency Response Organization



Accident Response Process



Accident Response Committee

In the event of a vessel-related or personnel accident, Pan Ocean promptly forms the Accident Countermeasure Committee to serve as the central command for managing the incident. To ensure rapid action and systematic incident tracking, the company has implemented both the Business Continuity Plan (BCP) manual and the Marine Accident Emergency Response Manual. When emergencies arise, Pan Ocean's response system is immediately activated in accordance with these manuals to minimize damage as effectively as possible. In cases involving personal injury or vessel-related accidents, the company swiftly implements immediate and initial response actions and conducts a thorough investigation of the root cause to develop effective preventative actions.

Classification of Incidents and Emergency Response Measures

Maritime incidents are typically categorized into vessel incidents, personnel incidents, and environmental incidents, which are often interconnected and occur at the same time. For example, a fire in the engine room can simultaneously lead to vessel damage, personal injuries, and marine pollution. Taking immediate action right after an incident is essential to minimize its impact. Delayed or insufficient initial response may result in secondary consequences, such as escalation of damage or rescue delays. Pan Ocean has established comprehensive response manuals and regularly conducted emergency drills to strengthen its initial response capacity. In partnership with POS SM, the company aims to strengthen cooperation to prevent accidents in advance and minimize harm to people and the environment through systematic responses.

Joint Emergency Response Training for Onshore and Offshore Teams

At least once a year, Pan Ocean's Safety Management Department and POS SM conduct joint emergency response drills that involve both onshore and offshore employees. These drills are designed to assess how effectively each response team can act quickly and efficiently in simulated maritime emergencies. For example, in October 2024, the exercise simulated an incident in which a Pan Ocean vessel, while bunkering in the U.S., experienced an oil spill as well as a fire outbreak in the engine control room. Such training initiatives strengthen the emergency response capabilities of all employees, ensuring both prompt and appropriate actions during actual emergencies. Each drill is thoroughly monitored and evaluated, and any issues identified are comprehensively analyzed to develop effective improvement measures.

Joint Onshore-Offshore Drill in October 2024

Material Topic 2.

Maritime Safety and Health Management Enhancement

RISK MANAGEMENT

Business Continuity Management System Operation

POS SM has established a response framework to address unexpected crises such as disasters, terrorism, and infectious disease outbreaks, and secured the ISO 22301 Business Continuity Management System Certification. ISO 22301 certification is a management system for the rapid recovery of key operations and maintenance of business continuity in the event of significant disruptions. To counteract potential large-scale disasters both onshore and offshore, POS SM has prepared tailored business continuity plans for each possible disaster scenario and specific recovery measures.

Infectious Disease Response System

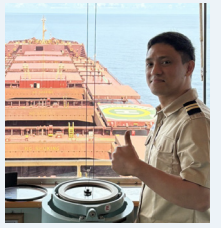
POS SM has proactively developed risk mitigation strategies to ensure the continuity of critical operations, acknowledging the impact of large-scale casualties from infectious disease outbreaks on personnel and resource management. The company implements a rotating work system as a preventive measure to train reserve personnel, identify essential roles, and assign and train alternates to guarantee operational coverage. Furthermore, POS SM has implemented the necessary IT infrastructure to facilitate remote work in the event of an outbreak.

Additionally, POS SM has established a Recovery Time Objective (RTO) of two days for restoring IT systems following a disruption. The company relocates support staff to essential duties and deploys retirees and internal auditors to minimize operational voids and promptly respond to the situation.

Interview

Action-Oriented Training for Safe Navigation

Joseph Q. Celocia/Second Officer



Q: Please provide a brief overview of yourself and your work.

I am a second officer of Filipino nationality and joined Pan Ocean in 2020. I began my career as an offshore employee in 2012 and am currently in charge of voyage planning and navigation, bridge watchkeeping, chart and publication corrections, and the maintenance of navigational equipment. When needed, I assist the first officer with tasks such as cargo operations, safety management, and ballast water management.

Q: Kindly describe the training and education you receive to guarantee the vessel's safe operation.

At Pan Ocean, all offshore employees, regardless of their nationality, undergo safety training aligned with IMO standards, international maritime regulations, and company policies.

Onboard, regular safety drills based on the company's training framework take place which include fire drills, emergency evacuation drills, enclosed space rescue, and fall prevention training. This practical, scenario-based training serves to reinforce the significance of safety and provides offshore employees with the necessary skills to respond promptly and precisely in emergency situations.

Q: As a foreign offshore employee, could you share your opinions on Pan Ocean's safety and welfare policies?

Pan Ocean prioritizes the safety, welfare, and growth of all offshore employees regardless of nationality. The company makes me feel that it sincerely values the lives, safety, and welfare of its employees beyond the level of mere compliance with regulations. Consequently, most of the offshore employees, including myself, take pride in working for this company and are eager to continue developing our careers at Pan Ocean.

Q: What are the most rewarding aspects of your job as a navigation officer at Pan Ocean?

Pan Ocean is not merely a business to me, but more like a family. The connection I have developed with fellow offshore employees over the years of collaboration extends beyond professional affiliations. I derive the most satisfaction from successful completion of difficult tasks and safe arrival at the port through teamwork and cooperation with colleagues from a variety of nationalities and cultures.

Material Topic 2.

Maritime Safety and Health Management Enhancement

METRICS AND TARGETS

Mid- to Long-Term Target

▪ Number of serious industrial accidents:

ZERO

2024 Performance Compared to Targets

Key Performance Indicators (KPIs)	2024 Target	2024 Performance	2025 Target
Number of Serious Industrial Accidents	0	0	0
Expanded Operation of Onshore and Offshore Safety Committees (Session)	12	13	12
Operation of Suggestion System and Adopted Items (Case)	-	30	-

PERFORMANCE

Pan Ocean Workshop for Masters, Chief Engineers, and Officers

In November 2024, Pan Ocean hosted a workshop in Gyeongju for its masters, chief engineers, and ship officers. The workshop covered a wide range of topics including leadership, organizational culture, environmental regulations, onboard safety, and health management. In particular, the training sessions on safety and health topics such as onboard safety management and first aid were well received by participants. The workshop also facilitated comprehension of differences between offshore and onshore perspectives, fostering open communication and mutual understanding. It further promoted conversation and a sense of cooperation among offshore employees.

Pan Ocean Workshop for Masters, Chief Engineers, and Officers

Award-Winning in the 2024 Near-Miss Marine Incident Case Competition

In 2024, POS SM received the President's Award from the Korea Maritime Transportation Safety Authority in the shipping company sector at the Near-Miss Marine Incident Case Competition organized by the Central Maritime Safety Tribunal under the Ministry of Oceans and Fisheries. POS SM earned high recognition for its system centered on thorough vessel management, an accident prevention framework, and early intervention presented under the topic of 'Near Miss Marine Incident Management System.' This system prioritizes prevention and risk minimization, leveraging digital systems and training materials. POS SM has demonstrated its leadership in the marine safety area through this award and will continue to take a leading role in promoting accident prevention and fostering a culture of safety.

2024 Near-Miss Marine Incident Case Competition Award Ceremony

Material Topic 3.

Strengthening Ethics and Compliance Management

Why It Matters

Ethics and compliance management is the fundamental principle that all companies have to uphold, serving as the cornerstone of responsible corporate governance. It not only fosters a strong sense of pride among employees but also serves as a key determinant of the company's reputation in its relationships with investors and suppliers. In the process of trading with various countries, global shipping companies could have a possibility to be presented to heightened manipulation of the law and act of corruption, such as unfair contractual terms, bribery, and the transportation of unlawful cargo. Failure to comply with international maritime law and regulations may lead to significant operational and financial losses. Moreover, offshore employees of the diverse national backgrounds work on very different ethical and legal standards they have or interpersonal conflict and operational issues by cultural disparities might can be happened on board. Conversely, rigorous implementation of ethics and compliance management is at a high standard enhances employees' pride and job satisfaction, while helping with mitigating a confliction among employees of various nationalities Additionally, by getting the trust of customers, suppliers, and investors, it can be expected to have satisfied results such as long-term contracts, stable business relationships, and sustained investment. Proactively addressing increasingly stringent global environmental laws and regulations also strengthens a company's competitiveness by enabling early entry into emerging business opportunities. Pan Ocean fully understands that ethics and compliance management is an important element directly linked to the company's sustainable growth, and is committed to implementing it thoroughly across all offices, overseas subsidiaries, and vessels.

Key Performance

- 100% of resolution for cases received via the Anonymous Reporting System
- 100% of completion for signing the Ethical Management-Practicing / Law-Abiding Covenant pledge
- 100% of implementation of voluntary Self-Compliance Assessments

Material Topic 3.

Strengthening Ethics and Compliance Management

GOVERNANCE

Operational Structure

2024 Ethics and Compliance Reporting to the Pan Ocean Board of Directors

- To report the results of operation of the Anti-corruption Program (AP) (February 2024)
- To report the evaluation of the effectiveness of the Compliance Control Guidelines (February 2024)
- To report the results of monitoring and auditing via Compliance Program (February 2024)
- To report the results of operation of the Compliance Program (December 2024)

Board of Directors

Pan Ocean provides annual reports to the Board of Directors on the results of operation of the Anti-Corruption Program, the Fair Trade Compliance Programs, and the evaluation of the effectiveness of the Compliance Control Guidelines. The Board deliberates and approves key matters regarding the risk management of ethics and compliance and strengthening the company's ethical and compliance framework.

Management

The Head of the Ethics Management Office at Pan Ocean oversees the company-wide prioritization and implementation planning of ethics and compliance initiatives. Key issues and major achievements are reported to the Board of Directors for their deliberation and approval. In addition, as the designated AP Manager, the Head of Ethics Management Department is responsible for planning and operating the Anti-Corruption Program (AP), as well as supervising the dedicated organization for Ethics Management. The operational status of the program is reported annually to the Board of Directors. Ethics and compliance enhancement initiatives are managed through the key performance indicators (KPIs) and are directly tied to the company's compensation framework. The Head of the Legal & Insurance Department serves as both the Compliance Officer and the Self-Compliance Administrator, overseeing whether management decisions and staff conduct adhere to applicable laws and regulations. In addition, the Head is responsible for the overall operation of the compliance program and periodically reports on the results of compliance support activities and the program's operation to the Board of Directors.

Dedicated organization for Ethics Management

Ethics Management Team, reporting directly to the CEOs of Pan Ocean and POS SM, is responsible for developing and revising policies of ethics management and carrying out the corresponding programs. Its key responsibilities include ethics and compliance training for employees, conducting internal assessments and audits, and operating the anonymous reporting system. In addition, enhancement of ESG governance ratings is also reflected in Key Performance Indicators(KPIs), thereby reinforcing ethics and compliance.

Self-Compliance Committee

The Self-Compliance Committee, led by the Self-Compliance Administrator, serves as a decision-making body that evaluates the compliance program's strategic direction, key activities, and effectiveness of the compliance program. The Self-Compliance Bureau is responsible for implementing compliance training and developing the compliance handbook.

Policies and Guidelines

Code of Ethics and Charter of Ethics

View Code of Ethics and Charter of Ethics

To align with global standards of ethical conduct, Pan Ocean has established its Charter of Ethics and Code of Ethics, both of which are publicly disclosed in both Korean and English on the company's official website. These documents clearly define the company's ethical responsibilities and standards to all stakeholders. Pan Ocean strives to achieve mutual growth with customers and suppliers and fulfills its duties as a global corporate citizen based on the trust of shareholders and investors.

Ethical Management Guidelines

Pan Ocean has enacted the Ethical Management Guidelines that outline the standards of ethical behavior being abided of all employees during the performance of their duties. These guidelines are made available in both Korean and English through the company's intranet and official website.

Ethical Management Guidelines

- Ch1. General Rules
- Ch2. Legal Compliance and Social Responsibility
- Ch3. Basic Ethics of Employees
- Ch4. Fair Performance of Duties
- Ch5. Prohibition of Giving and Receiving Unfair Profits
- Ch6. Transparency in Information and Financial Management
- Ch7. Creation of Healthy Climate of Corporate Culture
- Ch8. Measures against Violation
- Ch9. Supplementary Rules
- Addendum

Material Topic 3.

Strengthening Ethics and Compliance Management

STRATEGY

Direction for Implementation

Vision of Ethical Management & Key Strategy

Vision
"Clean and healthy hands delivering our customers' dreams."

Implementing an Ethical Management System	▪ Establishment of Ethical Policies and Guidelines ▪ Corruption Risk Management ▪ Operation of an Anonymous Reporting System
Embedding an Ethical Culture	▪ Dissemination of the CEO's message ▪ Survey on Employees' Ethical Awareness ▪ Campaigns, Training
Implementation of an actual Self-Practice System of Compliance	▪ Voluntary Self-Compliance Assessment ▪ Fair Trade Compliance Program (CP) ▪ (Employees) Signing the Ethical Management-Practicing / Law-Abiding Covenant pledge

Pan Ocean upholds its ethical management vision of being "clean and healthy hands delivering our customers' dreams" through three core strategies: establishing a structured t ethical management system, embedding a strong ethical culture, and realizing an actual self-practice of compliance framework. Moreover, the company enforces these strategies by actively operating the Anti-corruption Program (AP) and Fair-Trade Compliance Program (CP). Furthermore, Pan Ocean enhances ethical awareness among all employees through training and campaigns to promote sustainable ethical management practices.

Anti-Corruption Program (AP)

View CEO's Statement

Since 2023, Pan Ocean has independently established and operated a comprehensive Anti-Corruption Program (AP). This program applies to all business activities and employees, ensuring compliance with laws and regulations while proactively preventing and investigating corruption risks. Through the AP, the company continuously improves its anti-corruption performance and internal controls.

Governance

View AP Organizational Chart

The Board of Directors appoints the Anti-Corruption Program (AP) Manager, while the CEO holds responsibility for the implementation and overall operation of the AP. The AP Manager is responsible for establishing the program's operational plans, managing the dedicated organization, conducting corruption risk assessments, and developing response strategies. This dedicated organization identifies corruption risks, develops and implements relevant policies and procedures, conducts investigations when violations occur, and implements preventive measures to mitigate recurrence. The Board of Directors deliberates the operation of the AP's annually.

Ethical Management-Practicing / Law-Abiding Covenant pledge

Employees of Pan Ocean and its subsidiaries annually sign the Ethical Management-Practicing / Law-Abiding Covenant pledge to build a shared understanding of ethical values and strengthen compliance awareness. This pledge, available in English, Japanese, and Chinese, is also distributed to local employees hired at Pan Ocean's overseas entities to ensure consistent company-wide participation. Through this initiative, Pan Ocean fosters a unified culture of ethics and compliance throughout its domestic and international operations.

Voluntary Self-Compliance Assessment

To proactively prevent regulatory risks, Pan Ocean conducts an annual self-led compliance assessments across all departments and teams in accordance with applicable laws and internal regulations. Each team member completes a compliance checklist through the internal system, which is then reviewed by the team leader and verified by the head of department or division. The final results are verified by a legally qualified compliance officer and are reported directly to the Board of Directors.

Pan Ocean promotes transparency by publicly disclosing the assessments' results in its business report. The scope of assessments spans 153 legal and regulatory areas, including corporate management, contracts, disclosure, fair trade, international affairs, insurance, and emergency planning. In 2024, a total of 60 departments and teams across the entire organization participated reviewing 163 compliance items on a voluntary basis.

Corruption Risk Map Management

Pan Ocean identifies and evaluates corruption-related risks to build a corruption risk map that supports strategic risk prevention. Since 2023, this map has served as a key tool in identifying and managing risks. A total of 48 potential risks across 5 categories were initially identified. In 2024, the scope expanded to include risks in the procurement processes, identifying 54 potential risks across 6 categories, which are now being actively monitored and managed.

Type of Risks	Potential Risks Identified
Conflict of Interest Risk	16 cases
Risk of Fraud in Suppliers' Relationships	11 cases
Risk of Embezzlement of Funds	6 cases
Risk of Undermining Organizational Culture	8 cases
Risk of Distorting Performance Evaluations	7 cases
Risks in the Procurement Process	6 cases
Total	54 cases

Material Topic 3.

Strengthening Ethics and Compliance Management

STRATEGY

Online Training

Since 2022, Pan Ocean has been conducting online training sessions at least twice annually for all employees to prevent corruption and other unethical practices. In 2024, Pan Ocean utilized audiovisual materials presented in a short play format, developed by the Anti-Corruption and Civil Rights Commission's Integrity Training Institute to help employees better understand the content and respond appropriately to real-life scenarios.

E-mail Training

To support the stable implementation of its anti-corruption program and enhance employee awareness of anti-corruption issues, Pan Ocean conducted a total of 21 email-based training sessions throughout 2024. These training materials were made available on the company's internal portal, allowing employees of both Pan Ocean and its subsidiaries to freely access them.

Campaign for Ethical Management Practice

To promote ethical conduct and foster a culture of integrity, Pan Ocean launched the Ethical Management Practice Campaign through the intranet and email during major holidays such as Lunar New Year and Chuseok, as well as the year-end and New Year periods. The campaign emphasized key behavioral guidelines such as refraining from accepting monetary gifts, avoiding unnecessary visits to suppliers, maintaining a proper work attitude, and safeguarding company information. Furthermore, any gifts received despite clear refusal are either returned through the dedicated "Gift Return Center" operated by the Ethical Management Team or donated to social welfare facilities.

Fair Trade Compliance Program (CP)

View Fair Trade Compliance Handbook

Pan Ocean operates a Fair-Trade Compliance Program (CP) to comply with fair trade-related laws and regulations voluntarily. Through this program, the company raises employees' awareness of legal compliance and ethical standards, fostering their internalization to proactively prevent any violations of the law.

Governance

View CP Organizational Chart

The Board of Directors has appointed the Head of the Law and Insurance Department—who also serves as the company's Compliance Officer—as the Self-Compliance Administrator. The Self-Compliance Administrator holds substantive authority and responsibility for operating the Fair Trade Compliance Program (CP). The Self-Compliance Bureau, composed of in-house counsels, publishes the Fair Trade Compliance Handbook and conducts related training sessions. Each team within the company identifies and continuously monitors fair trade risks based on the Fair Trade Compliance Handbook and training materials.

The Self-Compliance Administrator convenes the Self-Compliance Committee twice a year to review the operation plans, key matters, and effectiveness of the program. In 2024, the committee reviewed key agenda items such as the operation plan, monitoring status, and audit results.

Fair Trade Training

In 2024, the Self-Compliance Bureau delivered both online and in-person training sessions tailored by position level. To support voluntary compliance with the Fair Trade Act, the office regularly shared updates on associated risks, legislative changes, and recent judicial rulings through internal postings.

Target	Details
Self-Compliance Administrator and Officer	KCCA CP Establishment and Advanced Operational Training (Advanced)
Self-Compliance Officer and 10 other personnel	Lecture on fair trade laws during the Harim Group Workshop
Executive	Fair Trade Training (Video produced and distributed)
Independent director	Fair Trade Training (Video produced and distributed)
Self-Compliance Officer	International Arbitration and Competition Law (Seminar)

Material Topic 3.

Strengthening Ethics and Compliance Management

RISK MANAGEMENT

Anonymous Reporting System

Reporting and Investigation

View Helpline

Pan Ocean, its subsidiaries, suppliers and all stakeholders operate an anonymous reporting system called the Helpline to promote open communication on matters related to ethics and compliance.

Through the Helpline, individuals can report or seek advice on unethical behavior such as violations of fair job performance, receipt of improper benefits, actions that undermine corporate culture, and breaches of information security. This system is accessible through Pan Ocean's official website. Furthermore, to protect whistleblowers' anonymity and the confidentiality of submitted information, and to prevent retaliation, the Helpline include concerned platform is managed by an independent third-party professional organization, K-Whistle (www.kbei.org).

Reporting

Whistleblowers can access the Helpline page on Pan Ocean website and select the appropriate reporting category following the on-screen instructions. Report categories include financial reporting irregularities, violations of fair job performance, acceptance of improper benefits, information security breaches, actions that disrupt corporate culture, suggestions for improvement, commendable cases, and employee praise. Whistleblowers are encouraged to provide specific factual details or their opinions based on the "5W1H" principle (who, when, where, what, why, and how), according to the designated form.

Verification and Investigation

Reports, disclosures, and feedback submitted through the Helpline are sent to the Chief Executive Officer (CEO) and the dedicated organization for Ethics Management. In accordance with the CEO's direction, the dedicated organization for Ethics Management conducts a thorough review and investigation of the reported matters. Based on the investigation results, the CEO determines the appropriate course of action.

Follow-up Actions and Outcome Notification

Pan Ocean informs whistleblowers of the status and outcomes of their reports, disclosures, or feedback via the Helpline platform. Whistleblowers can also log into the platform to independently track the status and results of their submissions.

Report Handling Process

2024 Reporting and Resolution Outcome

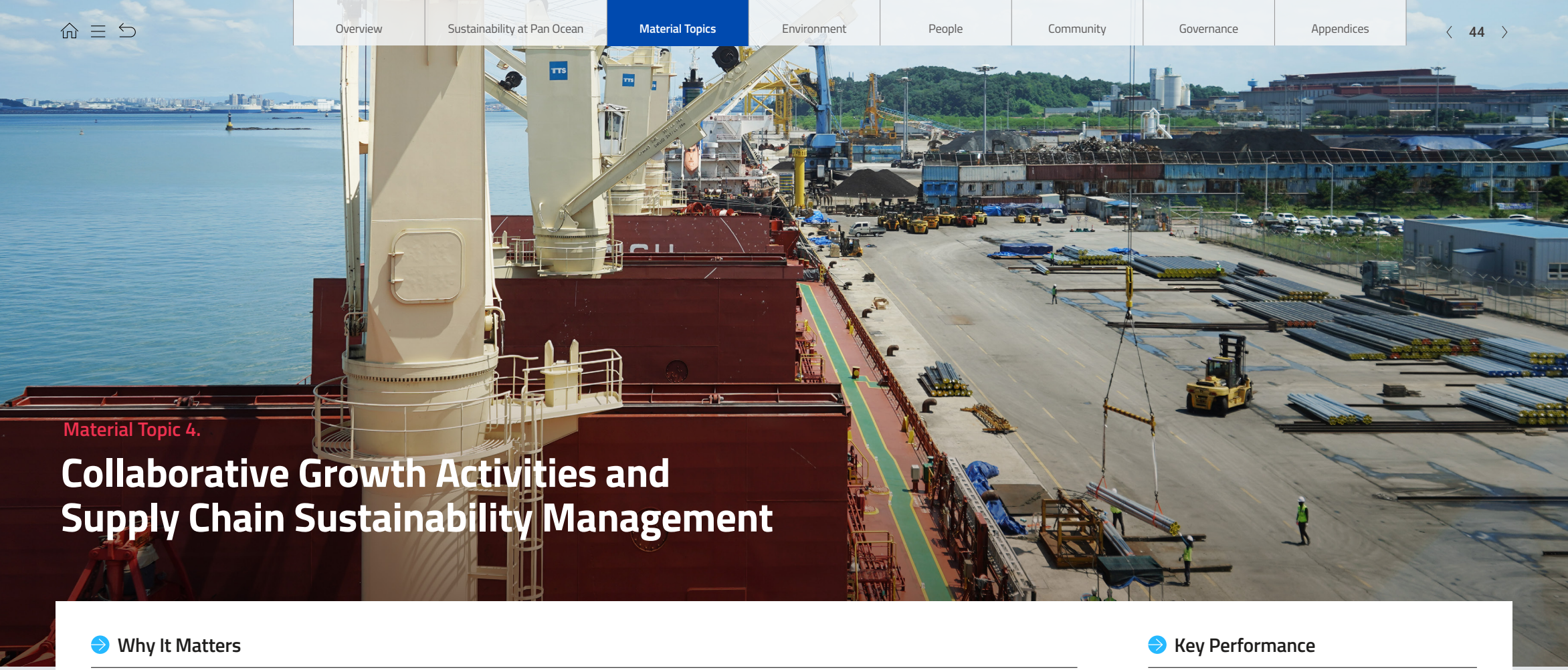
Throughout 2024, a total of 12 reports were submitted through the Helpline. Each report underwent a thorough investigation, and all cases were addressed with appropriate follow-up measures.

Classification		No. of Reports
Filed Reports	Reporting of Fraud and Corruption	-
	Complaints (Suggestions and Grievances)	9 cases
	Unfair Trade Practices / Anti-Corruption	-
	Other Unethical Practices	13 cases
Total		12 cases

METRICS AND TARGETS

Performance Against 2024 Targets

Key Performance Indicators (KPIs)	2024 Target	2024 Performance	2025 Target
Ratio of resolution for cases received via the Anonymous Reporting System(Helpline)	100%	100%	100%
Ratio for signing the Ethical Management Practicing / Law-Abiding Covenant pledge	100%	100%	100%
Ratio of implementation of voluntary Self-Compliance Assessments	100%	100%	100%
Operation of Anti-Corruption Program	Operation of Anti-Corruption Program	Operation of Anti-Corruption Program	Program Expansion to its Subsidiaries



Material Topic 4.

Collaborative Growth Activities and Supply Chain Sustainability Management

Why It Matters

The goal of sustainable management extends beyond fulfilling social and environmental responsibilities within the operational scope of a single company, but rather to pursue sustainable value and implement responsible management throughout the entire value chain, in collaboration with suppliers and various stakeholders. Addressing and improving the many environmental and social issues that impact the company's entire value chain cannot be achieved by the efforts of a single company alone. In this context, Pan Ocean places great importance on activities for mutual growth with its suppliers and the management of supply chain sustainability. The company actively practices these commitments to fulfill its responsibilities in helping the maritime logistics industry grow and develop into a sustainable sector that realizes greater social and environmental value.

Pan Ocean is a global shipping company that provides maritime transportation services through the ownership or leasing of vessels. The company's operations are deeply interconnected with a diverse range of partners and suppliers throughout the value chain. Any instability in the management of these partners or suppliers, or issues related to human rights, safety, environmental standards, ethics, or compliance, can directly impact Pan Ocean's ability to operate reliably. Therefore, it is essential to cultivate a culture of mutual development and collaboration with partners and suppliers, while diligently adhering to global supply chain sustainability standards, such as those set forth by the EU. These commitments play a key role in securing Pan Ocean's stable business operations, supporting its long-term growth, and achieving sustainable management goals.

Key Performance

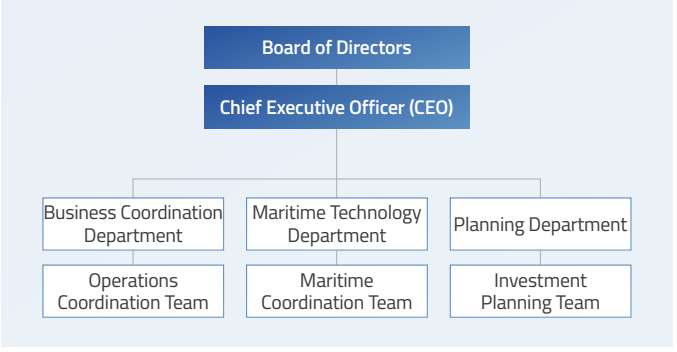
- Expansion of In-person Briefings on 'The Supplier Code of Conduct'

Material Topic 4.

Collaborative Growth Activities and Supply Chain Sustainability Management

GOVERNANCE

Operational Structure



Board of Directors

The Board of Directors is responsible for reviewing and approving policies, internal regulations, and business plans related to supply chain sustainability and mutual growth with suppliers.

Management

The CEO of Pan Ocean is responsible for the execution and oversight of all operational matters concerning contracts and transactions with suppliers.

Dedicated Team

The Business Coordination Department and Operations Coordination Team oversee transactions with agents, cargo surveyors, tugboat operators, lashing companies, cargo handlers, and both domestic and international fuel suppliers to ensure the smooth operation of vessels and the efficient loading and delivery of cargo. The Maritime Technology Department and Maritime Coordination Team are responsible for transactions with suppliers of ship stores, repair contractors, and ship repair yards to support the maintenance and upkeep of the company's owned vessels. The Planning Department and Investment Planning Team manage transactions with domestic and overseas shipyards for the construction of new vessels in support of Pan Ocean's business strategy.

Policies and Guidelines

- Pan Ocean Supplier Code of Conduct
- POS SM Vessel Administration Manual

Supplier Code of Conduct

View Pan Ocean Supplier Code of Conduct

Pan Ocean has established and implemented a Supplier Code of Conduct that defines the essential standards suppliers are expected to follow. All of Pan Ocean's suppliers are required to consider and adhere to the provisions of this Code throughout their business operations. Furthermore, they are expected to encourage their own vendors and subcontractors to comply with the same standards.

Pan Ocean urges suppliers' leadership to communicate their commitment to 'The Supplier Code of Conduct', or equivalent social responsibility principles through channels such as New Year's addresses, internal policies, and internal notice boards. Furthermore, Pan Ocean encourages suppliers to prominently reflect these commitments on their websites, annual reports, and promotional materials.

If Pan Ocean identifies non-compliance with the Code of Conduct by domestic shipping suppliers with 50 or more employees through due diligence or equivalent assessments, the company will initially request corrective action. If the supplier fails to take appropriate measures, a formal written warning is issued. Should the issue remain unresolved, a penalty is applied in the supplier evaluation process. For smaller suppliers with fewer than 50 employees, Pan Ocean adopts a phased approach such as promoting compliance in the short term and requiring full alignment with the Code of Conduct over the medium term.

Key Provisions of Pan Ocean Supplier Code of Conduct

Safety Management	▪ Industrial Safety ▪ Emergency Preparedness ▪ Prevention of Physical Overload ▪ Accident Management ▪ Safety Diagnosis ▪ Health Management
Human Rights Management	▪ Prohibition of Discrimination ▪ Provision of Wages and Benefits ▪ Working Hours Management ▪ Humane Treatment ▪ Guarantee of Freedom of Association ▪ Prohibition of Child Labor and Forced Labor
Environmental Management	▪ Establishment of Environmental Management Systems ▪ Energy Use and Greenhouse Gas Emissions Management ▪ Water Resource Management ▪ Air Pollutant Emissions Control ▪ Waste Management ▪ Chemical Management
Ethical Management	▪ Transparent Management and Anti-Corruption ▪ Prevention of Conflicts of Interest ▪ Prevention of Unfair Trade ▪ Prevention of Counterfeit Parts ▪ Compliance with Export Restrictions ▪ Information Security
Management System	▪ Disclosure of Corporate Statements ▪ Appointment of Responsible Persons ▪ Risk Assessments ▪ Education and Communication ▪ Information Management ▪ Operation of Grievance Handling Systems ▪ Management of Suppliers (Subcontractors)

Material Topic 4.

Collaborative Growth Activities and Supply Chain Sustainability Management

STRATEGY

Selection and Evaluation of Suppliers

Suppliers

Pan Ocean and POS SM carry out their business activities based on close collaboration with a wide range of suppliers. As a global shipping company, Pan Ocean enters contracts with multiple shipyards for vessel construction and repair services. Pan Ocean also engages with fuel suppliers, voyage support service providers, and ship management and maintenance suppliers. Based on internal criteria, key suppliers are classified and managed with particular focus. As of 2024, Pan Ocean maintained business relationships with a total of 643 suppliers. Among them, 22 are classified and managed as key suppliers based on long-term contracts and the scale of transactions.

Scope of Pan Ocean's Suppliers

Vessel Construction
Domestic and overseas shipyards

Vessel Maintenance and Repair
Supply, repair, and service providers, including repair shipyards

Operation Support
Agents, cargo surveyors, tugboat operators, lashing companies, cargo handlers, etc.

Fuel Supply
Domestic and overseas fuel suppliers

Selection and Evaluation of Domestic Suppliers

Pan Ocean and POS SM adhere to internal supply chain management guidelines when selecting domestic suppliers for provisioning, repair, service provision, and dry-docking operations. Companies that seek to establish business relationships with Pan Ocean and POS SM must submit their corporate documents and complete vendor registration through the online system. Upon registration, procurement personnel from PO and FM review each company's technical capabilities, quality standards, safety practices, management and financial stability, and proposed pricing. The final selection is based on this evaluation, and ongoing business relationships are subject to renewal decisions based on both periodic and ad-hoc performance assessments.

Vendor Registration

Pre-qualified suppliers that satisfy the baseline criteria applicable to their respective categories (such as technical expertise, proven track records, credit standing, and cash flow stability) may participate in competitive bidding upon successful completion of the vendor registration process.

Registration Assessment

Pan Ocean and POS SM evaluate and select suppliers through a comprehensive assessment process covering key domains such as technical capability, quality standards, safety practices, corporate governance, and financial stability. Emphasis is placed on safety, with detailed review criteria including ISO certification, the implementation of safety training programs, the structure and accountability of occupational health and safety (OHS) management systems, and records of industrial accidents. Only those suppliers that demonstrate strong performance in these areas are approved for contract engagement.

Contract Renewal Assessment

On-site evaluations are carried out on board vessels following the completion of repair or provisioning activities, while corporate-level evaluations are conducted semiannually at the head office.

On-site assessments primarily focus on the quality of products and services delivered, whereas the head office reviews emphasize the supplier's level of collaborative engagement and pricing competitiveness. As part of the evaluation process, particular attention is given to the possession of third-party certifications relevant to sustainable management, including those related to quality, environmental performance, occupational health and safety, and business continuity.

Follow-up Actions

Suppliers that receive low scores in on-site evaluations are issued a written warning. If no improvement is observed, their renewal registration is restricted.

Pan Ocean's Supplier Selection Process

Vendor Registration	Registration Assessment	Contract Renewal Assessment
▪ Professional Competence ▪ Performance ▪ Creditworthiness ▪ Cash Flow Stability	▪ Technical Capability ▪ Quality ▪ Safety ▪ Management and Finance	▪ Quality ▪ Environment ▪ Health and Safety ▪ Business Continuity ▪ Sustainable Management

Material Topic 4.

Collaborative Growth Activities and Supply Chain Sustainability Management

RISK MANAGEMENT

Raising Sustainability Awareness among Suppliers

Supplier Code of Conduct Checklist

Pan Ocean distributes 'The Supplier Code of Conduct' Checklist annually to key suppliers. For small-scale suppliers with limited operational capacity or low awareness of sustainability-related regulations and guidelines, the company provides briefings and dialogues to explain the importance of sustainability management and the contents of the checklist. The checklist is designed to help suppliers voluntarily implement sustainability practices in areas such as safety, human rights, environment, ethics, and management systems. Suppliers can use the checklist to assess their current sustainability practices and develop concrete plans to improve where needed. During the procurement and quotation request stages, Pan Ocean continuously communicates its requirements related to quality, environment and energy, ethical management, and health and safety policies. Pan Ocean also complies with ISO (International Organization for Standardization) standards and informs suppliers accordingly. The ISO certification status is also considered during both initial registration and renewal assessments to encourage suppliers to improve their sustainability performance.

Occupational Health and Safety Management for Suppliers

Risk Assessment and Occupational Health and Safety Evaluation for Suppliers

Pan Ocean requires all suppliers to submit a risk assessment report at the time of contract initiation. If any operational or risk-related changes occur during the contract period, suppliers must provide an updated assessment to reflect the revised conditions. When the assessment reveals areas needing improvement, corrective actions are formally requested. In addition, Pan Ocean conducts semiannual occupational health and safety (OHS) evaluations across its supplier network. Key evaluation criteria include the robustness of the OHS management system, effectiveness of implementation, operational control, and the frequency and severity of incidents. A separate set of bonus criteria is applied to further differentiate performance. In the first half of 2024, 54 suppliers were evaluated, followed by 70 in the second half. Pan Ocean also identifies high-risk suppliers in the area of health and safety and implements enhanced oversight measures, such as conducting on-site inspections of their worksites

Risk Management in the Procurement Process

Development and Management of Risk Maps

The procurement process encompasses all key steps including the ordering of ship supplies, competitive bidding, supplier selection, and periodic evaluations. Since this process directly influences the continuation of business relationships, maintaining ethical and sustainable transactions with suppliers is a core priority.

In 2024, Pan Ocean conducted a review of its procurement-related policies and carried out a survey targeting approximately 70 employees involved in ordering and purchasing, to assess the likelihood and potential impact of corruption risks. Although the likelihood of significant risks was found to be generally low, the company is committed to continuously identifying and mitigating corruption risks within the ship supply procurement process to ensure responsible supply chain management.

PERFORMANCE

Renewal of Excellent Shipper Certification

The Excellent Shipper Certification, issued under Chapter 5 of the Maritime Transport Act (Promotion of a Sound Maritime logistics industry and Support for Shippers), is awarded to companies that promote mutual growth through fair and responsible shipping practices.

Pan Ocean, as a carrier, was first certified in 2021 and successfully renewed the certification in 2024 based on its strong performance in various evaluation areas, including shipper–carrier collaboration strategies, contributions to the maritime logistics industry, service quality, differentiated offerings, route planning, shipper responsiveness, and participation in environmentally responsible practices. The current certification remains valid until 2027.

METRICS AND TARGETS

Mid- to Long-Term Goals

Service Quality Maintenance and Improvement for Suppliers	Compliance with and Internalization of 'The Supplier Code of Conduct'

Performance Compared to 2024 Targets

Key Performance Indicators (KPIs)	2024 Target	2024 Performance	2025 Target
Distribution of Supplier Code of Conduct Checklists to Key Suppliers	10 companies	10 companies	11 companies (Anticipated)
In-Person Briefings on 'The Supplier Code of Conduct'	24 companies	28 companies	30 companies (Anticipated)

Environment

49 Value Chain and the Environment | 50 Environmental Management | 53 Waste | 55 Pollutants | 56 Water Resources | 57 Biodiversity | 58 Vessel Recycling

Value Chain and the Environment

Environmental Impacts Across Pan Ocean's Value Chain

Pan Ocean operates a global logistics network with a focus on maritime transportation, which may generate environmental impacts across the value chain. Improper management of general waste, food waste, oily waste, cargo residues, and plastic waste can result in marine and air pollution, the proliferation of microplastics, and threats to biodiversity. Recognizing the significance of these environmental risks, Pan Ocean complies with regulations established by the International Maritime Organization (IMO) and other domestic and international authorities to reduce its negative environmental impacts and protect marine ecosystems.

Greenhouse Gas

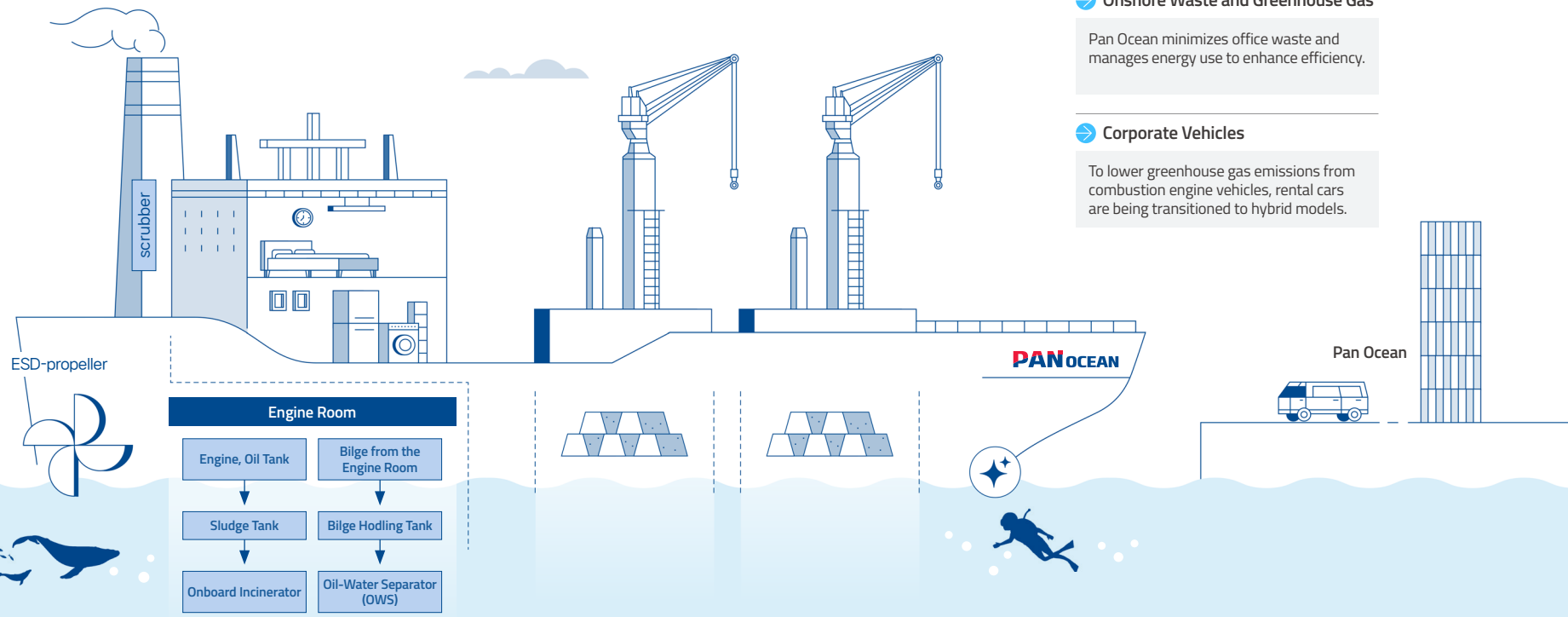
In an effort to reduce greenhouse gas emissions, the company is enhancing fuel efficiency and progressively increasing the share of low-carbon fuels in its overall fuel mix, including biofuels.

Air Pollutants

In order to mitigate air pollution from vessel operations, the company has installed emission control systems, including scrubbers, Selective Catalytic Reduction (SCR), and Exhaust Gas Recirculation (EGR), on a significant portion of its fleet. These technologies are aimed at reducing air pollutants generated during fuel combustion.

Marine Ecosystem

The company participates in voluntary vessel speed reduction programs at key domestic and international ports to reduce underwater noise and prevent collisions with large marine mammals such as whales.



Onshore Waste and Greenhouse Gas

Pan Ocean minimizes office waste and manages energy use to enhance efficiency.

Corporate Vehicles

To lower greenhouse gas emissions from combustion engine vehicles, rental cars are being transitioned to hybrid models.

Onboard Waste

General Waste & Food Waste

Domestic waste, food waste, and sewage are generated from residential areas onboard vessels. Pan Ocean ensures strict management and disposal of such waste in accordance with international regulations and internal waste management procedures, by transferring it to certified waste treatment providers after docking.

Oily Waste

Oily bilge water, which accumulates on the floor of the engine room, and sludge are generated during vessel operations. Bilge water is discharged into the sea after treatment through an onboard oil-water separator. Sludge, which is prohibited from ocean discharge, is either incinerated onboard or transported ashore for disposal.

Cargo Residues

Waste and cargo residues generated during loading and discharging operations are strictly assessed for their potential impact on the marine environment. Depending on the result, they are either delivered to waste management contractors or discharged into the sea in accordance with regulations.

Plastic Waste

The discharge of plastic waste including synthetic ropes, fishing nets, plastic bags, and ash from incinerated plastic materials is strictly prohibited in the marine environment.

Biodiversity

All Pan Ocean vessels are equipped with the Ballast Water Management Systems (BWMS) to prevent the spread of microorganisms through ballast water. In addition, anti-fouling paint is applied following hull surface cleaning to minimize biofouling.

Environmental Management

Pan Ocean Environmental Management

Operation Structure

The environmental management framework is aligned with the governance structure for climate change response. Further details can be found on page 18.

Policies and Guidelines

- Environmental Policy
- Environmental Management System (EMS) Manual
- Garbage Management Manual

Strategies and Goals

Key Issue	Strategy and Goal
Response to Climate Change	▪ 2030 Carbon emissions reduction strategy implementation ▪ 2050 Achievement of carbon neutrality
Marine Environment Protection and Biodiversity Conservation	▪ Goal: 10% reduction of waste generated in vessels by 2025 compared to the 2018–2020 average ▪ Strategy: Decrease adverse impacts on marine environment and biodiversity
Air Pollution Prevention	▪ Goal: 12% reduction of SOx and NOx emissions by 2030 compared to 2021 levels ▪ Strategy: Reduce air pollutant emissions from vessels ▪ Detailed Implementation Plan: 1) Install SCR or EGR on newbuild vessels 2) Maintain NOx emissions from ship engines below 14.4 g/kWh

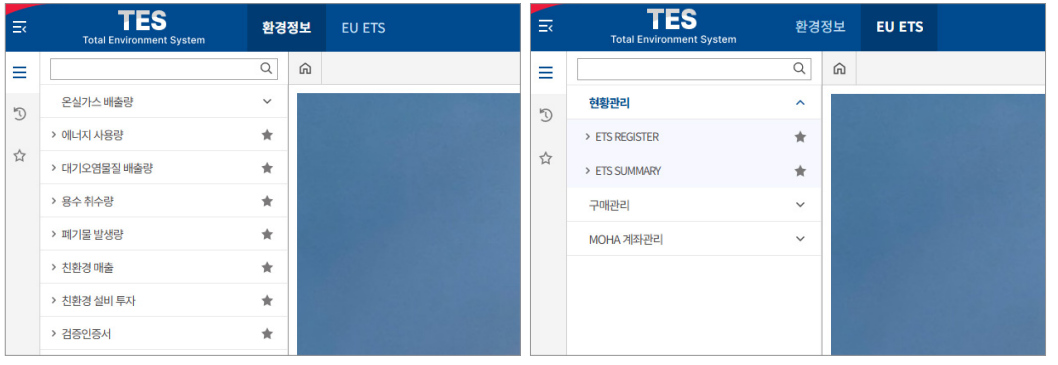
Environmental Management System

Pan Ocean and POS SM have maintained ISO 14001 Environmental Management System certification since first acquiring it in 2010. Both companies apply the Plan-Do-Check-Act (PDCA) cycle to systematically address the companies' environmental impacts. In particular, Pan Ocean Maritime Environment Team has been raising efficiency and efficacy of environmental management through consistent environmental management framework involving the establishment of environmental goals, employee training, continuous monitoring, corrective actions for any issues, and regular management reviews.

Total Environment System (TES)

Pan Ocean has developed and operates the Total Environment System (TES), a smart environmental information management platform to respond to the growing demand for external ESG assessments and evaluations, enhancing the reliability and efficiency of environmental data collection. TES was established to address the expanding sustainability assessments and to meet the needs of environmental cost management. It is designed to facilitate consistent integration and reporting of data that are scattered across departments responsible for port operation, finance, accounting, vessel management, accounting, etc.

The key management elements covered by the system include environmental impacts due to GHG emissions and energy usage from vessels, headquarters, and indirect sources such as ship supplies, chartered vessel fuel, business travel, employee commuting, air pollutant emissions and waste generation; and environmentally friendly investment items such as sustainable procurement, investments in environmental facilities, and revenues from low-carbon vessels. Pan Ocean plans to continuously enhance TES as a foundation for proactively responding to evolving sustainability-related policies and guidelines, identifying improvement areas, and implementing appropriate action plans.



Pan Ocean TES System Dashboard

Environmental Management

Risk Assessment

Pan Ocean conducts annual assessments of a wide range of environmental risks, including climate change, to proactively identify potential environmental impacts and prevent pollution throughout the business operations. Pan Ocean determines the severity level of each environmental risk based on a comprehensive evaluation of its likelihood and potential impact. Issues identified to have significant impacts are prioritized and reflected in setting next year's environmental goals. Pan Ocean monitors annual performance against detailed indicators and reflects improvement areas identified through internal and external audits when setting the environmental goals for the following year.

Risk Management

Issue	Risk Factors	Period	Likelihood	Impact	Response Strategy	Financial Implication
Maritime Environment Protection	▪ Discharge of oily waste from vessels ▪ Discharge of general and cargo waste (intentionally or accidentally) ▪ Pollution incidents caused by vessel accidents	Always	Low	High	▪ Compliance with relevant laws and international maritime conventions ▪ Adherence to internal regulations on waste oil and waste disposal ▪ Prohibition of dumping general and cargo waste at sea; waste must be handed over to certified waste management contractors during port stays ▪ Enforcement of safe navigation procedures to prevent accidents ▪ In the event of an oil spill, fines and cleanup costs may reach up to KRW 2 billion per vessel	▪ Generation of fines and oil spill response expenses of up to KRW 2 billion per vessel in the event of an oil pollution incident
Biodiversity Conservation	▪ Ballast water discharge ▪ Transfer of marine organisms attached to vessel hulls	Always	Low	Low	▪ Compliance with relevant laws and international maritime conventions ▪ Installation and operation of ballast water management systems on all vessels ▪ Regular hull cleaning to minimize biofouling and prevent the spread of invasive species	▪ Generation of annual hull cleaning costs of approximately USD 1 million
Air Pollution Prevention	▪ Pollutants generated by fossil fuel combustion ▪ Dust generated during handling of dry bulk cargo	Always	Medium	Low	▪ Compliance with NOx and SOx emission regulations and international maritime conventions ▪ Installation of NOx reduction systems ▪ Implementation of fuel pollutant testing procedures ▪ Compliance with regulations related to cargo loading and discharging operations	▪ Generation of Scrubber installation costs of approximately USD 3 million per vessel ▪ Increased cost of newbuild vessels due to NOx Tier 3 engine adoption

Risk and Opportunity Selection Criteria

Classification	High	Medium	Low
Likelihood	▪ Risks expected to have a near-term impact, such as those associated with regulations set to take effect within 1–2 years, commercially available related technologies, precedent legal cases, or issues that are continuously raised in the market	▪ Risks expected to materialize within 2–3 years, including enacted regulations with a future effective date (3–5 years), technologies still in the development phase, potential legal risks with no precedent, and market topics that are beginning to draw attention	▪ Risks considered low in probability or not yet clearly defined, such as regulations under preliminary discussion with no set timeline, technologies in the early stages of development, absence of foreseeable legal action, and minimal recognition of the issue in the market
Impact	▪ Risks with an estimated financial impact exceeding USD 3 million, or those for which progress and impacts are reported regularly to the CEO	▪ Risks with an estimated financial impact spanning from USD 100,000 to USD 3 million, or those considered significant enough to be reported to the CEO	▪ Risks with an estimated financial impact of less than USD 100,000, or those considered sufficient to be addressed through internal reporting within the relevant department

Environmental Management

Environmental Targets and Performance

Classification	Key Performance Indicators (KPIs)	2024 Target	2024 Performance	2025 Target
Marine Environment Protection	Waste oil (Sludge) generation	Average 10.30 m³/vessel	Average 17.72 m³/vessel	Average 10.08 m³/vessel
	Waste oil (Bilge) generation	Average 178.05 m³/vessel	Average 128.73 m³/vessel	Average 174.18 m³/vessel
	Plastic waste generation	Average 11.57 m³/vessel	Average 13.09 m³/vessel	Average 11.32 m³/vessel
	Refrigerant usage	Average 64.66 kg/vessel	Average 66.61 kg/vessel	Average 63.25 kg/vessel
	Food waste generation	Average 2.83 m³/vessel	Average 3.26 m³/vessel	Average 2.77 m³/vessel
	Marine pollution accidents	0 cases	1 case	0 cases
Biodiversity Conservation	BWMS installation	14 vessels	13 vessels	8 vessels
	Hull cleaning implementation	80 times	89 times	70 times
Air Pollution Prevention	NOx emissions	68,960,893 kg	72,220,170 kg	68,054,628 kg
	SOx emissions	8,084,450 kg	8,496,491 kg	7,913,052 kg
	NOx reduction device (SCR, EGR) installation	6 installations	4 installations (Postponed delivery of 2 vessels, installation to be completed in 2025)	5 installations
	Implementation of fuel oil sample testing	Implemented at every bunkering	Implemented at every bunkering	Implemented at every bunkering
Supplier Management and Initiatives	Supplier assessment	· Implementation of 1 Supplier Code of Conduct diagnosis · Implementation of 2 Bi-annual assessments and guidance sessions on 'The Supplier Code of Conduct'	· Completion of 1 Supplier Code of Conduct diagnosis · Completion of 2 Supplier Code of Conduct assessments and guidance sessions	· Implementation of 1 Supplier Code of Conduct diagnosis · Implementation of 2 Bi-annual assessments and guidance sessions on 'The Supplier Code of Conduct'
	Social contribution activities	· Eco-clean Volunteer Group activities 24 times · Cleanup at National Seoul Cemetery 2 times	· Completion of 24 Eco-clean Volunteer Group activities · Cleanup at National Seoul Cemetery once	· Eco-clean Volunteer Group activities 24 times · Cleanup at National Seoul Cemetery once

Strengthening Regulatory Response Capabilities Through Environmental Training

Pan Ocean holds regular environmental training sessions to enhance employees' capabilities in responding to environmental regulations. In 2024, the company offered practical, task-oriented training programs covering the use of the Total Environment System (TES), trends in international and European environmental regulations, and key environmental issues in the shipping and shipbuilding industries.

TES training strengthened employees' capabilities in accurately collecting and managing environmental data. Pan Ocean also provided practical guidance on responding to regulatory changes from the IMO and the EU. Furthermore, by deepening understanding of carbon neutrality initiatives in the maritime industry, vessel operation optimization strategies, and the development of eco-friendly technologies, the company reinforced its organization-wide foundation for sustainable management.

Environmental Training for Onshore Employees

Date	Details	Target	Number of participants (Person)	Method	Objective
April 9, 2024	Coating management based on TES	Operations Team	15	In-person	Strengthen capabilities to manage energy efficiency through coating maintenance
April 17, 2024	Key Details from MEPC 81 & EU Environmental Regulations	Sales Division	30		Improve understanding of maritime environmental regulations
July 26, 2024	Major IMO and EU Environmental Regulations		70		Identify key environmental issues of maritime and shipbuilding industry
September 6, 2024	Analysis of Key Issues in the Shipbuilding and Maritime Industry		22		Improve understanding of maritime environmental regulations
October 29, 2024	Key Updates of the IMO Marine Environmental Protection Committee		51		Improve understanding of maritime environmental regulations

Environmental Training for Offshore Employees

Date	Details	Target	Method
February 23, 2024	1st Workshop for Masters, Chief Engineers, and Officers on Environmental Regulations	Masters, Chief Engineers, Officers	In-person
June 18, 2024	2nd Workshop for Masters, Chief Engineers, and Officers on Environmental Regulations		
August 21, 2024	3rd Workshop for Masters, Chief Engineers, and Officers on Environmental Regulations		
November 27, 2024	4th Workshop for Masters, Chief Engineers, and Officers on Environmental Regulations		

Waste

Waste Status and Management

Waste Status

Waste generated from Pan Ocean's business activities is classified into shipboard generation combining general waste and designated waste as well as onshore office waste.

In 2024, Pan Ocean generated a total of 30,561 tons of waste, over 83% of which consisted of oily waste from vessels, including bilge water and sludge. Other waste from vessels includes general waste, food waste, and cargo residues. In 2024, Pan Ocean reduced total waste generation by 3% compared to the previous year. The company aims to reduce the overall volume of shipboard waste by 10% by 2025, based on the average from 2018 to 2020.

Designated waste generated from vessels	90.4%
General waste generated from vessels	9.5%
Office Waste	0.1%

Oily waste	93.9%
Plastic	5.5%
Others	0.6%

Waste Management

Pan Ocean and POS SM have developed and implemented waste management manuals in compliance with international regulations, including the International Safety Management (ISM) Code and the International Convention for the Prevention of Pollution from Ships (MARPOL). The companies have also established separate waste management guidelines for each type of waste, including general waste, oily waste, and packaging waste.

These manuals support systematic monitoring of the entire waste management process—from generation to discharge, transportation, and final disposal. In addition, Pan Ocean and POS SM continuously monitor contracted waste disposal providers to ensure proper compliance with contractual obligations and waste handling procedures.

Hazardous Waste from Vessels

Oily Waste

Pan Ocean and POS SM strictly manage onboard oily waste, including bilge water and sludge. Pan Ocean uses the Environment Tag System (ETS) to record and monitor the operation of onboard environmental equipment and the treatment of oily waste, ensuring proper handling in accordance with international regulations.

Engine room bilge refers to a mixture of oil and fluid that accumulates on the floor of the engine room, including fuel oil, leakage oil, hydraulic oil, lubricating oil, and cooling water. It is typically stored in a bilge water holding tank and then discharged into the sea through an onboard oily water separator in full compliance with applicable regulations. POS SM manages bilge water based on the procedures outlined in its Environment Management System (EMS) manual.

Sludge, an oily residue, is generated during the treatment and purification of fuel and lubricating oils in main and auxiliary engines. It is stored in designated onboard tanks and is either incinerated using approved onboard incinerators or transported to shore for disposal.

Pan Ocean and POS SM recognize the environmental risks associated with oily waste and comply with all applicable regulations, including the Marine Environment Management Act. In 2024, Pan Ocean analyzed vessel-specific fuel types and operating patterns to supply tailored fuel additives, which resulted in an approximately 4% reduction in oily waste compared to the previous year.

Waste

Plastic Waste

Pan Ocean and POS SM strictly prohibit the disposal of all types of plastic waste generated on vessels into the ocean according to their Waste Management Manual, ensuring the waste is offloaded and handled at onshore port reception facilities. Furthermore, the incineration of plastic waste on board is absolutely forbidden, except for PET.

To ensure full compliance, Pan Ocean and POS SM displayed guidance throughout vessels, informing both offshore employees and passengers of the prohibition on plastic waste discharge and indicating the locations of designated collection bins.

Pan Ocean and POS SM refrain from accepting vessel supplies that contain plastic products or excessive packaging to minimize plastic waste.

If the receipt of plastic-containing items is unavoidable, such items are returned to suppliers through a predefined return process. In particular, Pan Ocean and POS SM request that suppliers minimize the use of plastic packaging materials—including plastic bags, shrink wrap, and Styrofoam—to reduce plastic waste generation from the sourcing stage.

General Waste from Vessels

Domestic Waste

Domestic waste generated in accommodation areas—including paper, rags, cans, metals, glass, and cigarette ends—is strictly managed in accordance with MARPOL Annex V. Pan Ocean and POS SM prohibit any discharge of domestic waste into the sea. Such waste is incinerated using onboard incinerators or delivered to port reception facilities for proper disposal. Offshore employees members use segregated garbage bins installed on board to ensure proper separation and handling of waste streams.

Food Waste

Food waste is segregated and stored separately from other garbage types. If not promptly disposed of, food waste generated during voyages and docking can rapidly result in odor and hygiene issues. Pan Ocean addressed this issue by implementing a proposition from an offshore employee in 2024 to operate onboard chillers while docked. This project facilitated the utilization of cooling systems during port stays, hence promoting safer and more hygienic management of food waste.

Offshore Employee-Led Installation of Onboard Chiller

Cargo Residue and Operational Waste

Cargo residues refer to runoff or remaining materials found on deck or in cargo holds after loading and discharging operations, including substances that are wet or mixed with wash water. POS SM confirms the hazardous nature of cargo or residues with shippers and ensures that disposal is conducted in accordance with applicable procedures and regulations, rather than conducting independent assessments.

Solid waste generated during cargo handling, routine vessel operations, or maintenance that is not subject to specific regulations is classified as operational waste. Pan Ocean and POS SM dispose of all waste types in full compliance with international conventions and relevant regulations.

Pollutants

Air Pollutant Management

Pan Ocean uses low-sulfur fuel oil with a sulfur content of 0.5% or less, in compliance with sulfur oxide (SOx) emission regulations set by the IMO. In addition, some vessels are equipped with scrubbers (SOx reduction devices) to further minimize air pollution by reducing sulfur emissions. For newbuild vessels, Selective Catalytic Reduction (SCR) systems are applied to decrease nitrogen oxide (NOx) emissions. The company also contributes to minimizing unnecessary air pollutants, through installation of Alternative Maritime Power (AMP) systems for vessels to receive power from land, reducing unnecessary air pollutant emissions from onboard diesel generators.

Pan Ocean has been participating in Vessel Speed Reduction (VSR) programs at major domestic and international ports to contribute to air quality in port cities. By reducing vessel speed, fuel consumption decreases, leading to significant reductions in emissions of sulfur oxides, nitrogen oxides, and particulate matter (PM) that comprise fine dust.

Funnel of a Pan Ocean Vessel with SOx Reduction Equipment

Hazardous Chemical Management

Hazardous Chemical Management Process

Pan Ocean manages hazardous chemicals in accordance with the International Maritime Dangerous Goods (IMDG) Code and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code). The company evaluates the characteristics, hazards, and emergency measures of all hazardous chemicals in advance using the Material Safety Data Sheet (MSDS) in compliance with the Occupational Safety and Health Act.

To ensure safe transport, hazardous chemicals are classified and packaged in accordance with the IMDG and IBC Codes. Segregation and separation of cargoes are implemented as per the relevant Codes to prevent chemical reactions or incidents between substances. Pan Ocean also conducts a thorough verification of carriage restrictions or prohibitions under the IMDG Code and other applicable regulations prior to shipment, ensuring legal compliance and safe transportation.

Hazardous Chemical Accident Prevention

Pan Ocean has implemented a Personal Protective Equipment (PPE) matrix aligned with the characteristics of each hazardous chemical, mandating the use of protective gear. The company also strictly complies with relevant regulations to prevent accidents during transportation and storage of hazardous chemicals. Daily inspections are carried out upon key safety factors, including cargo temperature, the use of inhibitors, oxygen concentration within cargo tanks, and the condition of void spaces. Furthermore, the hazardous chemical management process is subject to biannual internal and external audits to regularly assess its proper implementation.

Water Resources

Marine Water Resources Management

Water Management

Pan Ocean extracts seawater during vessel operations for engine cooling, cleaning, sanitation, and general use, due to the characteristics of the maritime logistics Industry. All seawater intake and discharge take place in compliance with IMO International Convention for the Prevention of Pollution from Ships (MARPOL) and relevant national regulations. Pan Ocean is aware of detrimental impacts accompanied by the disposal of waste and pollutants generated onboard. Therefore, the company conducts all discharge activities exclusively within designated areas and conditions, transparently and precisely recording and managing waste disposal activities.

Scrubber Washwater Management

Pan Ocean complies with various international agreements and regulations regarding management of vessel water discharges, including the International Convention for the Prevention of Pollution from Ships (MARPOL). Specifically, the company implements real-time monitoring of water pollution indicators-such as pH (acidity), turbidity, polycyclic aromatic hydrocarbons (PAHs), and nitrate levels. This makes sure that washwater discharged from scrubber, which reduces sulfur oxides from vessel exhaust gases, is safely disposed within certain regulatory standards. Furthermore, Pan Ocean maintains scrubber washwater monitoring data records in order to satisfy inspections conducted by domestic and international port authorities, as well as other relevant agencies.

Greywater and Sewage Management

Sewage primarily originates from toilets, whereas greywater is classified under the category of general waste from kitchens, laundry rooms, and showers. Pan Ocean strictly adheres to the International Convention for the Prevention of Pollution from Ships (MARPOL) and relevant national regulations for the management of greywater and sewage. Vessels are equipped with sewage holding tanks, sewage commuting and disinfecting system, and sewage treatment plants, through which Pan Ocean processes and discharges sewage according to manuals.

In certain designated areas, such as the coastal waters of California, discharge of sewage and greywater is prohibited. In these cases, wastewater is collected and transported to onshore facilities. All discharge activities are carefully recorded and closely monitored to ensure thorough management. Pan Ocean conducts regular inspections and maintenance of sewage treatment systems according to its Planned Maintenance System, ensuring that all equipment remains in optimal working condition at all times.

Biodiversity

Initiatives for Marine Ecosystem Disruption Prevention

Expansion of Ballast Water Management System (BWMS) Installation

Pan Ocean is aware that ballast water utilized for maintaining vessel stability during operations can pose risks to marine ecosystems by introducing invasive species. Therefore, the company proactively responds to the IMO's mandatory regulations requiring the installation of Ballast Water Management Systems (BWMS). Since September 2017, IMO has mandated BWMS installation on all vessels to prevent the transfer of microorganisms in ballast water to prevent marine ecosystem disruption. A year earlier in 2016, Pan Ocean began with proactive installation of BWMS for owned vessels. Also, the company carries out real-time monitoring of the ballast water treatment and discharge process and results, ensuring thorough management of ballast water disposal. In 2024, Pan Ocean installed the system on 13 vessels, competing BWMS installation for the entire Pan Ocean vessels.

Hull Cleaning

Pan Ocean is dedicated to preserving marine biodiversity by actively performing hull cleaning to remove marine organisms from vessel surfaces. Hull cleaning is a critical measure to prevent the spread of invasive aquatic species through biofouling, in line with the IMO's Biofouling Guidelines. Pan Ocean schedules hull cleaning time in consideration of optimal anchoring times in mind to minimize environmental impacts and increase work efficiency. In 2024, Pan Ocean utilized robotic technologies and skilled divers to thoroughly remove biofouling organisms from all over the hull, including hard-to-access areas.

Marine Ecosystem Protection Initiatives

Vessel Speed Reduction Programs

Pan Ocean participates in the Vessel Speed Reduction (VSR) programs taking place in major domestic and international ports, following the Special Act on the Improvement of Air Quality in Port Areas, as well as other domestic regulations and policies. These programs are effective in improving the air quality in surrounding areas and reducing fuel consumption by lowering vessel speeds. Slower vessel speeds also reduces underwater noise, thereby protecting marine habitats.

In particular, low-speed operation hugely reduces crash accidents between vessels and marine mammals such as whales and dolphins, providing substantial assistance to help mammal habitat conservation and protection of marine ecosystems.

Hull Cleaning Robot by TAS Global

Interview

"Hull cleaning is necessary for marine ecosystem protection and greenhouse gas emission reduction."

Maeng Hee Ko, Director, TAS Global Co., Ltd.

Q: What does TAS Global do?

We remove barnacles, seaweed, and other marine organisms attached to vessel hulls. These organisms and other contaminants frequently accumulate on vessel hulls while the vessels are anchored at harbors. Consequently, it is imperative to conduct routine cleanings.

Q: Why is hull cleaning necessary for vessels?

Most of all, hull cleaning reduces energy required for vessel operation. The accumulation of foreign substances on a vessel's hull increases friction with seawater during navigation, resulting in higher energy consumption. A smooth hull surface diminishes energy consumption, hence contributing to a reduction in greenhouse gas emissions. Secondly, hull cleaning is also crucial for protecting the vessel itself. Barnacles possess strong reproductive and adhesive properties, and if left unchecked, they can proliferate across the entire hull, causing harm to the vessel. Regular cleaning is essential for preserving the vessel's durability. Thirdly, hull cleaning is essential for safeguarding the marine habitat, which has become a critical issue. Marine organisms, like barnacles and seaweed, can adhere to vessels and disseminate to various ports across the world, introducing invasive species. Hull cleaning is essential for reducing the dissemination of these invasive species.

Q: We would like to know whether global shipping companies are conducting effective hull cleaning.

I would say that Pan Ocean is doing greatly in this regard. Maersk and other European shipping companies are taking proactive measures in hull cleaning due to stringent regulations on GHG reduction and environmental protection. Specifically, new research indicates that maintaining a clean hull can increase energy efficiency by 5% to 20%, which may encourage these companies to work even harder at hull cleaning. Additionally, the accelerated development of hull cleaning technologies that employ robotics and AI is anticipated to result in an increase in the number of vessels that can operate while maintaining a clean hull.

Vessel Recycling

Sustainable Vessel Recycling

Green Recycling Policy

Pan Ocean has established a sustainable vessel recycling policy in accordance with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HKC). Under this policy, the company exclusively selects Ship Recycling Facilities (SRFs) certified in accordance with the HKC by recognized organizations. Pan Ocean's Green Recycling Policy aims to prevent the uncontrolled release of hazardous substances such as asbestos, heavy metals, and waste oil during the dismantling process. Additionally, it ensures the safety, health, and human rights of workers involved in vessel recycling operations.

Vessel Dismantling and Recycling Process

In the first step, the Inventory of Hazardous Materials (IHM) of a vessel is reviewed to detect any additional hazardous substances that may be present. This includes not only operational waste, but also materials stored on the vessel, such as fuel oil, lubricating oil, and ballast water. The IHM is finalized following the review by the classification society and the verification by on-site inspectors. In the second step, a pre-survey is conducted for accurate assessment of the types and quantities of hazardous materials in order to prepare for ship dismantling. Based on the assessment results from the previous stages, the third step entails selection of a recycling yard that is suitable for the vessel's structural characteristics and nature of the identified hazardous substances. In the final step, a qualified ship recycling supervisor is dispatched to the vessel recycling site to oversee and manage the entire dismantling process. Pan Ocean plans on adhering to these four procedures for dismantling and recycling of vessels.

IHM Verification and Update	Pre-Survey and Detailed Hazardous Material Identification	Selection of Certified Ship Recycling Facility (SRF)	On-Site Management and Supervision
▪ IHM Update following the Hong Kong International Convention before dismantling	▪ Hazardous material investigation and risk assessment prior to dismantling	▪ Selection of certified recycling yard	▪ Supervision of vessel recycling by verified supervisors

People

60 Value Creators | 61 Human Resource Management | 64 Human Rights Management | 67 Corporate Culture

Value Creators

Pan Ocean People

Pan Ocean's value is derived from the collective efforts of its employees, including onshore employees, offshore employees, workers from POS SM—a subsidiary specialized in ship and offshore employee management—as well as employees at overseas subsidiaries and offices. Onshore employees operate from the headquarters and domestic and international offices, taking charge of shipping operations and providing support based on their professional expertise. Offshore employees are crucial to shipping, as they board Pan Ocean vessels to ensure the smooth delivery of cargo.

Employees of POS SM are responsible not only for maintaining vessel condition and ensuring accident prevention but also for managing offshore employees from various nationalities, including the Philippines, Myanmar, and Indonesia. Their work helps promote Pan Ocean's global competitiveness. Furthermore, employees at overseas subsidiaries and offices contribute to Pan Ocean's growth and development by leveraging their expertise in global markets. Pan Ocean prioritizes the protection of human rights and labor rights, ensuring that employees from a wide range of nationalities and backgrounds can fully demonstrate their abilities. The company provides comprehensive support to ensure that all its employees are treated with respect in a healthy and safe working environment, regardless of their nationality, gender, or employment type. Through these efforts, team members are encouraged to work with a strong sense of belonging and pride in shaping the future of Pan Ocean. Additionally, Pan Ocean recognizes talent identification and development as a key factor in its competitiveness. This commitment drives the company to provide structured training and support for all employees, enabling them to realize their full potential and foster shared growth. Guided by the belief that each employee plays a critical role in the company's future, Pan Ocean is committed to investing in its workforce and cultivating an environment that promotes mutual growth and development for both the company and its employees.

2024 Workforce Status (on a consolidated basis)

Classification	Onshore Employees (Person)	Offshore Employees (Person)	Note
Pan Ocean (Employees and other workers)	415	2,593	873 Korean offshore employees 1,720 Foreign offshore employees
Domestic and Overseas Subsidiaries (10 Companies) (Employees and other workers)	343	38	2 Owned vessels under the Singapore subsidiary 38 Offshore employees

Human Resource Management

Pan Ocean recruits and develops both onshore and offshore employees in alignment with the company's core talent values. The company seeks creative innovators, excellence-driven professionals, collaborative team players with open minds, and proactive leaders who can advance global business. To attract talent specialized in the shipping industry, Pan Ocean implements industry-academia scholarship mentoring programs, internship opportunities, and other initiatives that focus on identifying individuals with high potential and providing customized training and skill development opportunities.

Maritime Talent Development

Provision of Recruitment and Employment Information

Pan Ocean and POS SM participate annually in career fairs hosted by National Korea Maritime & Ocean University and Mokpo National Maritime University. These fairs provide detailed information about Pan Ocean's corporate profile, including key financial information, business sectors, fleet operations, as well as the recruitment process, and welfare programs.

Recruitment of Industry-Academia Scholarship Students

Pan Ocean and POS SM have partnered with National Korea Maritime & Ocean University and Mokpo National Maritime University to implement an industry-academia scholarship program designed to identify and cultivate talented students at an early stage. Annually, over 20 senior-year students from these maritime universities are selected as scholarship recipients, receiving both scholarships and certificates. Moreover, a specific number of graduates from these universities are recruited as new officers on an annual basis.

Industry-Academia Mentoring Programs

Pan Ocean and POS SM facilitate a mentor-mentee program for senior-year students at National Korea Maritime & Ocean University and Mokpo National Maritime University, connecting them with experienced shipping professionals. This program provides students with career coaching and imparts practical knowledge and industry insights vital for shipping operations. The mentoring program enhances students' comprehension of the shipping industry while promoting substantial collaboration between academia and industry.

Cadetship Program

Pan Ocean and POS SM annually admit approximately 40 junior-year students from National Korea Maritime & Ocean University and Mokpo National Maritime University for onboard training programs. These programs offer students practical experience in a safe and supportive environment, with the expectation that they will develop into future offshore employees. The outcomes of these training programs are considered when selecting scholarship recipients and recruiting new officers. After the completion of training, Pan Ocean continues its engagement with students through mentoring programs, thereby enhancing collaboration between academia and industry.

Offshore Employee Training

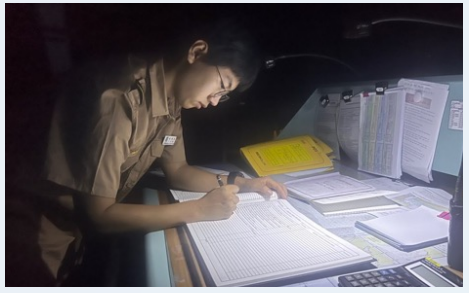
Pan Ocean and POS SM operate specialized and tailored training systems designed to enhance the competencies of offshore employees. The companies offer mandatory training for masters, chief engineers, chief officers, and first officers who are candidates for promotion, as well as a variety of customized courses such as cadet development programs and training for the delivery of newly built or second-hand vessels, to facilitate effective onboard operations. Additionally, they implement essential safety programs, such as marine emergency response drills, survival training, and health and accident prevention training, along with courses directly related to duties performed before and after onboarding. Pan Ocean and POS SM are committed to continuously promoting and enhancing the quality and effectiveness of these training systems by assessing operational needs and adapting to evolving industry conditions.

Onboarding Program	Job Training
▪ Cadet Training ▪ New Officer Training ▪ Experienced Officers and Ratings Training	▪ Workshops ▪ Position-specific Job Training ▪ Embarkation and Disembarkation Task Negotiations
Advanced Job Training	**Promotion Training**
▪ Advanced Training by Vessel Type ▪ Advanced Navigation Job Training ▪ Advanced Vessel Equipment Training	▪ Position-specific Promotion Training

Human Resource Management

New Officer Overlap Program

Pan Ocean and POS SM operate the New Officer Overlap Program for newly hired third officers and third engineers. This program allows new officers to acquire essential knowledge, practical skills, and guidance on onboard life directly from senior officers for quick adaptation to vessel operations and safety duties. In 2024, a total of 80 new officers participated in the overlap program.



Pan Ocean is a people-oriented company, which is what I value the most. I was able to adapt to my role as a vessel officer without much difficulty, thanks to the overlap program for newly hired officers, systematic training, and ongoing communication initiatives. Additionally, warm and supportive interactions with onshore employees have consistently made me feel valued as a member of the company. If given the chance to decide again, I would choose Pan Ocean without hesitation.

Tae Won Heo, Third Officer
(Currently Serving on NEW APEX, Graduate of Mokpo National Maritime University, Class of 2024)

Pan Ocean has been a company that has provided me with opportunities. After completing my cadet training on a bulk carrier, I received my first official posting on a container vessel. The acclimation period was challenging, as it is for many new officers. However, I was able to acquire valuable insights and knowledge that I could not have obtained on a bulk carrier through continuous learning and hands-on experience. I am grateful for the opportunity to take my first steps as an officer, and I will continue to strive for growth in my role.

Min Young Koo, Third Officer
(Currently Serving on POS BANGKOK, Graduate of Mokpo National Maritime University, Class of 2024)

Seagull: Online Training Program for Offshore Employees

Since 2021, Pan Ocean and POS SM have been administering the online training program "Seagull" to enhance professional competencies of their offshore employees. Widely adopted worldwide, Seagull is a computer-based training (CBT) platform that provides over 800 courses on vessels and maritime training, covering topics such as offshore job-specific skills, safety management, and leadership development. The program is readily accessible on both work computers and personal mobile devices, enabling trainees to learn at any time and from any location. CBT learning materials are available onboard, allowing offshore employees to pursue their training while at sea. In addition, Pan Ocean and POS SM oversee training progress in real time and evaluate program effectiveness through subject-specific assessments. Provision of the uniform training opportunities to all offshore employees, regardless of nationality, location, or timing, enhances efficiency and effectiveness of the training programs.

The First Certified Domestic Company with "Best Ship Management Business Operatior"

In 2021, POS SM was designated as "Excellent Vessel Management Company" in recognition of its comprehensive expertise in vessel and offshore employee management, a highly skilled technical workforce, and exceptional safety management systems. This certification is an official acknowledgment granted by the Ministry of Oceans and Fisheries to vessel management companies that demonstrate exceptional operational quality. The evaluation criteria include vessel operational performance, accident-free operation rates, offshore employee training and welfare management, as well as compliance with International Maritime Organization (IMO) regulations and both domestic and international laws. Following its initial designation in 2021, POS SM was recertified in 2024, ensuring its vessel management status remains valid until 2027. This achievement underscores the company's ongoing commitment to upholding world-class standards in vessel management and safety.

Human Resource Management

Onshore Employee Training

	Adaptation Period (Associate)	Engagement & Development (Manager)	Specialist (Senior Manager)	Leader (Team Leader)	Business Leader (Head of Department/ Division)
General	Employee Engagement Training (Staff Seminar, TDP etc.) / Smart Learning (Micro-Learning, Online Library) / Statutory Training				
Level	New Employee Onboarding Basic Training	Specialized Course (4th Year) Promotion Training	Specialized Course (4th Year) Promotion Training		New/Promoted Executive Training
Job Competency	Professional Practice Training / OJT Training / Online Job Training Promotion Qualification Course OJT & On-site Training	Workplace Practicum Training Course (On board owned-vessel)	Overseas Dispatch Job Mentoring		Executive MBA Program
Leadership		Bridge Leadership	Long-term Leadership Training New Manager Leadership Development		Executive W/S Leadership Insights Lecture
Global	Foreign Language Training Program: On-line & Phone-based				

Pan Ocean conducts training programs focused on enhancing employee competencies in alignment with their life stages and career roles. The company offers tailored programs based on job levels, ranging from onboarding programs for new employees to promotion training and executive courses. In addition, to develop job competencies, Pan Ocean provides a variety of specialized training options, including on-site practical training, on-the-job training (OJT), online courses, and international assignments, all designed to improve expertise. For leadership development, the company offers long-term leadership programs, executive workshops, and leadership insight seminars, as well as foreign language courses to help employees cultivate global competencies.

Mentoring Program

Pan Ocean has implemented a mentoring program for both new hires and experienced employees to facilitate their integration into the company and enhance their job competencies. The mentoring program for new employees is a six-month initiative that pairs mentors with mentees in a one-on-one setting. Throughout the program, participants engage in a variety of monthly activities, including team-building projects, networking with senior employees, and sharing insights and experiences related to career development. The program for experienced hires lasts three months and is designed to enhance their comprehension of the company, team operations, and job responsibilities. It also includes activities that cultivate connections and encourage the exchange of hobbies and corporate culture. Upon completion, participant satisfaction surveys are conducted to gather feedback and suggestions for future program improvements. Pan Ocean effectively supported the seamless integration of 20 new employees, comprising 14 new graduates and 6 experienced hires, through these initiatives. This approach significantly enhanced their engagement and job commitment throughout 2024 and 2025.

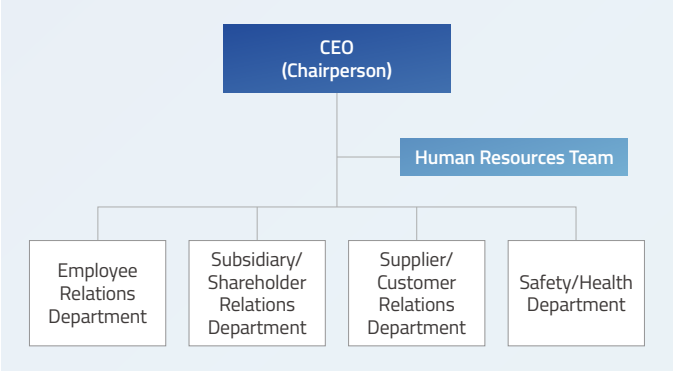
Mentoring Workshop in November 2024

Human Rights Management

Pan Ocean is dedicated to protecting and respecting the human rights of all stakeholders, including its employees. The company regularly identifies and manages human rights risks in accordance with the Human Rights Charter to protect labor rights and uphold the dignity of its workers. Furthermore, Pan Ocean has established an anonymous reporting system along with various other communication channels to prevent human rights violations and promote an ethical and healthy work environment.

Operational Structure

Human Rights Management Committee



The Human Rights Management Committee of Pan Ocean evaluates and deliberates multiple issues, including the company's Human Rights Charter and associated regulations, the execution and outcomes of human rights risk assessments, and the investigation and mitigation of incidents involving human rights violations. The CEO chairs the Human Rights Management Committee, supervising the assessment of identified human rights risks and the mitigation strategies proposed by relevant departments. Human rights issues are incorporated into the company's comprehensive risk management strategy to ensure a systematic approach.

The Human Resources Team serves as a specialized unit for human rights administration, striving to advance organization-wide human rights goals. This includes the formulation of assessment methodologies and evaluation indicators, monitoring of outcomes, the identification of improvement areas, and reporting of results. Furthermore, they are committed to integrating human rights practices throughout the organization by actively promoting awareness through comprehensive human rights training programs and regular reporting on the outcomes of human rights management.

Human Rights Charter

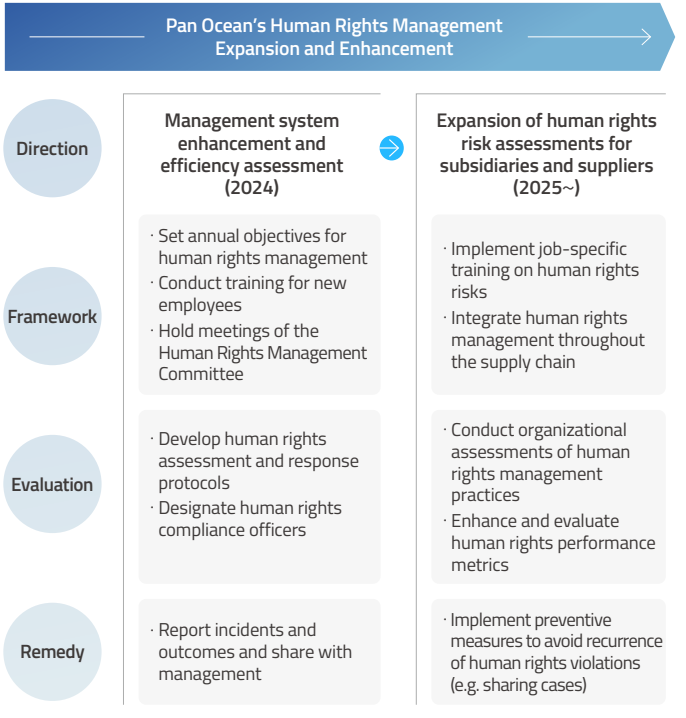
View Pan Ocean Human Rights Charter

Pan Ocean has established and implemented its Human Rights Charter in accordance with the Universal Declaration of Human Rights and the United Nations Guiding Principles on Business and Human Rights (UNGP). The company conducts thorough documentation and on-site assessments to identify and mitigate human rights risks in accordance with these guidelines. Furthermore, Pan Ocean guarantees transparency by publicizing Human Rights Charter and associated information through official channels, including its corporate website. This approach allows both internal and external stakeholders to access human rights-related information at any time.

Fundamental Principles of Human Rights Management

Prohibition of Discrimination	Guarantee of Freedom of Association and Collective Bargaining
Compliance with Working Hours and Labor Laws	Assurance of a Safe Working Environment
Prohibition of Forced Labor	Protection of Environmental Rights
Prohibition of Child Labor and Protection Measures for Minors	Protection of Rights of Local Residents
Humanitarian Treatment	Protection of Stakeholder Rights

Roadmap for Advancing Human Rights Management



Pan Ocean launched its human rights management framework in 2023 and has since maintained and enhanced the system. Starting in 2024, written assessments for human rights risks were implemented for employees to identify potentially vulnerable groups. In the first half of 2025, the scope of these assessments expanded. Pan Ocean plans to further extend these evaluations to include supply chain suppliers, with the goal of raising human rights awareness and promoting responsible practices throughout the entire value chain.

Human Rights Management

Risk Management

Human Rights Risk Assessment

Pan Ocean conducts annual human rights risk assessments in accordance with Article 12 of the Pan Ocean Human Rights Charter. The company implements written assessments after defining the assessment scope and designing or updating the relevant indicators. The Human Resources Team identifies risks based on the results and implements necessary mitigation measures. In 2024, Pan Ocean formed a tailored internal checklist consisting of 39 items, referencing the checklist provided by the UN Guiding Principles on Business and Human Rights (UNGPs) and the Guidelines and Checklist for Human Rights Management issued by the National Human Rights Commission of Korea. In the first half of 2025, the checklist underwent a comprehensive revision to include additional items related to employee human rights protection, expanding the total to 63 items.

Human Rights Risk Assessment Process

Define Scope	▪ Domestic and international business sites ▪ Suppliers
Design and Improve Indicators	▪ Reflection of global guidelines and guidance
Conduct Written Assessments	▪ Internal assessment of human rights risks
Analyze Results and Implement Mitigation Measures	▪ Site-specific analysis of unmet items ▪ Implementation of risk mitigation measures ▪ Monitoring of implementation status

In February 2025, Pan Ocean performed a documented human rights risk assessment for employees utilizing its checklist. The company recognized the necessity to oversee human rights compliance across its subsidiaries and suppliers through this initiative. Based on these findings, Pan Ocean set specific goals for the implementation of a human rights management framework across the subsidiaries for 2025. Additionally, Pan Ocean plans to expand its risk management efforts to include subsidiaries and actively support the establishment and oversight of their human rights management systems.

Operation of Human Rights Reporting Channels

View Helpline

Pan Ocean has implemented a grievance handling system to address employee issues and offer feedback. Employees can report human rights violations, including discrimination or harassment, through its internal portal. Offshore employees with limited access to digital devices may utilize an on-board grievance handling system to submit their complaints. Additionally, external stakeholders, such as customers and suppliers, can report human rights abuses using Pan Ocean's anonymous reporting system (Helpline), which is accessible on the company's official website. All reports received through these various channels are examined to verify the facts. The Human Rights Management Committee convenes when needed to discuss response measures and remedies. In compliance with the Pan Ocean Human Rights Charter, the company strictly safeguards the anonymity of reporters, victims, remedial processes, and investigative results, guaranteeing that no adverse consequences are imposed on individuals who raise concerns.

Written Assessment Results for the First Half of 2025

Area	Assessment Result
Establishment of a Human Rights Management System	No Issues
Prohibition of Discrimination and Humanitarian Treatment	
Prohibition of Forced Labor and Child Labor	
Guarantee of Freedom of Association and Collective Bargaining	
Assurance of a Safe Working Environment	
Protection of Rights of Local Residents	
Protection of Stakeholder Rights	Strengthening Human Rights Management Systems and Monitoring in Subsidiaries
Protection of Employee Human Rights	No Issues

Potential Vulnerable Groups

Area	Employee	Woman	Subsidiary/ Supplier	Local Community
Prohibition of Discrimination and Humanitarian Treatment	Low Risk	Low Risk	Low Risk	Low Risk
Prohibition of Forced Labor and Child Labor	Low Risk	Low Risk	Low Risk	Low Risk
Assurance of a Safe Working Environment	Low Risk	Low Risk	Low Risk	Low Risk
Protection of Rights of Local Residents	Low Risk	Low Risk	Potential Risk[1]	Low Risk

1 Among our internal and external stakeholders, we identified suppliers, suppliers, and subsidiaries as subjects that require improvement of rights protection.

Human Rights Management

Maritime Human Rights Management

Offshore Employee Human Rights Management

Pan Ocean and POS SM are firmly committed to upholding human rights, taking the Maritime Labour Convention (MLC) as the foundation of their human rights practices. They foster a fair, inclusive, and equitable working environment, while strictly prohibiting discrimination based on race, gender, or nationality. In addition, the physical and mental well-being of employees is closely monitored in strict accordance with international maritime standards. In order to prevent human rights violations including forced labor, the companies provide regular human rights training and operate a confidential whistleblowing system (Helpline) to ensure that all reports and grievances are handled responsibly and without fear of retaliation.

Furthermore, to support the continued employment and well-being of offshore employees, various economic assistance programs are promoted, such as expanding family insurance coverage. In addition, they provide access to professional mental health services by collaborating with medical experts and counseling professionals including Seafarers' Mental Health Center[1] to offer specialized psychological support for offshore employees experiencing work-related stress or grievances.

Life Quality Enhancement for Offshore Employees

View Programs for Enhancing Health and Well-being at Sea

Pan Ocean and POS SM are committed to enhancing the overall quality of life for offshore employees by continuously advancing onboard medical care, welfare services, and communication channels. In particular, since 2024, all offshore employees have been required to undergo annual health screenings, with Korean offshore employees receiving additional heart CT scans to facilitate the early detection and prevention of cardiovascular diseases.

To further improve onboard healthcare accessibility, vessels are equipped with medical centers that support telemedicine services, and fitness facilities have been installed to encourage regular physical activity and leisure, supporting offshore employees in managing stress effectively. Additionally, to address the psychological strain and sense of isolation that can result from prolonged periods at sea, a group-based Resilience Program has been introduced to foster mental well-being and provide stress relief through collaborative activities.

Establishment of Corporate Culture Improvement Team

In 2024, POS SM launched the Corporate Culture Improvement Team to strengthen grievance handling and advance human rights protection for offshore employees. This team is responsible for conducting impartial and timely investigations into reported human rights violations through the whistleblowing system, ensuring that victims receive appropriate remedies. The team also leads monthly awareness campaigns onboard to prevent potential interpersonal conflicts including discrimination and harassment, fostering a respectful and inclusive work environment.

Beginning in April 2024, the team has intensified its communication efforts by selecting actionable and practical themes such as “Promoting a healthy drinking culture onboard,” “Mutual Respect Campaign,” and “Communication Enhancement Campaign,” accompanied by the production and distribution of informational posters.

Time	Topic	Contents
April	Promoting a Healthy Drinking Culture Onboard	▪ Guidelines for the management of onboard alcohol consumption, bonded alcohol, and alcohol for culinary and provisions use
May	Cultivating Mutual Respect Campaign	▪ Expression of compliments and consideration
June		▪ Practice active listening and show respect for others' opinions
July		▪ Initiate greetings with a smile
August		▪ Use appropriate titles and honorific language
September		▪ Avoid abusive or sexist language and behaviors
October	Enhancing the Culture of Open Communication (Healthy Communication Practices)	▪ Provide clear work instructions ▪ Practice mutual courtesy ▪ Avoid making hasty judgments or assumptions
November		▪ Avoid engaging personal emotions in communication ▪ Deliver criticism in a respectful manner ▪ Refrain from creating or spreading Rumors
December		▪ Avoid asking for opinions with predetermined answers ▪ Communicate clearly and concisely ▪ Share mistakes and learn from them ▪ Use appropriate titles

1 A counseling center specialized in supporting the mental health of seafarers, which was established by the Ministry of Oceans and Fisheries and the Korea Seafarers' Welfare and Employment Center

Corporate Culture

Pan Ocean is committed to cultivating a collaborative corporate culture by encouraging open communication and mutual trust between labor and management. This approach aims to establish a healthy and constructive labor-management relationship. The company also prioritizes work-life balance and actively supports its employees through various systems and programs designed to enhance both work engagement and overall quality of life.

Strong Labor-Management Partnership

Labor-Management Council

Pan Ocean fosters a mutually beneficial and collaborative labor-management relationship grounded in trust and cooperation, working toward shared goals. Since declaring labor-management harmony in 2013, the company has successfully maintained a record of no labor disputes while continuing its efforts to advance mutual development. In accordance with Article 12 of the Act on Promotion of Workers' Participation and Chapter 12 of the Pan Ocean Collective Agreement, quarterly Labor-Management Council meetings are convened to discuss wage negotiations and measures to enhance employee welfare. In 2024, the company held four Labor-Management Council meetings for both onshore and offshore employees.

Work-Life Balance

Pan Ocean is dedicated to fostering a supportive work environment that allows employees to concentrate on their roles while enjoying a fulfilling and balanced life. In particular, in order to support employees during key life stages such as childbirth, childcare, and family caregiving, the company offers flexible leave options and reduced working hours. This enables employees to effectively balance their professional and personal lives. A comprehensive array of programs is implemented to promote financial stability and health, including housing support, educational assistance for children, and wellness programs. Additionally, Pan Ocean encourages employees' personal growth and well-being through various initiatives, such as language education, cultural activities, and employee clubs.

Benefits and Welfare Programs

Customized Working System	Selective Working Hours	▪ In cases where it is difficult to predict periods of high workload, and an increase in work hours is expected at certain times (such as time zone differences in sales or long-term projects), implement core and flexible work hours
	Flexible Working Hours	▪ In cases where it is possible to predict periods of high workload (such as month-end close tasks or short-term projects), set daily work hours in advance to accommodate the increase or decrease in workload
	Flex Time Work	▪ Employees can adjust their start and end times to avoid peak commuting hours or accommodate special job-related tasks
Living Stability Support	Child Tuition Support	▪ Support for the tuition and educational expenses of children (kindergarten to university)
	Housing Support	▪ Loans for stable living and enhanced welfare
	Communication Fee Support	▪ Monthly support for personal cell phone expenses
	Meal Support	▪ Lunch and dinner expenses supported at various restaurants near the office (over 100 options)
Personal Development and Leisure Activities	Recreational Facilities	▪ Access to resort memberships and hotel discounts for employee vacations
	Language Learning	▪ Tuition fee support when registering classes at private language institutions for personal and professional growth
Maritime Industry Benefits	Family Boarding	▪ Safe travel arrangements for family visits during long voyages
	Family Visits	▪ Visits by family members to the ship during port calls will be allowed only upon application for boarding permission
	Recreation Allowances	▪ Support vessel with individual and group recreational activities while onboard, such as purchasing books, music, and exercise equipment
Other Welfare Benefits	Group Accident Insurance Coverage	▪ Medical Expenses Coverage for Injuries and Illnesses
	Advance Use of Annual Leave	▪ Advance use of the following year's annual leave is permitted between November and December, up to a maximum of three days.
	Employee Benefits Card	▪ Each year, a designated amount (KRW 1 million to 2.5 million) is credited to the Employee Benefits Card for all employees
	Health Checkup	▪ Comprehensive health checkups are provided which include not only the standard examination items but also additional tests ▪ Health screening programs are extended to cover employees' family members, promoting holistic well-being for employees and their households.
	Birthday Allowance	▪ A gift voucher worth 50,000 KRW is provided on the employee's birthday
	Support for Family Events	▪ Congratulatory and condolence payments, special leave, and support for gifts and floral arrangements are provided to all employees and their spouses

Corporate Culture

Work-Life Balance Support Programs

Maternity Support Programs	Reduced Working Hours for Pregnant Employees	▪ Female employees can reduce their working hours by 2 hours per day during the early stages of pregnancy, up to 12 weeks, and in the later stages, from the 32nd week onward, upon request.
	Pre- and Post-Maternity Leave	▪ Employees are entitled to 90 days of maternity leave covering both prenatal and postnatal periods. In the event of a premature birth, 100 days of leave are granted, while 120 days are provided for multiple pregnancies. ▪ The company ensures a minimum of 60 days of paid maternity leave, which is extended to 75 days for employees expecting multiple children.
	Miscarriage and Stillbirth Leave	▪ Leave in accordance with Labor Standards Act
	Paternity Leave	▪ Up to 20 days of paid paternity leave available within 120 days of childbirth, with flexible use allowed.
	Infertility Treatment Leave	▪ Up to six days of infertility treatment leave are granted per year, with the first two days recognized as paid leave.
Childcare Support Programs	Parental Leave	▪ Eligibility: Employees requiring maternity protection or with children under age 8 or in 2nd grade or below. ▪ Leave period: Basic 1 year. (Parents can extend the leave by an additional 6 months if both use at least 3 months of parental leave for the same child, or in the case of single parents or parents of children with severe disabilities.) ▪ Employees are allowed to take childcare leave in up to three separate periods. However, any leave taken for maternity protection purposes is exempt from this limitation. ▪ If employees have fully used their childcare leave and wish to take additional time off for child-rearing purposes, they may be granted up to one additional year of leave (this is permitted only once).
	Reduced Working Hours for Childcare	▪ Eligible employees: Those raising children under the age of 12 or up to the sixth grade of elementary school. ▪ Reduction period: Up to one year by default, with an extension of up to twice the unused childcare leave period allowed. ▪ Working hours: Adjustable to between 15 and 35 hours per week.
	Women's Facilities	▪ Exclusive space for women provided in Employee Lounge
Employee Health Support Programs	Workplace Stress Management	▪ Weekly health promotion program (Homefit) provided ▪ Coffee machines, massage beds, and massage chairs are available for employees in the Employee Lounge
	Support for Sports and Health Activities	▪ Sports and Wellness Engagement Programs ▪ Operation of in-house clubs, including cycling/running, cultural activities, soccer, tennis, table tennis, skiing/snowboarding, baseball, and more ▪ Support for the use of partnered fitness facilities
Family Care Support Programs	Family Care Absence (Long-term)	▪ Up to 90 days of unpaid family care leave per year
	Family Care Leave Days (Short-term)	▪ Up to 10 days of family care leave per year

Community

Social Contribution

Pan Ocean is committed to creating social value and promoting community well-being under its mission of "Creating Life Values and Sharing Happiness." Key initiatives include environmental protection through the Eco Clean Volunteer Group, honoring national patriots through partnerships with the Seoul National Cemetery, and supporting underprivileged groups with food donations and meal programs for senior citizens. The company also invests in the development of future talent by providing scholarships through industry-academic partnerships. Pan Ocean will continue its efforts to fulfill its environmental and social responsibilities and create positive impacts by promoting mutual growth with local communities.

Pan Ocean's Social Contribution

Vision and Mission

Vision

Global Leading Shipping & Logistics Company

Mission

Value Creation of the Life & Sharing Happiness

Implementation

Fulfilling its corporate social responsibility / Contributing to the community

Volunteer Work | **Donation**

Performance and Targets

Program	Contents	2024 Target	2024 Performance	2025 Target	2026 Target
Eco-Clean Volunteer Corps	Frequency of Volunteer Group Activities	24 times	24 times	24 times	24 times
	Frequency of Employee Engagement	3 times	4 times	3 times	3 times
Seoul National Cemetery	Frequency of Floral Tribute and Environmental Maintenance	2 times	1 time	1 time	1 time
Senior Welfare Center	Frequency of Meal Service Support Activities	2 times	2 times	2 times	2 times
	Frequency of Special Meal and Food Ingredient Donations	2 times (KRW 14 million)	2 times (KRW 14 million)	2 times (KRW 15 million)	2 times (KRW 15 million or more)
Selection of Scholarship Recipients through Industry-Academia Collaboration	Number of Scholarship Recipients Selected from Korea Maritime & Ocean University and Mokpo National Maritime University	20 people (KRW 80 million)	17 people (KRW 68 million)	20 people (KRW 80 million)	20 people (KRW 80 million)
Maritime Organization	Donation to the "Embrace of the Sea" Seafarers' Welfare Fund Foundation	-	KRW 1,389 million	Under Review	Under Review
	Korea University Maritime Law Research Center	-	KRW 1 million	Under Review	Under Review
Social Contribution	Annual Volunteer Hours per Onshore Employee	2 hours	1 hour	2 hours or more	2 hours or more
	Annual Mileage-Based Public Donations	KRW 10 million	-	KRW 10 million	KRW 10 million or more
ESG Practices	Support for Environmental Organizations or Disaster Recovery Efforts	-	-	KRW 50 million or more	KRW 50 million or more

Social Contribution Mileage Program

In order to encourage and support employees' voluntary participation in social contribution activities, Pan Ocean has established the Social Contribution Mileage Program. Under this program, individuals earn mileage points each time they participate in social contribution activities. Based on the accumulated mileage, employees receive various incentives, such as cash rewards or in-kind benefits. Eligible activities for mileage accumulation include blood donation certificates, monetary donations, environmental clean-up initiatives, and talent donations, among others, encompassing all types of social contribution efforts.

Social Contribution

Industry-Academia Scholarship Awards

As part of its commitment to fostering outstanding maritime professionals and securing a sustainable talent pool, Pan Ocean operates a scholarship program in collaboration with National Korea Maritime & Ocean University and Mokpo National Maritime University. Since 2005, Pan Ocean has awarded scholarships and certificates to selected senior-year students every year.

In 2024, a total of 17 students were selected for this scholarship program. On May 16, three students from Mokpo National Maritime University were awarded scholarships, followed by 14 students from National Korea Maritime & Ocean University on May 21. Each recipient received a scholarship of KRW 4 million, along with a scholarship certificate.

Eco-Clean Volunteer Corps Activities

On August 9, 2024, the Eco-Clean Volunteer Corps carried out facility maintenance activities to preserve cultural heritage at Yeonguisa Shrine, located within the Seonwonjeon Jaesil area of the West Complex of Changdeokgung Palace in Jongno-gu, Seoul. The West Complex of Changdeokgung Palace, which suffered damage during the Japanese occupation and was subsequently transformed into roads and lawns, underwent a complete restoration in 2004 and is recognized for its significant historical value.

Approximately 30 volunteers, including employees from Pan Ocean and volunteers from KD Tech Co., participated in this initiative to clean and improve the environment surrounding the cultural site. Following the volunteer activities, participants joined the “Herbal Medicine Shelter” experience program, which is designed to prevent summer accidents and promote the appreciation of cultural heritage. This allowed them to relax after their volunteer work while enjoying a hands-on cultural heritage experience.

Giving Back on Senior Citizens Day

As part of its commitment to social responsibility and community engagement, Pan Ocean regularly conducts meal service and dishwashing volunteer activities at the Seoul Senior Welfare Center. On October 11, 2024, around 30 Pan Ocean employees participated in a volunteer event at the Seoul Senior Welfare Center in Jongno-gu, donating 1,000 servings of ox bone soup in celebration of Senior Citizens’ Day and serving the meals to the elderly. Since establishing ties with the Seoul Senior Welfare Center in 2011, Pan Ocean has continued its donations and volunteer activities, fostering sustainable coexistence with the local community.

2024 Pan Ocean Industry-Academia Scholarship Certificate Award Ceremony

2024 Changdeokgung Environmental Maintenance by the Eco-Clean Volunteer Corps

2024 Volunteer Meal Service in Celebration of Senior Citizens’ Day

Governance

73 Information Security | 75 Integrated Risk Management

Information Security

With developments in information technology, vessel operations and management have rapidly adopted cutting-edge digital solutions. Real-time weather data from maritime internet services allows safer navigation paths. Integration of automated vessel management systems, autonomous navigation technology, and advanced security solutions has improved cargo management efficiency and accident prevention. Nevertheless, the prevalence of cybersecurity threats, including internal data breaches and external cyberattacks, has risen in tandem with the expansion of IT use. In response, Pan Ocean and POS SM created a comprehensive information security management system focused on "Vessel and Navigation Information Security" and "Personal Data Protection." This systematic framework protects important information assets and promotes secure and responsible operations.

Information Security Management System

Pan Ocean and POS SM operate the Information Security Management System to protect information assets, including customers' cargo transport data, companies' core technologies data, and human resources data. The Information Systems Team, led by the Chief Information Security Officer (CISO), and the IT Infrastructure Team take the lead in managing this system. The final approval and responsibility for the information security management principles, policies, and business plans of Pan Ocean and POS SM rest with the CEO. The head of the Information Systems Team also serves as both the CISO and the Chief Privacy Officer (CPO). Pan Ocean IT Infrastructure Team and POS SM Information Systems Team are responsible for the practical operations of information protection. These teams support secure information management for both information systems and vessels.

CEO: Approval of information security-related principles, policies, and major business plans

Information Systems Team (CISO): Responsible for practical information security operations
CISO Chief Information Security Officer & CPO Chief Privacy Officer

IT Infrastructure Team and Information Systems Team: Support for the implementation and management of information security

Vessel and Navigation Information Security

Onboard Security	▪ Installation of vessel information security firewalls ▪ Establishment and operation of an emergency information security response system in case of disasters or accidents ▪ Development of vessel information security implementation plans and execution of training for offshore employees ▪ Designation of information security officers and personnel for each vessel
Risk Assessment	▪ Evaluation of response to external hacking attempts ▪ Evaluation of response to internal information leakage ▪ Implementation of vessel and navigation information security drills and identification of improvement tasks
Incident Response	▪ Establishment of information security incident response scenarios and emergency contact systems ▪ Conducting training for rapid recovery and business continuity in the event of information security incidents

Personal Data Protection

Policy	▪ Establishment and implementation of the "Personal Information Processing Policy" in accordance with the Personal Information Protection Act and the Act on Promotion of Information and Communications Network Utilization and Information Protection, etc. ▪ Review of amendments to relevant laws and reflection of changes in policies and systems
Protection Activities	▪ Establishment and implementation of personal information protection activity plans ▪ Implementation of personal information protection training for all employees (legally mandated training) ▪ Implementation of personal information security drills and identification of improvement tasks
Remediation	▪ Operation of reporting channels for personal information management complaints and incidents ▪ Remediation for damages in the event of personal data hacking or leakage incidents ▪ Enrollment in personal data liability insurance

Technical Security

Pan Ocean and POS SM implement various technical security measures designed to fundamentally block external cyber threats, including hacking, malware, and ransomware attacks, while also preventing information leakage and data corruption. These measures include the establishment of system and web firewalls, database access controls, regular security patch updates for servers and workstations, and document encryption.

Administrative Security

Pan Ocean and POS SM have established security policies and regulations to prevent internal information leakage and data corruption resulting from employee negligence. They also provide information security training to all employees. In addition, employees participate annually in user cybersecurity simulation training programs organized by the Korea Internet & Security Agency (KISA) to strengthen their practical information security capabilities.

Disclosure of Information Security Status and Compliance with Relevant Laws and Regulations

Pan Ocean discloses its information security status through the Comprehensive Information Protection Disclosure Portal. In 2024, the company invested KRW 370 million in information security initiatives, including the upgrade of its network access control solutions. In accordance with relevant laws and regulations, the company is also enrolled in personal data liability insurance. Furthermore, Pan Ocean continuously reviews and applies applicable laws and regulations related to information security to ensure compliance and responsible management in this area.

Investment Amount in Information Security in 2024

KRW **370** million

Ratio of Information Security Investment to Total IT Investment in 2024

4.6%

Information Security

Information Security Management Activities

Information Security Policy

Pan Ocean and POS SM have established and implemented the Information Security Policy in accordance with applicable laws. They provide clear information to data subjects regarding the purposes and methods of personal data usage, as well as the measures taken to safeguard personal data. Any updates to the Information Security Policy are also announced through the company website and via email notifications.

Remedies for Personal Data Infringement

Pan Ocean and POS SM have appointed an Information Security Officer and established relevant departments to address complaints and provide remedies related to personal data processing. This information is available on the company website. In the event of a personal data breach, the companies promptly address the issue in accordance with their internal response procedures. If necessary, they cooperate with relevant government agencies, such as the Personal Data Infringement Report Center, the Cyber Bureau of the National Police Agency, and the Personal Information Dispute Mediation Committee, to provide remedies and take appropriate actions.

Status of Personal Data Breaches and Damages

Pan Ocean and POS SM have not experienced any personal data breaches over the past three years. The companies will continue to strengthen their information security systems to prevent any potential incidents or damages in the future.

External Risk Assessment

Pan Ocean and POS SM participate in cybersecurity simulation training organized twice a year by the Korea Internet & Security Agency (KISA), a government agency. Employees who fail to attend the training or do not comply with internal cybersecurity regulations are required to undergo additional training. In addition, the companies conduct an annual disaster recovery test to ensure the stability of their systems and data.

Information Security System Inspection

Pan Ocean and POS SM regularly assess the safety and vulnerabilities of their information security systems, establishing annual action plans to address and mitigate risks. They also utilize security monitoring solutions to conduct continuous security checks and systematically manage records of security activities through monthly status reports. In addition, the companies conduct annual reviews of personal data validity to ensure legal compliance and operate periodic access rights reviews and management processes to enhance operational transparency and continuously strengthen information protection standards.

Information Security Training

Pan Ocean and POS SM provide mandatory personal information protection training to all employees. They also offer specialized training for IT and security personnel, along with information security training for new employees.

Training Title	Target	Frequency
Personal Information Protection Training (Mandatory)	All employees	Once a year
Job-Specific Advanced Cybersecurity Training	IT and Information Security Personnel	Once a year
Information Security Training	New employees	Upon hiring (Once)

Information Security Incident Response

Pan Ocean and POS SM operate an emergency response system in which security incidents are immediately reported to the Chief Information Security Officer (CISO) and the Chief Privacy Officer (CPO). The IT Infrastructure Team and the Information Systems Team lead prompt responses to incidents such as external hacking, data breaches, or system failures. In these situations, backup systems are activated immediately, and regular response drills are conducted to ensure that issue resolution and system recovery can be completed as quickly as possible.

Vessel Information Security

With the increasing use of advanced IT technologies in vessel operations and the growing commercialization of maritime internet services, the importance of information security on board vessels continues to escalate. In particular, external hacking or instability in IT control systems can severely disrupt safe vessel navigation and cargo transportation. In order to address these risks, Pan Ocean has installed information security firewalls on all vessels and developed operational manuals that outline the use of onboard IT devices, internet access, and cybersecurity. Additionally, all offshore employees receive information security training to prevent incidents caused by human error. In the event of a maritime emergency, onboard data backup systems are immediately activated to prevent data loss or leakage.

Integrated Risk Management

Pan Ocean systematically analyzes financial and non-financial risks to anticipate rapidly changing market conditions and minimize negative impacts. The company's Risk Management Committee identifies key risks and establishes and oversees response measures. Risk management is categorized into areas such as counterparty risk, financial risk, legal risk, and information security risk, with regular inspections conducted for each area. In addition, for major risks that exceed a certain threshold of impact, separate advanced response processes are developed and operated.

Governance

Risk Management Committee

The Risk Management Committee is composed of a chairperson (Chief Risk Officer, CRO), committee members representing each department, and a secretary. Depending on the agenda, division heads, department directors, or team leaders may also participate in the discussions.

The Risk Management Committee holds regular quarterly meetings and convenes additional sessions as necessary to proactively identify a wide range of potential risks that the company may encounter and to develop effective countermeasures. The outcomes of the committee's risk management activities are reported to the Board of Directors on a semi-annual basis. In addition to company-wide risk management, Pan Ocean operates a detailed and specialized risk management system at the organizational level. Through regular risk review meetings, risks are continuously identified and assessed by each unit. If any significant risk is detected, it is immediately discussed by the Risk Management Committee for prompt response.

Audit Committee

The Audit Committee independently monitors the effectiveness of risk management activities to enhance their practical impact. It is also responsible for regularly reviewing whether the company's risk management and compliance processes are aligned with its overall business strategy and are operating effectively.

2024 Board Reporting on Integrated Risk Management

- To report on the activities of the Risk Management Committee in the first half of 2024 (June 2024)
- To report on the activities of the Risk Management Committee in the second half of 2024 (December 2024)

Integrated Risk Management

Types of Risk Management and Activities

Types of Risks

Types	Management Activities
Market Risk	▪ Fleet position status review and management ▪ Monitoring and response to oil price volatility ▪ Management of freight forward agreements (FFA) and fuel hedging transaction policies
Counterparty Risk	▪ Managing counterparty risks through a structured, data- and system-based approach ▪ Enhancing counterparty rating management and information sharing
Financial Risk	▪ Review of the operational status and key issues of the internal accounting management system ▪ Monitoring and response to the status of outstanding receivables
Maritime and Environmental Risk	▪ Monitoring and responding to environmental regulatory trends
Legal Risk	▪ Monitoring legal trends and managing key contractual issues and related responses
Information Security Risk	▪ Monitoring trends in information security risks and assessing Internal security systems
Others	▪ Response to weather-related risks (Typhoons, Hurricanes, Monsoons, etc.) ▪ Monitoring and responding to changes in disclosure regulations

Counterparty Risk Management

Pan Ocean operates a credit rating system to manage risks associated with transactions involving counterparties. Under this system, new counterparties, as well as those resuming transactions after a suspension of more than one year, are assigned credit ratings based on internal standards that encompass six levels. These credit ratings are regularly reviewed and reassessed as necessary, particularly prior to contract execution, to ensure a comprehensive evaluation of each counterparty's creditworthiness. Transaction limits are set according to the assigned credit ratings, enabling Pan Ocean to proactively manage counterparty risks.

In addition, Pan Ocean conducts semi-annual credit evaluations for counterparties with transaction records within the past year to regularly review and adjust their credit ratings. Following the initial assessment, further reviews are performed at both the team and division levels before finalizing the credit rating. Through this structured credit evaluation process, Pan Ocean aims to minimize potential risks associated with transactions involving counterparties.

Financial Risk Management

Pan Ocean is exposed to foreign exchange risks due to its reliance on the U.S. dollar (USD) as the primary currency for freight payments and cost settlements in both its shipping and grain distribution businesses. However, since most of the company's income and expenses from operating activities are denominated in USD, it naturally maintains a "natural hedge" structure, which significantly mitigates the risks associated with foreign exchange fluctuations.

In addition, Pan Ocean strictly applies a policy of matching the currencies of inflows and outflows for trade transactions such as exports and imports, as well as for financial transactions such as deposits and borrowings. This approach aims to minimize additional risks associated with foreign exchange fluctuations. The company's senior management also utilizes sensitivity analysis during the decision-making process to preemptively assess the potential impact of foreign exchange rate changes on net assets, thereby establishing its proactive foreign exchange risk management framework.

Pan Ocean's borrowings are largely based on floating interest rates, which exposes the company to the risks associated with interest rate fluctuations. To mitigate these risks, the company actively manages its debt portfolio by minimizing external borrowings, maintaining an appropriate balance between fixed and floating rate debt, and closely monitoring both domestic and international interest rate trends. In addition, Pan Ocean proactively assesses the potential impact of benchmark interest rate fluctuations on its earnings before tax (EBT) and analyzes the sensitivity of its floating rate borrowings to changes in benchmark interest rates in order to proactively establish responsive measures.

Through its structural natural hedge and systematic risk management processes, Pan Ocean effectively minimizes financial uncertainties arising from exchange rate and interest rate fluctuations. These efforts enable the company to maintain stable and sustainable operations

Integrated Risk Management

Tax Risk Management

Pan Ocean recognizes tax risk management as an essential component of sustainable management and fulfills its corporate responsibility by complying with tax obligations in good faith. The company considers tax compliance as a critical factor in protecting customer interests, maximizing shareholder value, and contributing to national fiscal stability.

Pan Ocean conducts comprehensive reviews of tax risk assessments performed by its internal tax team and external experts for major business decisions. These decisions encompass transactions involving goods and services, mergers and acquisitions (M&A), corporate restructuring, cross-border transactions, and new business initiatives. Furthermore, the company adheres to the principles of fair taxation established by tax authorities and strictly complies with the tax laws and regulations of all countries in which it operates.

Legal Risk Management

As the importance of sustainable management continues to grow, regulations related to environmental protection, safety, labor rights, and human rights are becoming increasingly stringent both domestically and internationally. Shipping companies face significant legal risks such as fines, lawsuits, and reputational damage, if they fail to comply with these legal requirements. Accordingly, proactive and systematic legal risk management is essential to ensure compliance with increasingly stringent sustainability-related regulations. Pan Ocean continuously monitors domestic and international regulatory trends and manages key contractual issues to enhance its long-term corporate reputation and credibility while minimizing losses from legal disputes and regulatory risks.

Information Security Risk Management

View Information Security Management

With the rapid advancement of IT technologies, cybercrimes such as hacking and phishing are increasing at a fast pace. These offenses can lead to not only minor security breaches but also severe consequences, including disruptions to business operations, reputational harm, and substantial losses of critical information assets.

Pan Ocean's vessels and navigation equipment are vulnerable to external cyberattacks. In the event of such an attack, the navigation systems may become paralyzed, putting vessels and offshore employees at risk and causing serious disruptions in cargo transportation. In particular, as IT-based navigation systems are increasingly applied to newly built vessels, the potential scale of damage is expected to grow even larger. Therefore, proactive measures are essential.

Pan Ocean systematically operates its information security organization under the leadership of the head of the Information Systems Department and collaborates with POS SM to strengthen the security of internal systems and vessels. In addition to technical measures such as firewall implementation, the company also undertakes administrative actions, including the monitoring of security policies. In addition, Pan Ocean continuously provides information security training for all employees, as well as job-specific security education programs.

Appendices

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Maritime Policies

POS SM, a dedicated subsidiary of Pan Ocean responsible for the management of vessels and offshore employees, possesses a separate set of relevant policies.

POS SM | The Environment Policy

1. The Company gives top priority of policy to doing her best to conserve and protect the environment from pollutions of sea, air and other types as well as from various wastes and garbage.
2. The Company eliminates the possibility of pollution from its source by strictly adhering to all laws, regulations and conventions under the firm resolution of safety against environmental pollution.
3. The goal of prevention of Marine pollution is ultimately 'Zero-Spill'. The Company establish the concrete and realistic plan for achieving the goal and regularly monitor whether the goal is to improve.
4. The goal of prevention of Air pollution is 'Reduction in permitted emissions'. The Company establish the concrete and realistic plan for achieving the goal and regularly monitor whether the goal is to improve.
5. Proactively implement the environmental activities and ensure continuous improvement the performance including those areas required by the MARPOL.
6. Recognize the importance of eliminating the possibility of sea & air pollution from its source,
   The Company commit that various types of equipment, parts, machinery can cause contamination to maintain, repair and supply systematically. Also given commitment to support the human and material resources to provide enough to have promise. In order to achieve it, The Company operates the Leakage control system, Waste tracking system, Centralized budget system and Ship`s performance monitoring system etc.
7. All staffs of Company assure to do every uninterrupted improvement efforts for achieving the goal of minimizing the waste and garbage generation by efficiently using all necessary tools and means.
8. Actively participates in meetings and events held by relevant authorities, class and external bodies in order to make Company updated with latest environmental issues and to develop measures for minimizing environmental hazards.
9. The Company observes following respects
   ① Develops environment sense among its crews through education and training.
   ② Operation of shore-based and vessel is performed taking into consideration of efficient use of energy and resources.
   ③ Disposes wastes and garbage in responsible manner.
   ④ Complies with the rule and principle of re-using and re-cycling, as far as possible.
   ⑤ Requests all Cooperative Company under direct supervision of The Company to comply with Company's environment policy.
   ⑥ Conducts regular inspection and audits, rectification of non-conformity and the results are notified to all personnel of organization.
   ⑦ Lists relevant information on a web page and publishes environment report on a regular basis available to the public and interested parties.

POS SM | The Safety Quality Policy

1. The Company is totally committed to achieving the highest management standards with particular emphasis placed upon marine safety, safe working practices and the protection of the marine & air environment, and promotes a Zero-Incident/Zero-Spill Culture to become a Global Leading Ship Management Company as our vision.
2. Compliance with this policy, the safety and quality procedures and shipboard instructions are mandatory and binding upon all shore staff and sea personnel. Safety and Quality is the responsibility of everyone working for and on behalf of POS SM Co.Ltd., Also, senior officers and visiting shore managers set a good example to vessel crews by wearing the correct PPE and strictly complying with safety practices and procedures.
3. The Company is responsible for assessing all identified risks to its ships, personnel and the environment and establishing appropriate safeguards and also supports the strategic direction.
4. The Company Policy is to supply all its customers with services that consistently meet customer needs and requirements.
5. The Company is to measure the customer's satisfaction quantitatively for the service provided and for the image of the enterprise in order to maximize the satisfaction through continual improvement based on the results.
6. The Company observes following respects
   ① Conducts regular inspection and audits, rectification of non-conformity and the results are notified to all personnel of organization.
   ② Lists relevant information on a Homepage on a regular basis available to the public and interested parties.

POS SM | The Health & Welfare Policy

1. The Company recognizes the importance of all employees and demands the commitment of all employees to high standards in respect of personal health and hygiene. The Company provide a healthy working environment and welfare for all employees and the workplace, whether at sea or ashore, must be kept in a condition which will ensure that good standards of health are maintained at all times.
2. Company employs all shipboard personnel in accordance with the company standard employment guidelines that includes health and physical management standards based on the international agreements and domestic regulations.
3. The Company is to disseminate any relevant information concerning health on seafarers to the ship by means of circular letters. Any symptoms of illness, or cause for concern relating to health and hygiene, are to be reported to a responsible officer or manager on board.
4. The Company provide with a proper standard of living accommodation, wholesome food and suitable recreational facilities to seafarers.
5. The Company shall share the safety and health guidelines of our Company with all Cooperative Company and other interested parties and select, manage, and evaluate appropriate businesses.

Maritime Policies

POS SM | The Shipboard Life Etiquette Policy

1. The Company is responsible for making a working environment where privacy and respect among members are preserved regardless of their nationalities, sexes, age, and positions at work.
2. The Company is responsible for recognizing and easing the seriousness of impacts made by disputes among crew members caused by lack of their understanding of cultural and religious values of each other.
3. Honorific expressions among officers and crew members shall be used. However, orders should be made precise and clear and receivers of such orders should repeat important parts aloud when they receive the orders in order to maximize work efficiency and safety through concrete communication among crew members.
4. The Master is responsible to maintain healthy environment and equality of sexes on board by doing his best to prevent any type of sexual harassment.
5. Once a crew member is on board, then he or she becomes a part of a community where cooperation among its members is needed. Here are etiquettes (SHEQ-1.1 "Ch.5.5 8) ⑤") by every crew members to make such an ideal environment on board.

POS SM | Stop Work Policy

1. The purpose of this policy is to maintain a safe and secure work environment against any risk or exposure to personal harm, property damage or adverse effects to the environment.
2. The Company fully encourage and support the stop work policy if it becomes apparent that harm could occur to ourselves, our co-workers, member of the public, assets (whether our own or others, including equipment and materials), or the environment in which our work. This include vessels, cooperative company and other interested parties.
3. In the event of loss due to worker's unstable behavior, negligence, or non-action, work must be ceased immediately.
4. Work that ceased due to this policy order must not be resumed until the task is re-evaluated by master or superintendent for a safer and harmless approach.
5. There shall be no blame or fault put on any worker calling for Stop Work even if, upon investigation, the stop work order was deemed unnecessary. The stop work order must be applied in good faith.
6. All ship's crew and worker shall stop the job immediately in the middle of work in case the below condition happen.
   - ① When work activities are imposing an immediate danger to life and health (IDLH) to our personnel during adverse weather conditions or during hazardous or critical work operations.
   - ② When action by an individual or a team is in non-compliance with the set standards and procedures for performing the job tasks
   - ③ When risk arises for work to be performed as a result of not implementation the agreed work procedure and the approved Risk Assessment.

POS SM | Cyber Security Policy

1. All Employees prevent information security accidents in advance, minimizing threats or losses that could result from loss, theft, or destruction of the information system.
2. All Employees use a safe password on the IT System and change that regularly.
3. All Employees prohibit to use Business Computer and Software for personal use.
4. All Employees prohibit to open when receiving e-mails and attachments from unknown source.
5. All Employees prohibit to share copyrighted material without permission.
6. All Employees prohibit to install the illegal copying software or other programs.

POS SM | The Security Policy

1. All employees shall enhance ship security operations, prevent security incidents and respond to illegal acts against security threats by comply with SOLAS XI-2 and ISPS Code.
2. For the prevention of terrorism and illegal acts at sea, this SSP is applied when security activities are undertaken on board the ship through mutual cooperation with other parties concerned.
3. It is the duty of all company personnel to continually carry out and maintain procedures and directives related to the security of ship. In case where new potential threat to the security of ship exists, the company shall ensure that additional measures to deal with such threat can be identified and carried out.
4. The CSO has the authority to release the information pertaining to security to the master, the ship security officer and the port facility security officer. Unless approved by the master or the ship security officer, internal and external communications from the ship pertaining to security measures, threat analysis, intelligence information and planned action plans shall not be discussed with anyone on shore or any other members of the crew.

Maritime Policies

POS SM | The Drug and Alcohol Policy

1. The Company's Drug and Alcohol Policy applies to all persons on board the managed vessel, including crew members and visitors, and complies with all regulations set forth in Oil Companies International Marine Forum(OCIMF)'s 'Guidelines for the control of drugs and alcohol onboard ship' and the U.S. 'Anti-Drug Abuse Act(1986)'.
2. The final responsibility rests with the Master to control the use of alcohol onboard ship.
3. The use, possession or sale of non-prescriptive drugs by anyone is strictly prohibited. The sale and consumption of alcoholic beverages on company vessels is subject to restrictions and controls. Violation of this Drug and Alcohol Policy will result in dismissal. The master shall strictly control the introduction of drugs and alcohol on board the vessel, ensuring that no substances are brought on board without the master's permission. This includes preventing access by small craft that are not authorized by the master.
4. While onboard a vessel, the Master, Officer or rating, as described herein as an employee or servant of the Company and Pilot, visitors are;
   - ① Never to exceed 0.03% of Blood Alcohol Content (BAC).
   - ② Never to allow Officer or rating to stand any scheduled duties onboard if their BAC is more than 0.00% .
   - ③ Must be able to respond to an emergency situation at any time.
   - ④ Not permitted to consume alcohol 24 hours prior to arrival in port or during port stay or while in U.S. territorial waters (12 Nautical Miles).
   - ⑤ Not permitted to consume alcohol in any coastal waters or at any time subject to the Master's discretion.
   - ⑥ Not permitted to consume any alcohol while on duty or during the work.
   - ⑦ Not to perform or attempt to perform any scheduled duties within 4 hours of consuming any alcohol or while intoxicated.
   - ⑧ Not permitted to purchase alcohol while ashore with the intent of bringing it on board the vessel for consumption.
5. 24 hours prior to arrival in port or during port stay or while in U.S. territorial waters(12 Nautical Miles), the master collects all alcoholic beverages individually owned by crews in the bond warehouse.
6. When providing alcoholic beverages to crews individually, the master collects empty liquor containers and manage them so that each individual does not have more than 1 day's supply or 3 units.
7. Upon returning to the ship after landing crews, the master conducts a alcohol tester with the alcohol tester owned by the ship to confirm that the maximum blood alcohol level does not exceed 0.03%.
8. No sprits/alcohol beverages(including Soju) stronger than 15% will be allowed onboard. Only beer and table wine(excluding rice wine) within this limit may be consumed, however strictly observing the OCIMF and USCG regulation.
9. When permitted by Master, the consumption of alcohol onboard vessels will normally be allowed in the mess room or in recreation rooms. The consumption of alcohol in cabins by individual crewmembers on their own is prohibited.
10. Any person found to have an alcohol problem will not be employed aboard the Company's managed ships.
11. Any Officer or crew member who has reason to believe that the Master or Chief Engineer is violating the Company's Drug and Alcohol Policy, shall report the incident to their department head or Senior Officer, who in turn, will report the facts to the Fleet Superintendent or DPA.

POS SM | Social Responsibility Policy

1. The company conducts sincerely basic duty in order to keep social responsibility.
2. The company effort to intensify completion capability with sub-contractor through continual discussion and positive communication in order to make relationship coexistence and co-prosperity.
3. The company forbid that any receiving or offering of cash, gift card, present to the inspectors, Surveyors and other internal/external personnel which is likely to be assumed as bribe.

Data Fact Book

Revisions in Reporting Scope and Aggregation Criteria

- The 2025 Pan Ocean Sustainability Report has expanded its reporting scope beyond Pan Ocean and POS SM to include 10 domestic and overseas subsidiaries. Data from these subsidiaries are reported starting from the 2024 reporting year.
- Additional indicators from the GRI Standards 2021 have been applied to enhance the disclosure of information relevant to stakeholders. While efforts were made to apply GRI-aligned aggregation criteria to data from previous reporting years (2022 and 2023), insufficient data were marked as "N/D (Not Disclosed)."

Classification	Company	Location	Key Business Site	Revision of Reporting Scope
Headquarters	Pan Ocean Co., Ltd.	Republic of Korea	Headquarters, Busan Office, Pohang Office, Gwangyang Office	**[Scope of Employees]** **Before Revision: Only Pan Ocean's directly employed staff were counted.** **After Revision: Starting in 2024, expatriates at overseas subsidiaries and non-directly hired workers are also included.** • Workers other than employees - Non-affiliated workers in the business report - Other workers (including foreign offshore employees and subcontracted employees) **[Greenhouse Gas/Energy Data Scope]** **Before Revision: Vessels owned by subsidiaries of Pan Ocean were classified as Pan Ocean's owned vessels.** **After Revision: Starting in 2024, vessels owned by the Singapore subsidiary have been classified as the overseas subsidiaries' owned vessels.**
Domestic and Overseas Subsidiaries (A total of 10)	POS SM Co., Ltd.	Republic of Korea	Headquarters	**[Scope of Employees]** **Before Revision: Only POS SM's directly employed staff were counted.** **After Revision: Starting in 2024, employees of overseas subsidiaries and workers not directly hired are also included.** ▪ Employees of overseas subsidiaries: All land-based employees locally hired ▪ Workers other than employees: Foreign offshore employees working on vessels of the Singapore corporation classified as workers of POS SM who are not directly hired **[Greenhouse Gas/Energy Data Scope]** **Before Revision: Vessels owned by subsidiaries of Pan Ocean were classified as Pan Ocean's owned vessels.** **After Revision: Starting in 2024, vessels owned by the Singapore subsidiary have been classified as the overseas subsidiaries' owned vessels.**
	Pan Ocean Trading & Logistics Pte. Ltd.	Singapore		
	Pan Ocean (China) Co., Ltd.	China		
	Pan Ocean International Logistics Co., Ltd.	China		
	Wide Sea Logistics Co., Ltd.	China		
	Pan Ocean Japan Corporation	Japan		
	Pan Logix Co., Ltd.	Japan		
	Pan Ocean Container (Japan) Co., Ltd.	Japan		
	Pan Ocean (America) Inc.	USA		
	Pan Ocean Brasil Apoio Maritimo Ltda.	Brazil		

Guidance on Data Presentation

- All data have been rounded, which may result in discrepancies between the sum of individual values and the total.
- Indicators not applicable are marked as "N/A (Not Applicable)," while those with insufficient data are marked as "N/D (Not Disclosed)."
- In the main body of this report, the term "offshore employees" refers to all seafarers, irrespective of their nationality. In contrast, the Data Fact Book designates only those seafarers who are directly employed by Pan Ocean as "employees," while others are classified as "workers other than employees."

Data Fact Book

Economic and Governance Data

Consolidated Summary Statement of Financial Position

(Unit: KRW million)

Classification	2022	2023	2024
Current assets	1,834,200	1,757,323	2,021,806
Non-current assets	5,714,742	6,096,623	8,249,700
Total assets	7,548,942	7,853,946	10,271,506
Current liabilities	1,226,756	1,294,029	1,276,861
Non-current liabilities	1,829,582	1,846,566	3,341,262
Total liabilities	3,056,338	3,140,595	4,618,123
Equity attributable to the owners of the Parent company	4,492,604	4,713,351	5,653,383
Share capital	534,570	534,570	534,570
Capital surplus	717,132	717,132	717,132
Other reserves	1,766,202	1,823,416	2,542,045
Retained earning	1,474,700	1,638,233	1,859,636
Non-controlling interests	0	0	0
Total equity	4,492,604	4,713,351	5,653,383
Total liabilities and equity	7,548,942	7,853,946	10,271,506

Consolidated Summary Statement of Comprehensive Income

(Unit: KRW million)

Classification	2022	2023	2024
Sales	6,420,312	4,360,982	5,161,218
Cost of Sales	5,520,365	3,861,154	4,578,484
Gross profit	899,947	499,828	582,734
Selling and administrative expenses	110,329	113,974	111,554
Operating profit	789,618	385,854	471,180
Finance income	97,017	83,092	90,297
Finance costs	150,645	157,057	252,270
Share of profit of associates accounted for using equity method	18,510	- 3,479	24,228
Other non-operating expenses, net	- 66,533	- 59,921	- 51,343
Profit before income tax	687,967	248,489	282,092
Income tax expense	10,886	3,448	13,949
Profit for the year	677,081	245,041	268,143
Other comprehensive income	273,347	55,888	714,130
Total comprehensive income for the period	950,428	300,929	982,273

Sales by Business Segment

(Unit: KRW million)

Classification	2022	2023	2024
Bulk	4,823,826	3,114,279	3,330,092
Containers	509,420	365,815	400,844
Tankers	305,867	342,729	347,816
LNG	171,762	82,869	102,604
Agri-trading	702,018	527,252	1,053,351
Others (vessel management, leasing, etc.)	266,969	259,823	146,204

Financial Support from the Government

(Unit: KRW million)

Classification	2022	2023	2024
Tax reductions and credits	6,520	10,881	15,702
Subsidies	7,022	0	0
Investment support, R&D support, other support, etc.	0	0	0
Awards	0	0	0
Financial support from export credit agencies[1]	0	0	0
Royalty exemptions	0	0	0
Financial incentives	0	0	0
Others[2]	1,113	1,288	1,341

1 Received two export base insurance services from Korea Trade Insurance Corporation

2 In accordance with the formulation of compensation payments for national essential vessels, the data for 2022 and 2023 have been revised.

Data Fact Book

Economic and Governance Data

Creation of Social Value

(Unit: KRW million)

Stakeholder	2022	2023	2024
Employees[1]	290,246	278,901	300,514
Customers[2]	6,420,312	4,360,982	5,161,218
Suppliers[3]	4,517,226	3,043,775	3,203,398
Shareholders and Investors[4]	148,520	162,499	188,591
Government[5]	2,962	327	11,978
Local Communities[6]	317	571	1,758

1 Wages for onshore and offshore employees
2 Sales revenue
3 Charterage, port charges, cargo expenses, bunker fuel costs, depreciation and amortization, vessel maintenance expense
4 Dividends and creditors
5 Income tax expense
6 Donations

Total Annual Salary Ratio

Classification	Unit	Pan Ocean			POS SM			Overseas Subsidiaries
		2022	2023	2024	2022	2023	2024	2024
Annual total compensation of the highest-paid individual	KRW million	1,039	1,685	1,848	242	227	241	N/D
Annual salary increase rate of the highest-paid individual	%	32.2	62.2	9.7	14.1	-6.4	6.4	N/D
Median value of annual total compensation for all employees[7] (excluding the highest-paid individual)	KRW million	111	106	110	83	82	84	N/D
Median value of annual salary increase rate for all employees[7] (excluding the highest-paid individual)	%	11	4.5	3.8	5.3	-1.9	2.7	N/D

7 Pan Ocean: Based on the average compensation per person in the business report
POS SM: Based on the average annual total compensation of employees excluding the highest-paid individual

Board of Directors[8]

Classification			Unit	2022	2023	2024
Independence	No. of inside directors		Person	3	3	3
	No. of independent directors		Person	3	4	4
	Total		Person	6	7	7
	% of independent directors		%	50	57	57
Diversity	Gender	Male	Person	6	6	6
		Female	Person	0	1	1
		Female ratio	%	0	16.67	16.67
Board of Directors Operations	% of attendance of inside directors		%	100	100	100
	% of attendance of independent directors		%	93	100	97
	% of total attendance		%	96	100	98
	No. of board meetings held		Case	12	11	9
	No. of board agenda items		Case	52	47	48
	No. of board approvals on ESG matters		Case	2	2	4
Education	No. of ESG-related training sessions attended[9]		Case	0	0	1

8 As of December 31, 2024
9 ESG course provided during Audit Committee training (August 2024)

Data Fact Book

Economic and Governance Data

Compliance and Ethical Management

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Compliance with laws and regulations	Total No. of signifcant cases of non-compliance		Case	0	0	0	0	0	0	N/D	
	No. of cases for which fines were incurred		Case	0	0	0	0	0	0	N/D	
	Total monetary value of fines for cases of non-compliance		KRW	0	0	0	0	0	0	N/D	
Employee discrimination[1]	No. of cases	Onshore	Case	0	0	0	0	0	0	N/D	▪ No. of cases reported through the grievance handling system and categorized as "discrimination" or "harassment"
		Offshore	Case	6	5	5	N/A	N/A	N/A	N/A	
Confirmed cases of corruption and actions taken	Total No. of confirmed corruption cases		Case	0	0	0	0	0	0	N/D	
	No. of employees dismissed or disciplined for corruption		Case	0	0	0	0	0	0	N/D	
	No. of contracts with suppliers terminated due to corruption		Case	0	0	0	0	0	0	N/D	
	No. of legal cases related to corruption involving the company or its employees		Case	0	0	0	0	0	0	N/D	
	Total monetary losses as a result of legal proceedings associated with corruption		KRW	0	0	0	0	0	0	N/D	
Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	No. of legal actions either completed or pending		Case	3	0	0	0	0	0	N/D	▪ Pan Ocean: In 2022, the Korea Fair Trade Commission imposed fines on several shipping companies, including Pan Ocean, for collusion related to maritime freight rates. Pan Ocean and the other companies involved have filed administrative lawsuits, which are currently ongoing.
Cases of non-compliance concerning the health and safety impacts of products and services[2]	Total No. of cases of non-compliance		Case	0	0	0	0	0	0	N/D	
	No. of cases resulting in fines or penalties		Case	0	0	0	0	0	0	N/D	
	No. of cases resulting in warnings		Case	0	0	0	0	0	0	N/D	
	No. of cases of non-compliance with voluntary codes		Case	0	0	0	0	0	0	N/D	
Business sites assessed for risks related to corruption[3]	Total No. of business sites		Site	1	1	1	1	1	1	9	
	No. of sites assessed for corruption risks		Site	1	1	1	0	0	0	7	
	% of sites assessed for corruption risks		%	100	100	100	0	0	0	78	

1 In accordance with its Human Rights Charter, Pan Ocean respects all employees equally and strictly prohibits discrimination in recruitment, promotion, training, wages, or benefits based on gender, race, nationality, religion, disability, age, or political beliefs. The company also protects employee privacy and ensures that no individual is subjected to physical or psychological abuse, coercion, or harassment.

2 Based on the Occupational Safety and Health Act, the Serious Accidents Punishment Act, and the Special Act on Port Safety

3 Pan Ocean's headquarters and major overseas subsidiaries are subject to internal controls over financial reporting. Regular corruption risk assessments, internal audits, and operational inspections are conducted across both headquarters and subsidiaries.

Data Fact Book

Economic and Governance Data

Anti-Corruption Education and Training

Classification		Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
			2022	2023	2024	2022	2023	2024	2024	
Board of Directors	No. of members of the governance body to whom the organization's anti-corruption policies and procedures have been communicated	Person	2	2	2	N/A	N/A	N/A	N/A	▪ Pan Ocean: Anti-corruption policies and training were communicated to two of the three inside directors.
	Ratio of members of the governance body to whom the organization's anti-corruption policies and procedures have been communicated	%	33	29	29	N/A	N/A	N/A	N/A	
	No. of members of the governance body who have completed training on anti-corruption	Person	2	2	2	N/A	N/A	N/A	N/A	
	Ratio of members of the governance body who have completed training on anti-corruption	%	33	29	29	N/A	N/A	N/A	N/A	
Employees	No. of employees to whom the organization's anti-corruption policies and procedures have been communicated[1]	Person	1,029	980	973	157	145	152	71	▪ Pan Ocean and Overseas Subsidiaries: All designated individuals have completed the anti-corruption pledge.
	Ratio of employees to whom the organization's anti-corruption policies and procedures have been communicated	%	100	100	100	100	100	100	100	
	No. of employees who have completed training on anti-corruption	Person	382	386	391	143	153	174	N/D	▪ Pan Ocean: Anti-corruption training is conducted at least twice a year, and the figures represent the average number of participants. ▪ POS SM: No. of employees who completed ethics and compliance training.
	Ratio of employees who have completed training on anti-corruption	%	100	100	100	100	100	100	N/D	

1 Based on the No. of employees who signed the Ethical Management-Practicing / Law-Abiding Covenant pledge conducted annually at the beginning of the year. All employees at the time of signing are required to participate, excluding those on parental leave.

Data Fact Book

Social Data

Employees[1]

Classification				Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
					2022	2023	2024	2022	2023	2024	2024	
Employees	Total number of employees			Person	1,146	1,161	1,282	156	174	175	168	▪ Pan Ocean: Included 25 expatriates assigned to overseas subsidiaries and 6 employees working at the Korean office of the Singapore subsidiary. Data for onshore employees in 2022-2023 have been revised. ▪ Overseas subsidiaries: All 9 subsidiaries are located overseas. Number of locally hired workers excluding heads of subsidiaries and expatriates employed by Pan Ocean.
	Gender	Onshore	Male	Person	271	264	300	122	141	137	108	
			Female	Person	100	101	115	34	33	38	60	
		Offshore	Male	Person	759	777	843	N/A	N/A	N/A	N/A	
			Female	Person	16	19	24	N/A	N/A	N/A	N/A	
	Employment Type	Onshore	Permanent employees	Person	350	354	404	130	142	150	165	
			Temporary employees	Person	21	11	11	26	32	25	3	
		Offshore	Permanent employees	Person	484	624	704	N/A	N/A	N/A	N/A	
			Temporary employees	Person	291	172	163	N/A	N/A	N/A	N/A	
	Age	Onshore	Under 30	Person	48	43	55	17	16	28	33	
			30 -50	Person	274	263	281	116	127	120	111	
			50 or older	Person	49	59	79	23	31	27	24	
		Offshore	Under 30	Person	247	236	281	N/A	N/A	N/A	N/A	
			30 -50	Person	284	310	334	N/A	N/A	N/A	N/A	
			50 or older	Person	244	250	252	N/A	N/A	N/A	N/A	
	Position	Onshore	Manager	Person	77	74	86	18	22	23	11	▪ Following the revision of data collection and reporting criteria since 2024, 2022 and 2023 data also have been revised to align with the new criteria. ▪ Managers are classified as follows: for onshore employees, team leaders and above (including 5 overseas subsidiary heads and 1 head of the Singapore office); for offshore employees, chief officers or above.
			Non-manager	Person	294	291	329	138	152	152	157	
		Offshore	Manager	Person	397	448	468	N/A	N/A	N/A	N/A	
			Non-manager	Person	378	348	399	N/A	N/A	N/A	N/A	

1 As of December 31, 2024

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Social Data

Workers Other Than Employees[1]

Classification				Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
					2022	2023	2024	2022	2023	2024	2024	
Workers other than employees	Non-affiliated workers			Person	14	14	14	N/A	N/A	N/A	N/A	▪ Pan Ocean: Workers not included as employees in the business report (employed through service contracts with certified workplaces for persons with disabilities)
	Gender		Male	Person	11	11	8	N/A	N/A	N/A	N/A	
			Female	Person	3	3	6	N/A	N/A	N/A	N/A	
	Other workers			Person	N/D	N/D	1,728	N/D	N/D	38	N/A	▪ Pan Ocean: Workers excluded from the business report. Other offshore workers (foreign offshore employees) are counted from 2024. ▪ POS SM: Number of offshore employees boarding vessels owned by the Singapore subsidiary, counted from 2024
	Gender	Onshore	Male	Person	1	2	2	N/A	N/A	N/A	N/A	
			Female	Person	0	0	0	N/A	N/A	N/A	N/A	
		Offshore	Male	Person	N/D	N/D	1,726	N/D	N/D	38	N/A	
			Female	Person	N/D	N/D	0	N/D	N/D	0	N/A	
	Nationality	Onshore	Republic of Korea	Person	1	2	2	N/A	N/A	N/A	N/A	
			Other than the Republic of Korea	Person	0	0	0	N/A	N/A	N/A	N/A	
		Offshore	Republic of Korea	Person	N/D	N/D	6	N/D	N/D	0	N/A	
			Other than the Republic of Korea	Person	N/D	N/D	1,720	N/D	N/D	38	N/A	
Total	Workers with disabilities			Person	5	4	3	0	0	0	0	
	Veteran workers			Person	6	6	6	0	0	0	0	

1 As of December 31, 2024

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Social Data

[Employee] Ratio of Female Managers

Classification		Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
			2022	2023	2024	2022	2023	2024	2024	
Onshore	Total No. of managers	Person	77	74	86	18	22	23	11	
	No. of female managers	Person	3	3	4	0	0	0	2	
	Ratio of female managers	%	4	4	5	0	0	0	18	
Offshore	Total No. of managers	Person	397	448	468	N/A	N/A	N/A	N/A	
	No. of female managers	Person	3	4	4	N/A	N/A	N/A	N/A	
	Ratio of female managers	%	0.8	0.9	0.8	N/A	N/A	N/A	N/A	

[Employee] Locally Hired Senior Managers[1]

Classification	Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
		2022	2023	2024	2022	2023	2024	2024	
No. of locally hired senior managers	Person	14	14	15	3	5	3	0	▪ Pan Ocean: Ratio of Koreans among Pan Ocean's senior managers ▪ POS SM: Ratio of Koreans among POS SM's senior managers ▪ Overseas subsidiaries: Ratio of senior managers with local nationality of overseas subsidiaries
Total No. of senior managers	Person	14	14	15	3	5	3	3	
Ratio of locally hired senior managers	%	100	100	100	100	100	100	0	

1 Local: The country in which each entity is located, Senior managers: Executive level or higher (excluding internal directors)

Data Fact Book

Social Data

[Employee] Ratio of Female Minimum Wage and Compensation to Male Wage and Compensation

Classification		Unit	Pan Ocean[1]			POS SM[2]			Overseas Subsidiaries[3]	Note
			2022	2023	2024	2022	2023	2024	2024	
Onshore	Manager	%	116.4	118.2	113.3	N/A	N/A	N/A	104.9	
	Non-manager	%	77.4	76.4	75.4	66.7	70.1	53.0	110.6	
Offshore	Manager	%	100.0	100.0	100.0	N/A	N/A	N/A	N/A	
	Non-manager	%	100.0	100.0	100.0	N/A	N/A	N/A	N/A	

1 Pan Ocean: Based on annual total salary
2 POS SM: Based on annual total salary
3 Overseas subsidiaries: For managers, based on the average monthly salary of team leader level and above (female average / male average); for non-managers, based on the average monthly salary of positions below team leader (female average / male average)

[Employee] Comparison of New Employee Wage to Minimum Wage by Gender

Classification		Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
			2022	2023	2024	2022	2023	2024	2024	
Onshore[4]	Starting wage for new male hires	KRW	3,901,200	4,076,600	4,076,600	3,416,000	3,512,000	3,671,000	2,083,795	▪ Pan Ocean: Values for 2023 and 2024 reflect the outcomes of wage negotiations (no gender-based differences). 2023 data have been revised. ▪ Overseas Subsidiaries: In 2024, new hires were reported by the subsidiaries in China and Japan. The average entry-level wage was calculated using the year-end exchange rates (Year-end exchange rates applied: CNY 201.27, JPY 9.3648).
	Starting wage for new female hires	KRW	3,901,200	4,076,600	4,076,600	3,416,000	3,512,000	3,671,000	1,511,940	
	Minimum wage (based on monthly salary)	KRW	2,070,160	2,174,120	2,228,360	1,914,440	2,010,580	2,060,740	1,438,565	▪ Overseas Subsidiaries: Due to variations in working hours and entry-level wages between countries and subsidiaries, the average minimum wage was calculated by multiplying the average hourly minimum wage by the standard working hours (226 hours), applying the year-end exchange rates (Year-end exchange rates applied: CNY 201.27, JPY 9.3648).
	Ratio of new male hires' starting wage to the minimum wage	%	188	187	183	178	175	178	145	
	Ratio of new female hires' starting wage to the minimum wage	%	188	187	183	178	175	178	105	
Offshore	Starting wage for new male hires	KRW	4,506,625	4,649,700	4,792,400	N/A	N/A	N/A	N/A	
	Starting wage for new female hires	KRW	4,506,625	4,649,700	4,792,400	N/A	N/A	N/A	N/A	
	Minimum wage (based on monthly salary)[5]	KRW	2,363,100	2,487,640	2,561,030	N/A	N/A	N/A	N/A	▪ Pan Ocean: 2022 and 2023 minimum wage revised.
	Ratio of new male hires' starting wage to the minimum wage	%	191	187	187	N/A	N/A	N/A	N/A	▪ Pan Ocean: 2022 and 2023 data revised.
	Ratio of new female hires' starting wage to the minimum wage	%	191	187	187	N/A	N/A	N/A	N/A	

4 Standard working hours of 226 have been applied to onshore employees.
5 Monthly minimum wage for offshore employees as announced by the Ministry of Oceans and Fisheries

Data Fact Book

Social Data

[Employee] Employment

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Total	Type	New hire	Person	112	47	120	9	4	9	10	▪ Data for 2022 and 2023 revised due to a change in aggregation criteria starting in 2024
		Experienced hire	Person	40	44	44	27	42	39	2	
		Reemployment of retired employees	Person	3	8	3	0	0	0	2	
	Gender	Male	Person	142	91	144	29	42	34	9	
		Female	Person	13	8	23	7	4	14	5	
	Total		Person	155	99	167	36	46	48	14	
Onshore	Type	New hire	Person	13	10	15	9	4	9	10	▪ Pan Ocean: Up to 2023, new hires were categorized only by gender. From 2024, more specific data collection criteria are applied. Data for 2022 and 2023 revised due to a change in aggregation criteria
		Experienced hire	Person	15	1	15	27	42	39	2	
		Reemployment of retired employees	Person	1	0	0	0	0	0	2	
	Gender	Male	Person	19	8	17	29	42	34	9	
		Female	Person	10	3	13	7	4	14	5	
	Total		Person	29	11	30	36	46	48	14	
Offshore	Type	New hire	Person	99	37	105	N/A	N/A	N/A	N/A	▪ Pan Ocean: Up to 2023, new hires were categorized only by gender. From 2024, more specific data collection criteria are applied.
		Experienced hire	Person	25	43	29	N/A	N/A	N/A	N/A	
		Reemployment of retired employees	Person	2	8	3	N/A	N/A	N/A	N/A	
	Gender	Male	Person	123	83	127	N/A	N/A	N/A	N/A	
		Female	Person	3	5	10	N/A	N/A	N/A	N/A	
	Total		Person	126	88	137	N/A	N/A	N/A	N/A	

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Social Data

[Employee] Turnover

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Total	Type	Voluntary	Person	89	51	100	12	8	19	16	▪ Total turnover rate = Total number of departures / Total number of employees ▪ Voluntary turnover ratio = Total number of voluntary departures / Total number of employees ▪ Up to 2023, only turnover ratio was reported, but from 2024, reporting criteria for data collection have been more specified.
		Dismissal	Person	0	0	5	0	0	0	1	
		Retirement	Person	4	12	3	19	28	33	1	
		Other	Person	0	0	2	0	0	0	0	
	Gender	Male	Person	87	58	103	20	31	41	11	
		Female	Person	6	5	7	11	5	11	7	
	Total		Person	93	63	110	31	36	52	18	
	Total turnover rate		%	8.1	5.4	8.6	19.9	20.7	29.7	10.7	
	Voluntary turnover rate		%	7.8	4.4	7.8	7.7	4.6	10.9	9.5	
Onshore	Type	Voluntary	Person	19	16	12	12	8	19	16	▪ Turnover rate = Number of onshore departures / Number of onshore employees ▪ Voluntary turnover rate = Number of voluntary onshore departures / Number of onshore employees ▪ Up to 2023, only turnover ratio was reported, but from 2024, reporting criteria for data collection have been more specified. ▪ Pan Ocean: Turnover rate and voluntary turnover rate data for 2022 and 2023 revised due to a change in aggregation criteria
		Dismissal	Person	0	0	0	0	0	0	1	
		Retirement	Person	1	3	0	19	28	33	1	
		Other	Person	0	0	0	0	0	0	0	
	Gender	Male	Person	14	16	9	20	31	41	11	
		Female	Person	6	3	3	11	5	11	7	
	Total		Person	20	19	12	31	36	52	18	
	Total turnover rate		%	5.4	5.2	2.9	19.9	20.7	29.7	10.7	
	Voluntary turnover rate		%	5.1	4.4	2.9	7.7	4.6	10.9	9.5	
Offshore	Type	Voluntary	Person	70	35	88	N/A	N/A	N/A	N/A	▪ Turnover rate = Number of offshore departures / Number of offshore employees ▪ Voluntary turnover rate = Number of voluntary offshore departures / Number of offshore employees ▪ Up to 2023, only turnover ratio was reported, but from 2024, reporting criteria for data collection have been more specified. ▪ Pan Ocean: Turnover rate and voluntary turnover rate data for 2022 and 2023 revised due to a change in aggregation criteria
		Dismissal	Person	0	0	5	N/A	N/A	N/A	N/A	
		Retirement	Person	3	9	3	N/A	N/A	N/A	N/A	
		Other	Person	0	0	2	N/A	N/A	N/A	N/A	
	Gender	Male	Person	73	42	94	N/A	N/A	N/A	N/A	
		Female	Person	0	2	4	N/A	N/A	N/A	N/A	
	Total		Person	73	44	98	N/A	N/A	N/A	N/A	
	Total turnover rate		%	9.4	5.5	11.3	N/A	N/A	N/A	N/A	
	Voluntary turnover rate		%	9.0	4.4	10.1	N/A	N/A	N/A	N/A	

Data Fact Book

Social Data

[Employee] Parental Leave[1]

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Onshore	No. of employees that used parental leave[2]	Male	Person	1	1	2	4	1	4	2	
		Female	Person	5	6	6	2	1	3	0	
	No. of employees who returned from parental leave[3]	Male	Person	1	0	2	1	4	1	2	
		Female	Person	2	5	3	2	2	1	0	
	% of employees returning from parental leave[4]	Male	%	100	N/A	100	100	100	100	100	▪ Pan Ocean: The data for 2022 and 2023 have been revised. In 2023, the return-to-work rate for men could not be calculated due to the lack of employees scheduled to return.
		Female	%	67	100	100	100	50	100	0	
	No. employees who served for 12 months or more after parental leave[5]	Male	Person	0	1	N/A	1	0	3	2	
		Female	Person	2	2	5	0	2	1	0	
	% of employees serving for 12 months or more after parental leave	Male	%	N/A	100	N/A	100	0	75	N/D	
		Female	%	100	100	100	0	100	50	N/D	
Offshore	No. of employees that used parental leave[2]	Male	Person	8	10	13	N/A	N/A	N/A	N/A	▪ Pan Ocean: The data for 2022 and 2023 have been revised.
		Female	Person	0	0	0	N/A	N/A	N/A	N/A	
	No. of employees who returned from parental leave[3]	Male	Person	6	12	6	N/A	N/A	N/A	N/A	
		Female	Person	0	0	0	N/A	N/A	N/A	N/A	
	% of employees returning from parental leave[4]	Male	%	80	92	86	N/A	N/A	N/A	N/A	
		Female	%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	No. employees who served for 12 months or more after parental leave[5]	Male	Person	6	4	11	N/A	N/A	N/A	N/A	
		Female	Person	0	N/A	0	N/A	N/A	N/A	N/A	
	% of employees serving for 12 months or more after parental leave	Male	%	100	66.7	91.6	N/A	N/A	N/A	N/A	
		Female	%	N/A	N/A	0	N/A	N/A	N/A	N/A	

1 The criteria for compiling parental leave data in this report differ from those used in Pan Ocean's business report.
2 This report: Number of employees who commenced parental leave during the reporting period, Pan Ocean business report: Number of employees who were employed at year-end and had taken parental leave during the year
3 This report: Number of employees who returned from parental leave during the reporting period
4 This report: The ratio of employees who actually returned to work among those scheduled to return from parental leave during the reporting period, Pan Ocean business report: The ratio of employees who commenced parental leave during the year among those who had a child born in the same year, including cases where maternity leave and parental leave are taken consecutively, and the commencement of parental leave extends into the following year.
5 This report: Number of employees who returned from parental leave in the previous year and remained employed for at least 12 months, Pan Ocean business report: Cumulative number of employees, as of each year-end, who used parental leave and remained employed for at least 12 months after returning, compiled for those who took parental leave starting in 2020

Data Fact Book

Social Data

[Employee] Education and Training

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Ethics/ Compliance	Onshore	No. of participants subject to training	Person	382	386	407	143	153	174	193	▪ POS SM: 2023 data have been revised
		No. of participants who completed training	Person	382	386	407	143	153	174	25	▪ POS SM: 2023 data have been revised
		% of training completion	%	100	100	100	100	100	100	13	
	Offshore	No. of participants subject to training	Person	0	0	0	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	0	0	0	N/A	N/A	N/A	N/A	
		% of training completion	%	0	0	0	N/A	N/A	N/A	N/A	
Information Security	Onshore	No. of participants subject to training	Person	393	387	407	164	182	199	193	▪ POS SM: 2022 and 2023 data have been revised
		No. of participants who completed training	Person	393	387	407	164	182	199	25	▪ POS SM: 2022 and 2023 data have been revised
		% of training completion	%	100	100	100	100	100	100	13	
	Offshore	No. of participants subject to training	Person	775	796	867	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	775	796	867	N/A	N/A	N/A	N/A	
		% of training completion	%	100	100	100	N/A	N/A	N/A	N/A	
Industrial Safety and Health[1]	Onshore	Training hours	Hour	4,694	4,616	4,846	2,759	2,835	3,504	N/D	
		No. of participants	Person	731	719	744	177	184	199	N/D	▪ Pan Ocean: 2022 and 2023 data have been revised
	Offshore	Training hours	Hour	19,772	20,404	31,001	N/A	N/A	N/A	N/A	
		No. of participants	Person	2,227	1,899	2,609	N/A	N/A	N/A	N/A	

1 Industrial safety and health training hours and participants are reported on a cumulative basis.

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[Employee] Human Rights Training

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Workplace Disabilities Awareness Training	Onshore	No. of participants subject to training	Person	394	390	407	154	170	150	N/D	
		No. of participants who completed training	Person	394	390	407	154	170	150	N/D	
		% of training completion	%	100	100	100	100	100	100	N/D	
	Offshore	No. of participants subject to training	Person	775	796	867	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	775	796	867	N/A	N/A	N/A	N/A	
		% of training completion	%	100	100	100	N/A	N/A	N/A	N/A	
Workplace Sexual Harassment Prevention Training	Onshore	No. of participants subject to training	Person	394	390	407	184	191	150	N/D	
		No. of participants who completed training	Person	394	390	407	184	191	150	N/D	
		% of training completion	%	100	100	100	100	100	100	N/D	
	Offshore	No. of participants subject to training	Person	775	796	867	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	775	796	867	N/A	N/A	N/A	N/A	
		% of training completion	%	100	100	100	N/A	N/A	N/A	N/A	
Workplace Bullying Prevention Training	Onshore	No. of participants subject to training	Person	393	390	407	158	186	150	N/D	
		No. of participants who completed training	Person	393	390	407	158	186	150	N/D	
		% of training completion	%	100	100	100	100	100	100	N/D	
	Offshore	No. of participants subject to training	Person	775	796	867	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	775	796	867	N/A	N/A	N/A	N/A	
		% of training completion	%	100	100	100	N/A	N/A	N/A	N/A	
Seafarer Labor and Human Rights Protection Education	Onshore	No. of participants subject to training	Person	N/A	796	867	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	N/A	491	867	N/A	N/A	N/A	N/A	▪ Pan Ocean: Started the training program in mid-2023
		% of training completion	%	N/A	62	100	N/A	N/A	N/A	N/A	
Mental Health Training for Seafarers	Offshore	No. of participants subject to training	Person	N/A	796	867	N/A	N/A	N/A	N/A	
		No. of participants who completed training	Person	N/A	274	552	N/A	N/A	N/A	N/A	
		% of training completion	%	N/A	34	64	N/A	N/A	N/A	N/A	

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[Employee] Training Hours and Costs

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Training Hours	Avg. training hours per person		Hours per employee	29	30	32	73	95	54	N/D	▪ POS SM: Due to an increase in employee hires and resignations throughout 2024, the number of training participants rose, leading to a decrease in the average training time per person.
	Total training hours		Hour	32,804	35,397	40,787	9,537	13,457	11,414	N/D	
	Onshore	Training hours	Hour	19,082	18,224	19,083	9,537	13,457	11,414	N/D	▪ Pan Ocean: Calculated based on the number of onshore employees disclosed in the business report.
	Offshore	Training hours	Hour	13,722	17,173	21,704	N/A	N/A	N/A	N/A	
Training Costs	Avg. training costs per person		KRW per person	860,782	1,119,295	1,743,972	483,639	789,732	655,358	N/D	
	Total training costs		KRW	986,456,029	1,299,501,418	2,235,771,790	63,356,729	112,141,897	100,925,172	N/D	
	Onshore	Training costs	KRW	423,031,029	545,196,397	549,409,416	63,356,729	112,141,897	100,925,172	N/D	▪ Pan Ocean: Calculated based on the number of onshore employees disclosed in the business report.
	Offshore	Training costs	KRW	563,425,000	754,305,021	1,686,362,374	N/A	N/A	N/A	N/A	

[Employee] Performance Evaluation

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Position	Onshore	Manager	%	100	100	100	100	100	100	63	▪ Pan Ocean: Independent directors, employees with less than six months of employment throughout the reporting year, or since their date of hire, employees covered under emergency response plans or labor unions, and contract workers are excluded (subject to separate evaluation).
		Non-manager	%	100	100	100	100	100	100	29	
	Offshore	Manager	%	100	100	100	N/A	N/A	N/A	N/A	
		Non-manager	%	100	100	100	N/A	N/A	N/A	N/A	

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Social Data

Labor Union, Collective Agreement, and Retirement Pension

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Collective Agreement	Onshore	% of enrollment to labor union	%	86.4	80.2	81.8	N/D	N/D	N/D	N/A	▪ Pan Ocean: In accordance with the collective agreement, labor union membership is restricted for certain team leaders in support departments and employees at Level 2 or higher.
		% of coverage under collective agreement	%	100	100	100	N/D	N/D	N/D	N/A	
	Offshore	% of enrollment to labor union	%	100	100	100	N/A	N/A	N/A	N/A	
		% of coverage under collective agreement	%	100	100	100	N/A	N/A	N/A	N/A	
Retirement Pension		Total No. of participants	Person	759	790	950	156	173	171	N/D	
		No. of DB pension participants	Person	399	410	561	120	126	137	N/D	▪ Pan Ocean: offshore employees
		No. of DC pension participants	Person	360	380	389	36	47	34	N/D	▪ Pan Ocean: onshore employees (as of the year-end, excluding new hires)

Occupational Health and Safety System

Classification	Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
		2022	2023	2024	2022	2023	2024	2024	
Total No. of employees	Person	1,146	1,161	3,024	156	174	175	N/D	▪ Pan Ocean: 2022 and 2023 data represent the total number of employees, while 2024 data includes all employees (including six expatriates and personnel from the Singapore Korea Office), as well as non-employee workers.
% of employees covered by the Occupational Health and Safety (OHS) management system	%	100	100	100	100	100	100	N/D	▪ Pan Ocean and POS SM are subject to the Occupational Safety and Health Act as companies operating in the Republic of Korea.
% of employees covered by the OHS management system that went through internal audits	%	68	71	87	100	100	100	N/D	▪ Since the end of 2023, ISO 45001 has been implemented for onshore employees, covering 30 employees in 2023 and 32 employees in 2024
% of employees covered by externally certified or audited OHS management systems	%	68	71	87	100	100	100	N/D	▪ Since the end of 2023, ISO 45001 has been implemented for onshore employees, covering 30 employees in 2023 and 32 employees in 2024

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Social Data

Work-Related Injuries and Diseases

Classification				Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
					2022	2023	2024	2022	2023	2024	2024	
Onshore	Employees	**Total No. of hours worked**[1]		Hour	1,006,152	989,880	1,125,480	391,248	436,392	438,900	N/D	
		Injury	No. of fatalities	Person	0	0	0	0	0	0	N/D	
			Rate of fatalities	Per million hours	0	0	0	0	0	0	N/D	
			No. of high-consequence work-related injuries (excluding fatalities)	Case	0	0	0	0	0	0	N/D	
			Rate of high-consequence work-related injuries (excluding fatalities)	Per million hours	0	0	0	0	0	0	N/D	
			No. of other injuries	Case	0	0	0	0	0	0	N/D	
			Rate of other injuries	Per million hours	0	0	0	0	0	0	N/D	
		Disease	No. of fatalities	Person	0	0	0	0	0	0	N/D	
			No. of diseases	Case	0	0	0	0	0	0	N/D	
	Workers other than employees	**Total No. of hours worked**[1]		Hour	2,712	5,424	5,424	N/A	N/A	N/A	N/A	
		Injury	No. of fatalities	Person	0	0	0	N/A	N/A	N/A	N/A	
			Rate of fatalities	Per million hours	0	0	0	N/A	N/A	N/A	N/A	
			No. of high-consequence work-related injuries (excluding fatalities)	Case	0	0	0	N/A	N/A	N/A	N/A	
			Rate of high-consequence work-related injuries (excluding fatalities)	Per million hours	0	0	0	N/A	N/A	N/A	N/A	
			No. of other injuries	Case	0	0	0	N/A	N/A	N/A	N/A	
			Rate of other injuries	Per million hours	0	0	0	N/A	N/A	N/A	N/A	
		Disease	No. of fatalities	Person	0	0	0	N/A	N/A	N/A	N/A	
			No. of diseases	Case	0	0	0	N/A	N/A	N/A	N/A	

1 Total working hours of onshore employees: No. of employees x 226 hours x 12 months

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Work-Related Injuries and Diseases[1]

Classification				Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
					2022	2023	2024	2022	2023	2024	2024	
Offshore	Employees	**Total No. of hours worked[2]**		Hour	1,943,700	1,996,368	2,174,436	N/A	N/A	N/A	N/A	
		Injury	No. of fatalities	Person	0	0	1	N/A	N/A	N/A	N/A	
			Rate of fatalities	Per million hours	0.00	0.00	0.46	N/A	N/A	N/A	N/A	
			No. of high-consequence work-related injuries (excluding fatalities)	Case	0	0	0	N/A	N/A	N/A	N/A	
			Rate of high-consequence work-related injuries (excluding fatalities)	Per million hours	0.00	0.00	0.00	N/A	N/A	N/A	N/A	
			No. of other injuries	Case	9	4	5	N/A	N/A	N/A	N/A	
			Rate of other injuries	Per million hours	4.63	2.00	2.30	N/A	N/A	N/A	N/A	
		Disease	No. of fatalities	Person	0	0	0	N/A	N/A	N/A	N/A	
			No. of diseases	Case	21	18	11	N/A	N/A	N/A	N/A	
	Workers other than employees	**Total No. of hours worked[2]**		Hour	3,572,796	3,589,404	4,328,808	N/D	N/D	95,304	N/A	▪ POS SM: Workers other than employees refer to 38 foreign offshore employees boarding vessels under Pan Ocean's Singapore subsidiary, and they have been counted since 2024.
		Injury	No. of fatalities	Person	0	0	0	N/D	N/D	0	N/A	
			Rate of fatalities	Per million hours	0	0	0	N/D	N/D	0	N/A	
			No. of high-consequence work-related injuries (excluding fatalities)	Case	0	0	0	N/D	N/D	0	N/A	
			Rate of high-consequence work-related injuries (excluding fatalities)	Per million hours	0	0	0	N/D	N/D	0	N/A	
			No. of other injuries	Case	18	19	12	N/D	N/D	2	N/A	
			Rate of other injuries	Per million hours	5.04	5.30	2.77	N/D	N/D	20.99	N/A	
		Disease	No. of fatalities	Person	0	0	2	N/D	N/D	0	N/A	
			No. of diseases	Case	15	16	22	N/D	N/D	1	N/A	

1 Due to the absence of official standard for reporting injuries and diseases in the shipping industry, the data was compiled in accordance with Pan Ocean's internal criteria.

2 Total working hours of offshore employees: No. of employees x 209 hours x 12 months

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Social Data

Incident Management

Classification		Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
			2022	2023	2024	2022	2023	2024	2024	
Onshore[1]	No. of lost-time injuries	Case	0	0	0	0	0	0	N/D	
	Lost Time Injury Frequency Rate (LTIFR)	Per million hours	0.00	0.00	0.00	0.00	0.00	0.00	N/D	
Offshore[1]	No. of lost-time injuries	Case	9	4	6	0	0	0	N/D	
	Lost Time Injury Frequency Rate (LTIFR)	Per million hours	4.63	2.00	2.76	0.00	0.00	0.00	N/D	
Total Lost Time Injury Frequency Rate (LTIFR)		Per million hours	3.05	1.34	1.82	0.00	0.00	0.00	N/D	
Total No. of marine incidents		Case	0	1	5	N/A	N/A	N/A	N/A	
% of incidents classified as serious marine accidents		%	0	1.6	20	N/A	N/A	N/A	N/A	
PSC(Port State Control)	No. of deficiencies	Unit	239	284	228	N/A	N/A	N/A	N/A	
	No. of detentions	Instance	4	2	1	N/A	N/A	N/A	N/A	

1 Lost-time injury data for onshore and offshore employees is compiled for employees only.

Customer Privacy

Classification	Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
		2022	2023	2024	2022	2023	2024	2024	
No. of complaints received from outside parties	Case	0	0	0	0	0	0	0	
No. of complaints from regulatory bodies	Case	0	0	0	0	0	0	0	
No. of leaks, thefts, or losses of customer data	Case	0	0	0	0	0	0	0	

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Social Data

Suppliers

Classification		Unit	Pan Ocean			Note
			2022	2023	2024	
Operating costs	Total No. of suppliers	Company	584	641	553	▪ Pan Ocean redefined the scope of suppliers in December 2024 ▪ The data for 2022 and 2023 are based on the previous reporting criteria, which included all suppliers but excluded shipyards. ▪ Scope of suppliers (2024) - Suppliers: Companies that engaged in direct transactions with Pan Ocean during the reporting period. - Based on the vessel maintenance expenses: Suppliers under long-term maintenance contracts - Based on the bunker fuel costs: Suppliers under term contracts and existing key suppliers - Based on the operating costs: Suppliers that carry out critical functions - Shipyards ▪ Scope of spot suppliers: Companies that had transactions during the reporting period but do not have contractual relationships with Pan Ocean
	No. of key suppliers	Company	3	3	3	
Bunker fuel costs	Total No. of suppliers	Company	26	26	33	
	No. of key suppliers	Company	8	10	8	
Vessel maintenance expense	Total No. of suppliers	Company	494	487	52	
	No. of key suppliers	Company	35	38	6	
Shipyards	Total No. of key suppliers	Company	N/A	N/A	5	
Spot suppliers	Total No. of spot suppliers	Company	N/A	N/A	500	
Total No. of suppliers		Company	1,104	1,154	643	

Local Communities and Social Contributions

Classification		Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
			2022	2023	2024	2022	2023	2024	2024	
% of business sites that conduct community engagement, impact assessments, and development programs[1]		%	100	100	100	100	100	100	0	
Social contribution investment amount		KRW million	42	260	269	N/A	N/A	N/A	N/A	
Total donation amount		KRW million	214	267	1,572	2.4	2.4	2.4	0	
Employee fundraising amount		KRW million	1.7	2.2	2.0	0	0	0	0	
Employee volunteer activities	Volunteers	Person	84	111	103	0	0	0	0	
	Hours	Hour	247	352	318	0	0	0	0	
	Hours per person	Hour	2.9	3.2	3.1	0	0	0	0	

1 Pan Ocean and POS SM hold regular meetings such as the Labor-Management Council, the Occupational Safety and Health Committee (Pan Ocean), and the Safety, Health and Environment Committee (POS SM). In addition, Pan Ocean carries out community engagement activities in the region surrounding its headquarters.

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Environmental Data

Energy

Classification			Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
				2022	2023	2024	2022	2023	2024	2024	
Scope 1	Owned fleet[1]	HFO	TJ	16,352.38	16,793.80	27,277.34	N/A	N/A	N/A	298.48	▪ 2022 and 2023 data were revised due to the change of unit to TJ ▪ Pan Ocean: Since 2024, data for two owned vessels under the Singapore subsidiary have been excluded. ▪ POS SM: No owned or chartered vessels ▪ Overseas subsidiaries: Since 2024, data for two vessels under the Singapore subsidiary have been categorized as part of overseas subsidiary data.
		LFO	TJ	16,820.47	16,283.26	6,374.99	N/A	N/A	N/A	222.96	
		DO	TJ	2,255.43	2,153.06	2,422.86	N/A	N/A	N/A	44.01	
		LNG	TJ	98.01	674.66	1,814.09	N/A	N/A	N/A	0.00	
		Renewable energy (Biofuel B30)	TJ	0.00	0.00	36.41	N/A	N/A	N/A	0.00	
		Subtotal	TJ	35,526.30	35,904.78	37,925.68	N/A	N/A	N/A	565.45	
		% of Heavy Fuel Oil (HFO) consumption	%	46.03	46.77	71.92	N/A	N/A	N/A	52.79	
	Long-term charter (One year or longer)[1]	HFO	TJ	N/A	N/A	154.91	N/A	N/A	N/A	N/A	▪ Pan Ocean: Since 2024, 19 vessels under long-term charters (over one year) that were previously classified as leased assets under Scope 3 have been included in Scope 1 due to the expansion of the organizational boundary.
		LFO	TJ	N/A	N/A	2,032.13	N/A	N/A	N/A	N/A	
		DO	TJ	N/A	N/A	211.46	N/A	N/A	N/A	N/A	
		LNG	TJ	N/A	N/A	0.00	N/A	N/A	N/A	N/A	
		Subtotal	TJ	N/A	N/A	2,398.49	N/A	N/A	N/A	N/A	
		% of Heavy Fuel Oil (HFO) consumption	%	N/A	N/A	6.46	N/A	N/A	N/A	N/A	
	Corporate vehicle fuel consumption[2]	Gasoline	TJ	0.75	0.63	0.84	0.33	0.33	0.20	0.63	
		Diesel	TJ	0.04	0.08	0.08	0.00	0.00	0.00	19.37	
		LPG	TJ	0.00	0.00	0.00	0.00	0.04	0.00	0.00	
		Subtotal	TJ	0.80	0.71	0.92	0.33	0.37	0.20	20.00	
	Purchased gas[3]		TJ	N/A	N/A	0.06	N/A	N/A	0.36	0.10	
	Scope 1 subtotal		TJ	35,527.09	35,905.49	40,325.15	0.33	0.37	0.56	585.55	
Scope 2	Purchased power[4]		TJ	10.05	12.10	4.69	2.68	2.60	0.94	1.24	
	Scope 2 subtotal		TJ	10.05	12.10	4.69	2.68	2.60	0.94	1.24	
Scope 3	Long-term charter (One year or longer)[1]	HFO	TJ	3,411.78	2,822.87	2,596.33	N/A	N/A	N/A	N/A	▪ Scope 3 emissions are aggregated for headquarters only.
		LFO	TJ	23,000.48	21,161.59	18,725.70	N/A	N/A	N/A	N/A	
		DO	TJ	3,224.17	2,430.48	2,308.64	N/A	N/A	N/A	N/A	
	Scope 3 subtotal		TJ	29,636.43	26,414.94	23,630.68	N/A	N/A	N/A	N/A	
Total energy consumption (Scope 1, 2)			TJ	35,537.14	35,917.59	40,329.84	3.01	2.97	1.50	586.79	▪ The reported total has increased due to the expansion of the organizational boundary since 2024.
Sales			KRW 100 million	57,004	38,115	40,689	2,656	2,589	1,454	11,667	▪ Sales based on the separate financial statements of each entity
Energy intensity			TJ/KRW 100 million	0.62	0.94	0.99	0.001	0.001	0.001	0.05	▪ (Scope 1+Scope 2 Energy consumption) / Entity-specific sales based on separate statements

1 The gross calorific value (GCV) by fuel is calculated based on the net calorific value (NCV) specified in Appendix 2 of the IMO Resolution MEPC. 976(80) LCA Guidelines, incorporating the average ratio of net calorific value to gross calorific value as provided in the IPCC Guidelines. The Global Warming Potential (GWP) is implemented based on the IPCC Second Assessment Report (SAR) with a 100-year time horizon.

2 The default calorific values of fuels are implemented in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

3 For stationary combustion of LNG, the NCV of 38.9 MJ/m³ (Tier 2) is implemented for domestic operations, and 48 TJ/Gg (Tier 1) from the IPCC Guidelines for overseas subsidiaries.

4 A gross calorific value of 3.60 MJ/kWh is implemented for electricity consumption, both domestically and internationally.

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Environmental Data

Greenhouse Gas

Classification		Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
			2022	2023	2024	2022	2023	2024	2024	
Direct GHG emissions (Scope 1)	Vessels (owned)[1]	tCO_2-eq	2,660,787	2,675,270	2,739,298	N/A	N/A	N/A	41,274	
	Vessels (long-term chartered)	tCO_2-eq	N/A	N/A	173,996	N/A	N/A	N/A	N/A	
	Onboard incinerators[2]	tCO_2-eq	8,239	3,392	3,096	N/A	N/A	N/A	27	
	Vehicles[2]	tCO_2-eq	54	50	62	22	26	14	1,416	
	Purchased gas consumption[3]	tCO_2-eq	N/D	N/D	3	N/D	N/D	18	5	▪ Purchased gas consumption has been compiled since 2024.
	Subtotal	tCO_2-eq	2,669,080	2,678,713	2,916,456	22	26	32	42,722	
Indirect GHG emissions (Scope 2)	Purchased electricity consumption[4]	tCO_2-eq	483	580	599	128	125	120	166	
	Subtotal	tCO_2-eq	483	580	599	128	125	120	166	
Other indirect GHG emissions (Scope 3)	Upstream: Purchased goods and services	tCO_2-eq	9,532	2,399	2,434	N/D	N/D	N/D	N/D	▪ Scope 3 emissions are aggregated for headquarters only.
	Upstream: Leased assets[1]	tCO_2-eq	2,219,848	1,977,601	1,714,968	N/D	N/D	N/D	N/D	
	Upstream: Transportation and distribution	tCO_2-eq	1,509,302	2,531,001	2,666,641	N/D	N/D	N/D	N/D	
	Upstream: Business travel	tCO_2-eq	188	140	235	N/D	N/D	N/D	N/D	
	Upstream: Employee commuting	tCO_2-eq	105	112	141	N/D	N/D	N/D	N/D	
	Upstream: Subtotal	tCO_2-eq	3,738,975	4,511,253	4,384,419	N/D	N/D	N/D	N/D	
Total GHG emissions (Scope 1, 2)		tCO_2-eq	2,669,563	2,679,293	2,917,055	150	151	152	42,887	▪ The expansion of the organizational boundary in 2024 resulted in the increased amount of total reported emissions compared to the previous year.
Sales		KRW 100 million	57,004	38,115	40,689	2,656	2,589	1,454	11,667	▪ Separate statements for sales by entity
GHG intensity		tCO_2-eq	46.831	70.295	71.691	0.056	0.058	0.105	3.676	▪ (Scope 1 + Scope 2 emissions) / Sales based on Pan Ocean's separate financial statements

1 Carbon factors specified in Appendix 2 of IMO Resolution MEPC. 976(80) LCA Guidelines are applied.
2 Based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
3 For LNG stationary combustion, applied the national net calorific value (Tier 2) of 38.9 MJ/m^3 for domestic use and the IPCC (Tier 1) value of 48 TJ/Gg for overseas use.
4 Country-specific greenhouse gas emission factors are applied separately.

Air Pollutants[5]

Classification	Unit	Pan Ocean			POS SM			Overseas Subsidiaries	Note
		2022	2023	2024	2022	2023	2024	2024	
Nitrogen Oxides (NOx)	kg	71,249,120	70,867,753	71,419,008	N/A	N/A	N/A	801,162	▪ Data is compiled only for Pan Ocean and overseas subsidiaries that own vessels.
Sulfur Oxides (SOx)	kg	8,382,249	8,337,383	8,066,798	N/A	N/A	N/A	429,693	
Particulate Matter (PM_{10})	Metric tons	N/D	5,301	5,355	N/A	N/A	N/A	34	

5 Applied the standards of IMO MEPC.1/Circ.681, the 2nd IMO GHG Study 2009 (MEPC 59/INF.10), and the 4th IMO GHG Study 2020.

Data Fact Book

Environmental Data

Waste

Classification				Unit	Pan Ocean			POS SM[1]			Overseas Subsidiaries	Note
					2022	2023	2024	2022	2023	2024	2024	
Vessel	Waste generated	General waste	Food waste	Ton	350	364	375	N/A	N/A	N/A	6	▪ Pan Ocean: The volume of waste from owned vessels was recorded in cubic meters (CBM). The reported figures may have been overestimated relative to the actual amount during the conversion to tons.
			General waste	Ton	2,225	2,519	2,463	N/A	N/A	N/A	56	
			Subtotal	Ton	2,575	2,883	2,838	N/A	N/A	N/A	62	
		Designated waste	Waste oil	Ton	25,113	26,632	25,432	N/A	N/A	N/A	149	
			Waste absorbent	Ton	440	386	387	N/A	N/A	N/A	5	
			Plastic	Ton	1,452	1,462	1,505	N/A	N/A	N/A	28	
			Ash	Ton	113	124	139	N/A	N/A	N/A	2	
			Subtotal	Ton	27,118	28,604	27,463	N/A	N/A	N/A	184	
		Total waste generated from vessels		Ton	29,693	31,487	30,301	N/A	N/A	N/A	246	
	Recycled waste[2]	Designated waste		Ton	10,159	11,901	10,767	N/A	N/A	N/A	154	
	Disposed waste	General + Designated waste		Ton	19,534	19,586	19,534	N/A	N/A	N/A	92	
Office	Waste generated	Head Office		Ton	1.39	1.77	13.61	4.54	1.72	2.87	N/D	
		Busan Office		Ton	0.56	0.21	0.5	N/A	N/A	N/A	N/D	
		Pohang Office		Ton	N/D	0.42	0.18	N/A	N/A	N/A	N/D	
		Gwangyang Office		Ton	N/D	N/D	N/D	N/A	N/A	N/A	N/D	
		Total office waste		Ton	1.95	2.4	14.29	4.54	1.72	2.87	N/D	
	Recycled waste	General waste		Ton	0	0	0	N/D	N/D	1.68	N/D	
	Disposed waste	General waste		Ton	1.95	2.40	14.29	N/D	N/D	1.19	N/D	
Total waste generated				Ton	29,694.95	31,489.40	30,315.29	4.54	1.72	2.87	246	
Total waste recycled				Ton	10,159	11,901	10,767	N/D	N/D	1.68	154	

1 POS SM calculates the amount of waste generated, recycled, and disposed of at leased buildings based on the proportion of leased floor area.
2 Recycled amounts of waste oil and plastic from vessels

Water Withdrawal

Classification	Unit	Pan Ocean[3]			POS SM[4]			Overseas Subsidiaries[4]	Note
		2022	2023	2024	2022	2023	2024	2024	
Office	m^3	5,703	8,775	9,324	2,218	2,335	2,071	3,294	
Vessel	m^3	N/D	N/D	43,907	N/A	N/A	N/A	0	
Total	m^3	N/D	N/D	53,231	2,218	2,335	2,071	3,294	

3 Pan Ocean's office water withdrawal figure is the total volume from the Head Office, Busan Office Sales Team, Pohang Office, and Gwangyang Office, which is 100% drawn from municipal water sources. Water withdrawal from vessels has been recorded exclusively for freshwater since 2024.
4 POS SM and overseas subsidiaries calculate water withdrawal at leased buildings based on the proportion of leased floor area.

GRI Standards Index

Statement of use	Pan Ocean Co., Ltd. has prepared this report in accordance with the GRI Standards 2021 reporting principles, covering the sustainability activities and performance for the period from January 1, 2024, to December 31, 2024. In addition, this report contains specific critical performance data and activities conducted during the first half of 2025.
GRI used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	As of the publication date of this report, the GRI Sector Standards applicable to Pan Ocean Co., Ltd. have not yet been released and, therefore, have not been implemented in this report.

GRI Standard	Disclosure	Location	Reason for Omission	Note
General Disclosures				
GRI 2: General Disclosures 2021	2-1 Organizational details	6, 7		
	2-2 Entities included in the organization's sustainability reporting	2		
	2-3 Reporting period, frequency and contact point	2		
	2-4 Restatements of information	2, 82		The "Note" column contains pertinent information in the event that corrections are required as a result of errors or modifications to aggregation standards.
	2-5 External assurance	114		
	2-6 Activities, value chain and other business relationships	12, 60, Business Report		Business Report p.11-17 (II. Business Overview)
	2-7 Employees	87		
	2-8 Workers who are not employees	88		
	2-9 Governance structure and composition	11, Business Report		Business Report p.257-264 (VI. Corporate Governance)
	2-10 Nomination and selection of the highest governance body	11, Business Report		Business Report p.257 (VI. Corporate Governance - 1. Board of Directors - Overview of Board Composition)
	2-11 Chair of the highest governance body	11, Corporate Governance Report		Corporate Governance Report - [100000] 1. General Corporate Governance Policies
	2-12 Role of the highest governance body in overseeing the management of impacts	11, Business Report		Business Report p.257-264 (VI. Corporate Governance)
	2-13 Delegation of responsibility for managing impacts	11, Business Report		Business Report p.259 (VI. Corporate Governance - 1. Board of Directors - C. Committees within the ESG Committee)
	2-14 Role of the highest governance body in sustainability reporting	11, Business Report		Business Report p.259 (VI. Corporate Governance - 1. Board of Directors - C. Committees within the ESG Committee)
	2-15 Conflicts of interest	Business Report		Business Report p.260-261 (VI. Corporate Governance - 1. Board of Directors - D. Independence of Directors) Business Report p.261-262 (VI. Corporate Governance – 2. Audit System)

GRI Standards Index

GRI Standard	Disclosure	Location	Reason for Omission	Note
GRI 2: General Disclosures 2021	2-16 Communication of critical concerns	11, 13, 18, 31, 40		
	2-17 Collective knowledge of the highest governance body	84, Business Report		Business Report p.263 (VI. Corporate Governance – 2. Audit System – F. Audit Committee and Training on Audit Committee Operations)
	2-18 Evaluation of the performance of the highest governance body	Business Report		Business Report p.277-279 (VIII. Compensation and Other Matters for Management and Employees – 2. Management Compensation, etc.)
	2-19 Remuneration policies	Business Report		Business Report p.259-260 (VI. Corporate Governance – 1. Board of Directors – C. Committees Remuneration Committee within the Board) Business Report p.277-279 (VIII. Compensation and Other Matters for Management and Employees – 2. Management Compensation, etc.)
	2-20 Process to determine remuneration	Business Report		Business Report p.259-260 (Section VI. Corporate Governance – 1. Board of Directors – C. Remuneration Committee within the Board) Business Report p.277-279 (VIII. Compensation and Other Matters for Management and Employees – 2. Management Compensation, etc.)
	2-21 Annual total compensation ratio	84		
	2-22 Statement on sustainable development strategy	4-5		
	2-23 Policy commitments	32, 40, 45, 79-81		
	2-24 Embedding policy commitments	33, 35, 42, 47		
	2-25 Processes to remediate negative impacts	36, 43		Facilitating marine accident response system, taking actions upon reporting on unethical behavior, etc.
	2-26 Mechanisms for seeking advice and raising concerns	43, 65, 66		Anonymous Reporting System, Helpline
	2-27 Compliance with laws and regulations	85		
	2-28 Membership associations	-		Membership status: Seoul Chamber of Commerce and Industry, Korea Shipowners' Association, SIGTTO, etc.
	2-29 Approach to stakeholder engagement	13		
	2-30 Collective bargaining agreements	67, 97		

GRI Standards Index

GRI Standard	Disclosure	Location	Reason for Omission	Note
Material Topics				
GRI 3: Material Topics 2021	3-1 Process to determine material topics	14		
	3-2 List of material topics	15		
Material Topic 1. Greenhouse Gas and Energy Management				
GRI 3: Material Topics 2021	3-3 Management of material topics	17-29		
GRI 201: Economic Performance 2016	201-2 Financial implications and other risks and opportunities due to climate change	23-29		
GRI 302: Energy 2016	302-1 Energy consumption within the organization	102		
	302-2 Energy consumption outside of the organization	102		
	302-3 Energy intensity	102		
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	103		
	305-2 Energy indirect (Scope 2) GHG emissions	103		
	305-3 Other indirect (Scope 3) GHG emissions	103		
	305-4 GHG emissions intensity	103		
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	103		
Material Topic 2. Maritime Safety and Health Management Enhancement				
GRI 3: Material Topics 2021	3-3 Management of material topics	30-38		
GRI 403: Occupational Health and Safety 2018	403-1 Occupational health and safety management system	32		
	403-2 Hazard identification, risk assessment, and incident investigation	35		
	403-3 Occupational health services	34		
	403-4 Worker participation, consultation, and communication on occupational health and safety	31, 35		
	403-5 Worker training on occupational health and safety	33, 61-62, 94-95		
	403-6 Promotion of worker health	34		
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	45-47		
	403-8 Workers covered by an occupational health and safety management system	97		
	403-9 Work-related injuries	98-100		
	403-10 Work-related ill health	98-100		

GRI Standards Index

GRI Standard	Disclosure	Location	Reason for Omission	Note
Material Topic 3. Strengthening Ethics and Compliance Management				
GRI 3: Material Topics 2021	3-3 Management of material topics	39-43		
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	85		
	205-2 Communication and training about anti-corruption policies and procedures	86		
	205-3 Confirmed incidents of corruption and actions taken	85		
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	85		
Material Topic 4. Collaborative Growth Activities and Supply Chain Sustainability Management				
GRI 3: Material Topics 2021	3-3 Management of material topics	44-47		
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	-	Information Unavailable	Environmental criteria are incorporated in the renewal assessments for existing suppliers.
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	-	Information Unavailable	Safety criteria are incorporated in the renewal assessments for existing suppliers.
Non-Material Topics				
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	83		
	201-3 Defined benefit plan obligations and other retirement plans	97, Business Report		Business Report p.90 (III. Financial Information – 3. Notes to the Consolidated Financial Statements – 22. Retirement Benefit Assets/Liabilities (on a consolidated basis)
	201-4 Financial assistance received from government	83		
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	90		
	202-2 Proportion of senior management hired from the local community	89		
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	49, 56		
	303-2 Management of water discharge-related impacts	49, 51, 56		
	303-3 Water withdrawal	104		
GRI 304: Biodiversity 2016	304-2 Significant impacts of activities, products and services on biodiversity	51		
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	49-54		
	306-2 Management of significant waste-related impacts	49-54		
	306-3 Waste generated	104		
	306-4 Waste diverted from disposal	104		
	306-5 Waste directed to disposal	104		

GRI Standards Index

GRI Standard	Disclosure	Location	Reason for Omission	Note
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	91-92		
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	67-68		
	401-3 Parental leave	93		
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	96		
	404-2 Programs for upgrading employee skills and transition assistance programs	61-63		
	404-3 Percentage of employees receiving regular performance and career development reviews	96		
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	84, 87-88		
	405-2 Ratio of basic salary and remuneration of women to men	90		
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	85		
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	101		
GRI 416: Customer Health and Safety 2016	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	85		
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	100		

SASB Index

Marine Transportation Sustainability Accounting Standard

Disclosure Topics and Accounting Metrics

Topic	Code	Accounting Metric	Unit	Data
GHG Emissions	TR-MT-110a.1	Gross global Scope 1 emissions	tCO_2-eq	2,959,209 (Scope 1 vessels, vehicles, and city gas)
	TR-MT-110a.2	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	-	2025 Sustainability Report p17-29
	TR-MT-110a.3	(1) Total energy consumed, (2) percentage heavy fuel oil and (3) percentage renewable	GJ, %	(1) 40,918,130 (Scope 1+2) (2) 68 (3) 0.001
	TR-MT-110a.4	Average Energy Efficiency Design Index (EEDI) for new ships	gCO_2/ton. mile	N/D
Air Quality	TR-MT-120a.1	Air emissions of the following pollutants: (1) NOx (excluding N_2O), (2) SOx, and (3) particulate matter (PM_{10})	Ton	(1) 72,220 (2) 8,496 (3) 5,389
Ecological Impacts	TR-MT-160a.1	Shipping duration in marine protected areas or areas of protected conservation status	Days	N/A
	TR-MT-160a.2	Percentage of fleet implementing ballast water (1) exchange and (2) treatment	%	(2) 100
	TR-MT-160a.3	(1) Number and (2) aggregate volume of spills and releases to the environment	Case, m^3	N/D
Employee Health & Safety	TR-MT-320a.1	Lost time incident rate (LTIR)	Per million hours	1.82
Business Ethics	TR-MT-510a.1	Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Case	N/D
	TR-MT-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	KRW	0
Critical Incident Risk Management	TR-MT-540a.1	(1) Number of marine casualties, (2) percentage classified as very serious	Case, %	(1) 5 (2) 20
	TR-MT-540a.2	Number of Conditions of Class or Recommendations	Case	N/D
	TR-MT-540a.3	Number of port state control (1) deficiencies and (2) detentions	Case	(1) 228 (2) 1

Activity Metrics

Code	Activity Metric	Unit	Data
TR-MT-000.A	Number of shipboard employees	Persons	2,631
TR-MT-000.B	Total distance traveled by vessels	Nautical miles	7,267,668
TR-MT-000.C	Operating days	Days	26,761
TR-MT-000.D	Deadweight tonnage (DWT)	Deadweight Tonnage (DWT)	13,831,470
TR-MT-000.E	Number of vessels in total shipping fleet	Vessels	120 (including vessels under 120 GT)
TR-MT-000.F	Number of vessel port calls	Case	3,695
TR-MT-000.G	Twenty-foot equivalent unit (TEU) capacity	TEU	11,713

TCFD Index

TCFD Recommendations		Location
Governance	a) Describe the board's oversight of climate-related risks and opportunities.	18, 23
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	18, 23
Strategy	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	24-25
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	24-25
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	26
Risk Management	a) Describe the organization's processes for identifying and assessing climate-related risks.	23
	b) Describe the organization's processes for managing climate-related risks.	23
	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	18, 23
Metrics and Targets	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	29
	b) Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	103
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	29

GHG Verification Statement

Independent Verification Opinion PAN OCEAN CO., LTD.

Introduction

DNV Business Assurance Korea Ltd. ("DNV") was commissioned by Pan Ocean Co., Ltd.("Company") to perform third party verification for the Company's Greenhouse Gas Statement. The Company is responsible for the preparation of the GHG statement on the basis set out within 'WRI/WBCSD GHG Protocol: A Corporate Accounting and Reporting Standard ', 'The Corporate Value Chain (Scope 3) Accounting and Reporting Standard', and 'IPCC Guidelines: 2006'. The Company has full responsibility of the GHG statement. According to terms of contract, DNV expressly disclaims any liability or co-responsibility for any decisions a 3rd party may make based on the verification opinion.

Objective and Scope of Verification

The objective of the verification is to present an independent verification opinion on the company's GHG statement, and the scope of verification is as follows;

- Organizational Boundary : Pan Ocean Co., Ltd. and it's Subsidiaries

  (10 Subsidiaries – POS SM Co., Ltd., Pan Ocean Trading & Logistics Pte. Ltd., Pan Ocean (China) Co.,Ltd., Pan Ocean International Logistics Co.,Ltd., Wide Sea Logistics Co.,Ltd., Pan Ocean Japan Corporation, Pan Logix Co.,Ltd., Pan Ocean Container (Japan) Co.,Ltd., Pan Ocean (America) Inc., Pan Ocean Brasil Apolo Maritimo Ltda.)
- Reporting Boundary : Scope 1 (Direct emissions), Scope 2 (Indirect emissions) and Scope 3 (Other indirect emissions – Categories 1,4,6,7,8)
- Reporting Period : 2024.01.01 ~ 2024.12.31

Verification Approach

The verification has been conducted in accordance with the verification principles and tasks outlined in the 'ISO 14064-3:2019', based upon a Limited Level of assurance. DNV planned and concluded our work so as to obtain all the information and explanations deemed necessary to provide us with sufficient evidence to provide a verification opinion with 5% materiality level. As part of the verification process, we have reviewed as follows;

- Adequacy of GHG data control, collection and emission calculation and report process
- The GHG inventory is based on measurements and has inherent limitations that may arise from the process of calculating, estimating, and finalizing the reported data.

Conclusions

Based on the verification, there is no evidence that the GHG statement is not materially correct and is not a fair representation of GHG data and information.

- DNV represents "unmodified" opinion on Greenhouse Gas Emissions.

(Unit: ton CO_2 eq)

2024 Year	Scope 1		Scope 2	Scope 3	Total Emissions
	Vessel	Others	Electricity		
Pan Ocean and Subsidiaries	2,957,692	1,518	885	4,384,419	7,344,514

DNV

2025. 6. 13

Lee, Jang Sup

Country Representative

DNV Business Assurance Korea Ltd.

This Assurance Opinion is valid as of the date of the issuance. Please note that this Assurance Opinion would be revised if any material discrepancy which may impact the Greenhouse Gas Emissions of the Company is subsequently brought to our attention.

Independent Assurance Statement

To the stakeholders of Pan Ocean Co., Ltd.

Overview

BSI (British Standards Institution) Group Korea (hereinafter referred to as the "Assurer") was requested to verify the 2025 PAN OCEAN Sustainability Report (hereinafter referred to as the "Report"). The Assurer is independent of Pan Ocean and has no major operational financial interest other than the assurance. This assurance opinion statement is intended to provide information related to the assurance of the Pan Ocean report relating to the environment, social and governance (ESG) to the relevant stakeholders and may not be used for any purpose other than the purpose of publication. This assurance opinion statement was prepared based on the information presented by the Pan Ocean and the assurance was carried out under the assumption that presented the information and data were complete and accurate.

Pan Ocean is responsible for managing the relevant information contained within the scope of assurance, operating the relevant internal control procedures, and for all information and claims contained in the report. Any queries that may arise by virtue of this independent assurance opinion statement or matters relating to it should be addressed to Pan Ocean only.

The Assurer is responsible for providing Pan Ocean management with an independent assurance opinion containing professional opinions derived by applying the assurance methodology to the scope specified, and to provide the information to all stakeholders of Pan Ocean. The Assurer shall not bear any other responsibility, including legal responsibility, to any third party other than Pan Ocean in providing the assurance opinion and shall not be liable to any other purpose, purpose or stakeholders related thereto for which the assurance opinion may be used.

Scope

The scope of engagement agreed upon with Pan Ocean includes the following:

- Reporting contents during the period from January 1st to December 31st 2024 included in the report, some data included the first half of 2025.
- Major assertion included in the Report, such as sustainability management policies and strategies, goals, projects, and performance, and the Report contents related to material topics determined as a result of materiality assessment.
- Appropriateness and consistency of processes and systems for data collection, analysis and review.
- In Accordance with the four principles of AA1000 AccountAbility in the report, based on the type of Sustainability Assurance based on AA1000AS v3 and if applicable, the reliability of the sustainability performance information contained in the report.

The following contents were not included in the scope of assurance.

- Financial information in Appendices.
- Index items related to other international standards and initiatives other than the GRI.
- Other related additional information such as the website, business annual report.

Assurance Level and Type

The assurance levels and types are as follows;

- Moderate level based on AA1000 AS and Type 1 (confirmation to the four principles as described in the AA1000 Accountability Principle 2018 in the report.)

Description and sources of disclosures covered

Based on the scope and methodology of assurance applied, the assurer reviewed the following Disclosures based on the sampling of information and data provided by Pan Ocean.

[Universal Standards]

2-1 to 2-5 (The organization and its reporting practices), 2-6 to 2-8 (Activities and workers), 2-9 to 2-21 (Governance), 2-22 to 2-28 (Strategy, policies and practices), 2-29 to 2-30 (Stakeholder engagement), 3-1 to 3-3 (Material Topics Disclosures)

[Topic Standards]

201-1~4, 202-1~2, 205-1~3, 206-1, 302-1~3, 303-1~3, 304-2, 305-1~4, 305-7, 306-1~5, 308-1, 401-1~3, 403-1~10, 404-1~3, 405-1~2, 406-1, 413-1, 414-1, 416-2, 418-1

Methodology

As a part of its independent assurance, the Assurer has used the methodology developed for relevant evidence collection in order to comply with the verification criteria and to reduce errors in reporting. The Assurer has performed the following activities;

- A top-level review of issues raised by external parties that could be relevant to organizations policies to provide a check on the appropriateness of statements made in the report.
- Discussion with managers and staffs on organization's approach to stakeholder engagement.
- Review of the supporting evidence related to the material topics through interviews with senior managers in the responsible departments.
- Review of the system for sustainability management strategy process and implementation
- Review of materiality issue analysis process and prioritization by reviewing materiality issue analysis process and verifying the results
- Verification of data generation, collection and reporting for each performance index and document review of relevant systems, policies, and procedures where available
- An assessment of the company's reporting and management processes concerning this reporting against the principles of Inclusivity, Materiality, Responsiveness and Impact as described in the AA1000 AccountAbility Principles Standard (2018).
- Visit of the Pan Ocean HQ to confirm the data collection processes, record management practices.

Limitations and approach used to mitigate limitations

The Assurer performed limited verification for a limited period based on the data provided by the reporting organization. It implies that no significant errors were found during the verification process, and that there are limitations related to the inevitable risks that may exist. The Assurer does not provide assurance for possible future impacts that cannot be predicted or verified during the verification process and any additional aspects related thereto.

Independent Assurance Statement

Competency and Independence

BSI (British Standards Institution) is a leading global standards and assessment body founded in 1901. BSI is an independent professional institution that specializes in quality, health, safety, social and environmental management with almost 120 years history in providing independent assurance services globally. No member of the assurance team has a business relationship with Pan Ocean. The Assurer has conducted this verification independently, and there has been no conflict of interest. All assurers who participated in the assurance have qualifications as an AA1000AS assurer, have a lot of assurance experience, and have indepth understanding of the BSI Group's assurance standard methodology.

Opinion Statement

The assurer was carried out by a team of sustainability report assurors in accordance with the AA1000 Assurance Standard v3. Assurer planned and performed this part of our work to obtain the necessary information and explanations assurer considered to provide sufficient evidence that Pan Ocean's description of their approach to AA1000 Assurance Standard and their self-declaration of compliance with the GRI standards were fairly stated. On the basis of our methodology and the activities described above, it is our opinion that the information and data included in the Report are accurate and reliable and the Assurer cannot point out any substantial aspects of material with mistake or misstatement. We believe that the economic, social and environment performance indicators are accurate and are supported by robust internal control processes.

Conclusions

The Report is prepared in accordance with the GRI Standards. (Reporting in accordance with the GRI standards). The detailed reviews against the AA1000 AccountAbility Principles of Inclusivity, Materiality, Responsiveness and Impact and the GRI Standards are set out below.

Inclusivity: Stakeholder Engagement and Opinion

Pan Ocean defined employees, customers, suppliers, shareholders/investors, governments, international organizations/NGOs and local communities as a Key Stakeholder Groups. In order to collect opinions by each stakeholder group in the context of sustainability, operated the stakeholder engagement process. Pan Ocean was conducting a review of the stakeholder engagement process at the governance level in order to reflect the major issues derived through the stakeholder engagement process in sustainability strategy and goals. Pan Ocean disclosed the results related to the process in the Report.

Materiality: Identification and reporting of material sustainability topics

Pan Ocean implemented its own materiality assessment process in consideration of the major business and operational characteristics to derive important reporting issues related to sustainability. In the materiality assessment, Pan Ocean conducted the analysis of IMO regulations, global sustainability reporting or assessment standards, and analyzed international disclosure standards and evaluation indicators, benchmarking the same industry, and analyzing major regulatory issues to derive the impact and financial materiality. Pan Ocean derived 4 material topics through the relevant process, and disclosed GRI topic standards related to material topics in the Report.

Responsiveness: Responding to material sustainability topics and related impacts

Pan Ocean operated a management process for material topics in the context of sustainability derived from the materiality assessment. Pan Ocean established mid- to long-term sustainability plans and goals in according to the management methodology established to effectively reflect the expectations of key stakeholders. Pan Ocean reviewed through major management organizations such as ESG working-level consultative bodies/strategic group teams/management consultative bodies, disclose the process including policy, indicator, activity and response performance on material topics in the Report.

Impact: Impact of an organization's activities and material sustainability topics on the organization and stakeholders

Pan Ocean identified the scope and extent of the impacts to the organization and key stakeholders in the context of the sustainability of the material topics reported. Pan Ocean established sustainability strategies and objectives based on the analysis results of major impacts, including risks and opportunities for material topics at the governance level, disclosed mid- to long-term plans and strategic system in the Report.

Recommendations and Opportunity for improvement

The assurer will provide the following comments to the extent that they do not affect the result of assurance;

- Pan Ocean has established mid- to long-term sustainability strategies and goals in accordance with the requirements of major regulatory agencies such as the IMO and global sustainability initiatives. In addition, It may be helpful to lead the sustainability management system by disclosing the internal management system and the achievement of the sustainability issue by reporting year.
- It may be helpful to advance the sustainability management system by reflecting the sustainability impact of related forward/rearward industries such as oil refining industries and heavy industries, and shaping value chains and stakeholder identification and engagement processes.
- It may be helpful to lead the sustainability management system by upgrading the sustainability disclosure performance indicator management system and internal control procedures established by Pan Ocean.

GRI-reporting

Pan Ocean provided us with their self declaration of compliance within GRI Standards. Based on our review, we confirm that social responsibility and sustainable development indicators with reference to the GRI Index. The Assurer confirmed that the Report was prepared in accordance with the GRI Standards and the disclosures related to the Universal Standards and Topic Standards Indicators based on the data provided by Pan Ocean. The sector standard was not applied.

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For and on behalf of BSI (British Standards Institution):

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PAN OCEAN