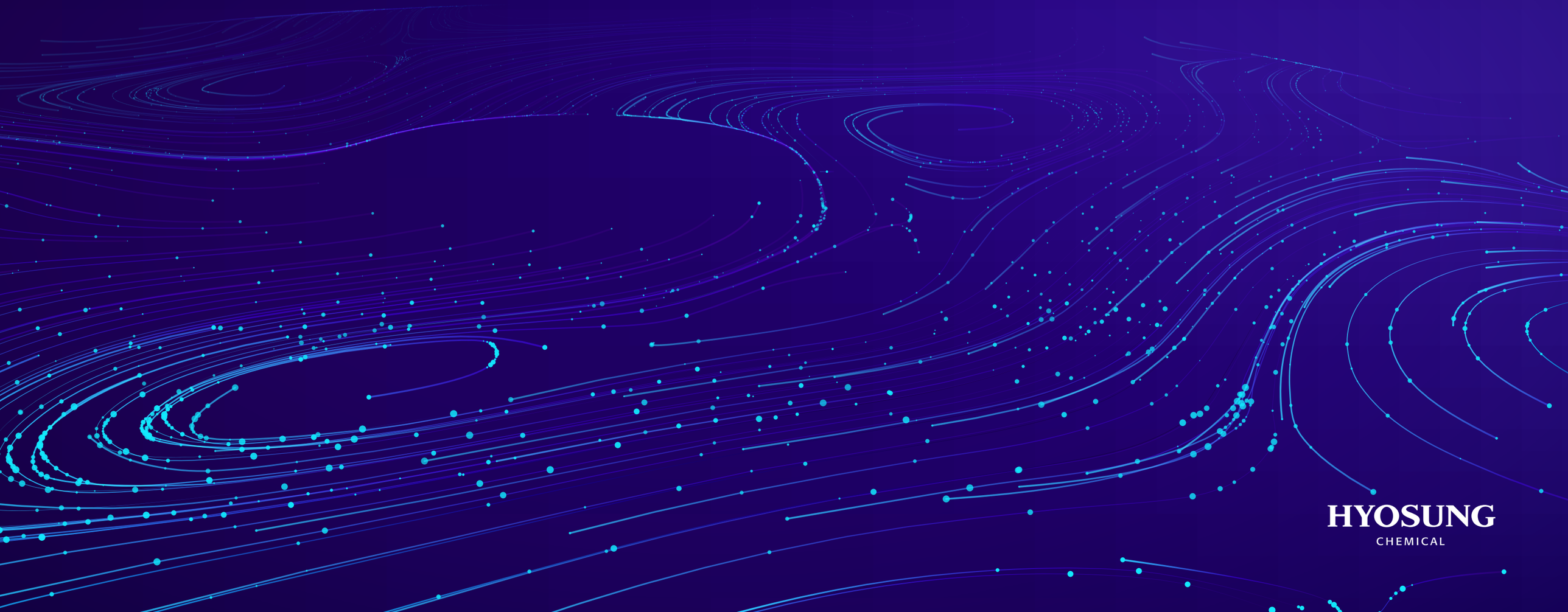
Driving a Sustainable Tomorrow

2024 Hyosung Chemical Sustainability Report



HYOSUNG
CHEMICAL

ABOUT THIS REPORT

INTERACTIVE GUIDE

The 2024 Hyosung Chemical Sustainability Report has been created as an interactive PDF that incorporates links to relevant pages in the report.

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Key Terminology & Contact for Inquiries

PU: Performance Unit

Contact: esg_chem@hyosung.com

Overview

To actively engage with its stakeholders and share our sustainability efforts, Hyosung Chemical has communicated its progress through the Hyosung Group Sustainability Report, published annually since 2018, following the Group's first report in 2012. The 2024 Hyosung Chemical Sustainability Report marks the company's ninth report and its first standalone edition. Through this report, we aim to transparently disclose our sustainability activities and achievements across the economic, social, and environmental dimensions, and strengthen engagement with our stakeholders.

Reporting Principles

The 2024 Hyosung Chemical Sustainability Report has been prepared in accordance with GRI Standards 2021. To address key industry-specific issues, we referred to the SASB Industry Standards. In addition, external sustainability initiatives and frameworks such as TCFD and ISO26000 were considered in the selection of materiality issues to respond to the interests and expectations of various stakeholders.

Reporting Period and Scope

This report covers the period from January 1, 2024, to December 31, 2024. For data items requiring trend analysis, figures from the past three years are included. Certain qualitative activities and performance have been reported up to May 2025.
The scope of qualitative performance reporting is limited to Hyosung Chemical's domestic operations, excluding its subsidiaries. In contrast, quantitative performance reporting includes not only data from domestic operations but also from subsidiaries that together account for 100% of Hyosung Chemical's consolidated sales, such as Hyosung Vina Chemicals Co., Ltd. and Hyosung Film (Quzhou) Co., Ltd. Additionally, following the 2025 transfer of Neochem PU, our specialty gas business unit, to Hyosung TNC through a business transfer agreement, the 2024 Business Report was prepared based on the post-transfer structure. However, since this Sustainability Report is based on the pre-transfer structure, certain discrepancies may exist between the two reports. Where applicable, explanatory footnotes have been provided.
For any discrepancies arising from differences in reporting scope or changes to previously disclosed figures, footnotes have been provided to explain the reasons and resulting adjustments.

Reporting Frequency

Our sustainability report is published annually, with this edition released in June 2025.

External Assurance

To ensure the credibility and objectivity of this report's content and its non-financial data, external assurance was conducted by BSI(British Standards Institution), an independent third-party assurance provider. The assurance statement is provided in the Appendix (p.84).

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OVERVIEW

CEO Message

Creating a Better Tomorrow through Sustainable Innovation

To our valued stakeholders,
I am Kun-jong Lee, CEO of Hyosung Chemical.

I would like to extend our deepest gratitude to all our stakeholders—shareholders, customers, partners, local community members, and our employees—for your unwavering interest and support in our continued pursuit of innovations and growth.

Today, we face a complex landscape of global issues, from the climate crisis and resource depletion to supply chain disruption. At Hyosung Chemical, we are addressing these pressing issues by placing ESG at the core of our business management, driving our sustainable growth, and contributing to a more sustainable future.

Since declaring our support for TCFD (Task Force on Climate-related Financial Disclosure) in 2022, we have strengthened our plans and strategies to navigate climate-related risks. We established the Green Management Vision 2030 and have been systematically implementing it ever since. In particular, to achieve carbon neutrality, we have steadily expanded our portfolio of sustainable products by developing waste plastic recycling technologies and increasing the use of environmentally responsible materials, among others.

In fulfilling our social responsibilities, we support our partners in strengthening their ESG capabilities while reinforcing ESG risk management across our supply chain to build a more sustainable supply chain ecosystem. As part of the collaborative partnership, we also provide a wide range of business support, including consulting, marketing, education, and environmental and safety management systems, for partners, small and medium-sized enterprise customers, and startups. In addition, recognizing that workplace safety and health are top priorities, we are continuously implementing improvement and preventive measures to create a safer work environment.

On the governance front, we are committed to transparent business practices and ethical management as a means to earn trust from our stakeholders. Since the launch of the ESG Management Promotion Committee in 2021, we have established and maintained a CEO-led ESG governance framework to ensure consistent monitoring and management of ESG activities.

To live up to your trust, Hyosung Chemical will continue to establish itself as an environmentally responsible chemical company and lead the way toward a sustainable future. We sincerely ask for your ongoing support as we take on new challenges and pursue innovation in our journey to create a better tomorrow.

Kun-jong Lee,
CEO of Hyosung Chemical

Company Overview

Introduction

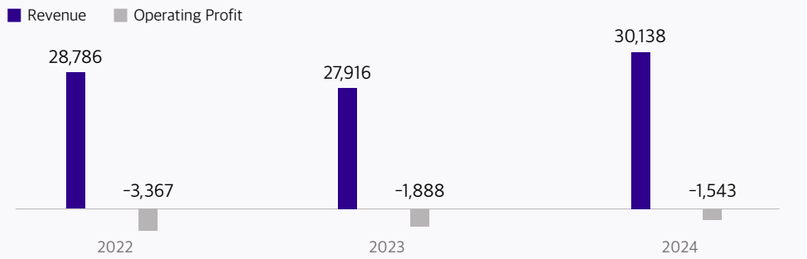
Hyosung Chemical, the first company in Korea to develop and commercialize PET bottle chips in 1979, has continued to grow under its mission: “Enhance and enrich the quality of life for humanity with its leading technology and management capability.” we are constantly striving to offer products and services that maximize value for customers, by having the 'best people' demonstrate the ‘leading technology’ and ‘management capability’ and thus enhance the value of life for humanity.

Company Overview

Company Name	Hyosung Chemical Corporation
Headquarters	235, Banpo-daero, Seocho-gu, Seoul, Republic of Korea
Domestic Business Sites	Seoul Headquarters, Yongyeon Plant, Gumi Plant, Oksan Plant, Anyang Plant, Tank Terminal
Overseas Business Sites	Hyosung Vina Chemicals Co., Ltd. (Vietnam) Hyosung Film(Quzhou) Co., Ltd. (China)
Number of Employees	1,887 (as of the end of Dec 2024)

Three-year Financial Highlights

(Unit: KRW 100 million)



* All figures are presented on a consolidated basis.

Business Areas

Petrochemicals

PP/DH - Produced at Yongyeon and Vietnam
PP (Polypropylene) is a synthetic resin produced by polymerizing propylene and is one of the most widely used plastic materials in everyday life. DH (Dehydrogenation) is a process for producing high-purity propylene, a key raw material for PP, through the dehydrogenation of propane.

TPA - Produced at Yongyeon
TPA (Terephthalic-Acid) is a key raw material for producing high-performance polyester fibers. It is widely used in various industrial materials and everyday products, including tire cords, PET bottles, and polyester films.

POK - Produced at Yongyeon
POK (Polyketone) is a new material for future industries, first successfully commercialized globally by Hyosung Chemical. As an innovative engineering plastic produced with lower carbon emissions, it is harmless to humans and offers excellent performance in chemical, impact, and wear resistance.

Other Businesses

MEMBRANE - Produced at Anyang
Hyosung Chemical’s water treatment system is powered by hollow fiber membranes with 0.03㎛ pores. Our state-of-the-art membrane-based water treatment technology provides a comprehensive solution to address global climate change and water scarcity.

Films

FILM - Produced at Yongyeon, Gumi, and China
PET (Polyethylene Terephthalate) film, known for its excellent mechanical properties, is used in a wide range of industries, from packaging to electronics and electrical applications.
Our NY (Nylon) film is strengthening its competitive edge, being widely applied in producing various differentiated products, including food and pharmaceutical packaging, lithium-ion batteries, and easy-peel materials.

OPTICAL FILM - Produced at Yongyeon and Oksan
TAC (Tri-Acetyl Cellulose) film is used to protect the polarization film layers in LCD polarizing plates for TVs, monitors, and smartphones. We have independently developed this eco-friendly, cotton-based material and have been producing it in-house. Recently, we have expanded into the emerging automotive display market, proactively keeping pace with the evolving display industry.

Special Gas

Neochem - Produced at Yongyeon and Oksan
NF_3 (Nitrogen Trifluoride) is a colorless, inert gas extensively used in CVD (Chemical Vapor Deposition) chamber cleaning and semiconductor etching processes.
A 20% F_2/N_2 mixture gas is a pale yellow gas used to clean LPCVD (Low Pressure Chemical Vapor Deposition) equipment chambers in semiconductor processes.

Company Overview

Business Value-Chain

Hyosung Chemical has established an extensive value chain that encompasses everything from petrochemical-based basic materials to high-value products such as high-performance films and specialty gases. We deliver sustainable solutions across all stages of this value chain—from raw material sourcing and material production to processing and application—serving as a key supplier of essential materials for various industries.

Petrochemicals

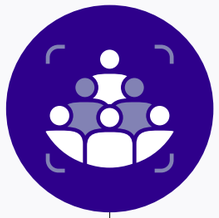
Films

Specialty Gases

	UPSTREAM		OWN OPERATION		DOWNSTREAM	
PP/DH	Oil Drilling & Crude Oil Production	Crude Oil Refining & Naphtha Production	Propylene Production (PDH Process)	Polypropylene Production (Polymerization Reaction)	Final Product Manufacturing (e.g., pipes, food containers, syringes)	
POK			Production of CO, Ethylene, and Propylene	Poketone Production (Polymerization Reaction)	Final Product Manufacturing (e.g., connectors, gears, helmets, packaging)	
TPA			Para-xylene(PX) Production (Naphtha Cracking)	TPA Production (Oxidation of PX)	Intermediate Manufacturing (PET Chip)	Final Product Manufacturing (e.g., PET bottles, polyester fibers)
PET FILM			PET Chip Production (TPA+EG Polymerization)	PET Film Production (T-Die Extrusion)	Intermediate Manufacturing (e.g., coated and laminated films)	Final Product Manufacturing (e.g., windows, industrial-use films)
NY FILM			NY Chip Production (PA6, Polymerization Reaction)	NY Film Production (T-Die Extrusion)	Intermediate Manufacturing (e.g., coated and laminated films)	Final Product Manufacturing (e.g., pharmaceutical, food)
OPTICAL FILM	Cotton Linter Production		TAC Flake Production (Acetylation of Cellulose)	TAC Film Production (Solvent Casting)	Final Product Manufacturing (e.g., protective films for PVA layers in LCD)	
NEOCHEM	Fluorite Mining	HF Production	NF_3 Production (ECF Process, Electrochemical Fluorination)	NF_3 Container Filling	Final Product Manufacturing (e.g., semiconductor chips, display panel cleaning)	
	NH_3 Production		NF_3, F_2 Production (DF Process, Direct Fluorination)	20% F_2/N_2 Production & Container Filling		
	N_2 Production					

Stakeholder Engagement

Hyosung Chemical recognizes customers, employees, shareholders, investors, business partners, and local community members as key stakeholders among the many parties impacted by and contributing to our sustainability management. To engage more with them, actively listen to their voices through diverse communication channels and reflect their input in its business operations.





	CUSTOMERS	EMPLOYEES	BUSINESS PARTNERS	SHAREHOLDERS/INVESTORS	LOCAL COMMUNITY
Key Concerns	• Enhance product quality and price competitiveness • Provide reliable products and services • Manage human rights and environmental risks • Promote sustainability activities	• Ensure transparent and fair performance evaluation • Respect employees' human rights • Provide reasonable compensation and welfare benefits • Encourage two-way communication with management • Promote work-life balance • Create a safe and healthy workplace	• Pursue collaborative partnership and fair distribution of profits • Eliminate power abuse and unreasonable demands, and ensure fair trade • Protect proprietary technologies • Share industry trend and information • Support capability building for partner companies	• Ensure financial soundness and profitability • Secure future growth drivers • Enhance transparent governance and build trust in management • Manage sustainability-related risks	• Conduct community risk management activities • Revitalize the local economy • Promote communication • Fulfill corporate social responsibility
Communication Channel & Frequency	• Official Website, SNS, YouTube, LinkedIn (ongoing) • Global Exhibitions (ongoing) • Technology Exchange Meetings (ongoing) • VOC (Voice of Customer) Activities (ongoing)	• Intra-net community boards ('Wagle Wagle' and 'Tong Tong Bulletin Board', ongoing) • HR Counseling Center / Grievance Handling Office (ongoing) • Whistleblowing Center on Official Website (ongoing) • Conversation with Leadership, Leadership Message (Quarterly) • Company Newsletter (Monthly), HBS (In-house broadcasting, twice a week)	• Partner Meetings (ongoing) • Shared Value Programs for Partners (ongoing) • Whistleblowing Center on Official Website (ongoing)	• Corporate Investor Relations Activities (ongoing) • Board of Directors Meeting (at least quarterly), Shareholders' Meeting (annually) • Business Report (annually) • Sustainability Report (annually) • Public Disclosures (ongoing)	• Environmental Cleanup Activities (annually) • CSR Programs (ongoing) • Factory invitation events for local community (at least once a year)

Double Materiality Assessment

Assessment Process

To identify Hyosung Chemical's material sustainability issues, we followed a three-step process. In the first step, we analyzed disclosure standards, sustainability assessment criteria, reports from leading companies, internal management reports, and ESG-related requests from external stakeholders, which helped us identify 30 sustainability issues. From this list, we ultimately selected four material topics through a double materiality assessment, considering Financial Materiality (how environmental and social factors impact Hyosung Chemical's financial performance) and Impact Materiality (how Hyosung Chemical's operations affect the environment and society).

Step 1: Identification of Sustainability Issues	Step 2: Materiality Impact Assessment	Step 3: Selection of Material Topics
Process ① Developed an industry-specific issue pool (long list) through an analysis based on global ESG disclosure standards. ② Analyzed public disclosure standards such as GRI and SASB, as well as sustainability management assessment criteria from Korea Institute of Corporate Governance and Sustainability (KCGS) and EcoVadis. ③ Benchmarked leading companies' 2023 sustainability reports. ④ Reviewed 103 internal management reports and 39 sustainability-related requests from external stakeholders in 2024.	Process ① Developed a survey to assess the financial and impact materiality of the 30 issues. ② Distributed the survey to all Hyosung Chemical team leaders, suppliers, sustainability experts, and local institutions. ③ A total of 95 responses were collected: 58 Hyosung Chemical team leaders, 26 suppliers, 10 sustainability experts, and 1 local institution.	Process ① Calculated financial and impact materiality scores for the 30 issues based on the reference materials reviewed in Step 1 and survey results from Step 2. ② Applied additional weighting to issues associated with 129 news articles related to Hyosung Chemical, published in 2024 ③ Ranked all issues based on their double materiality scores and selected the final material topics
Outcome Thirty sustainability issues (short list)	Outcome The results of the financial and impact materiality assessment of the 30 sustainability issues, based on input from internal and external stakeholders	Outcome Four material topics (3 environmental and 1 social issues)

Material Topic Selection Results

The four material topics ultimately selected are: 'Product Hazard Management,' 'Response to Environmental Regulations,' and 'Greenhouse Gas Reduction' in the environmental area, and 'Enhancement of Workplace Safety and Health' in the social area. Recognizing both the opportunities and risks associated with each topic, we have established topic-specific governance structures, while developing and implementing appropriate response strategies. The results of the materiality assessment are reported to the ESG Management Promotion Committee, which comprises executives from all sustainability-related departments, as well as to the Board of Directors.

Area	Material Topics	Opportunities	Risks	Response Strategies	KPI
Environmental	Product Hazard Management	• Enhance consumer trust and brand image • Mitigate risks related to hazardous substance regulation	• Product credibility decline and C&C handling costs • Restrictions on product sales and distribution due to exceeding the permissible hazardous substance limits	• Inspection of inbound raw and subsidiary materials for environmental hazardous substances • Verification of non-toxicity of outbound products by an accredited institution	• Compliance with quality management system • Number of product hazard analyses
	Response to Environmental Regulations	• Prevent environmental and safety accidents • Mitigate legal risks by promptly responding to regulatory changes	• Damage to local communities caused by environmental pollution • Administrative penalties for exceeding emission limits	• Maintain ISO 14001 (Environmental Management System) certification at all business sites • Conduct semiannual Environmental Compliance Evaluations for each PU	• Number of environment regulation violations • Management of environmental load reduction
	Greenhouse Gas Reduction	• Generate profits by selling surplus carbon emission permit • Increase revenue through growing demand for low-carbon products	• Costs for purchasing carbon emission permit • Decline in product demand due to unmet stakeholder expectations	• Hold quarterly Carbon Reduction Task Force (TFT) meetings to identify new GHG reduction initiatives and manage performance and plans	• Amount of GHG emission reduction • Amount of energy consumption reduction
Social	Enhancement of Workplace Safety and Health	• Ensure employee safety and health • Reduce legal risks associated with applicable legislation, including the Serious Accidents Punishment Act (SAPA)	• Industrial accidents involving injuries and deaths of employees • Legal and regulatory actions	• Hold monthly EHS Committee meetings to review safety and health management performance and targets across all business sites	• Number of serious and industrial accidents • Compliance with serious accident regulations

Double Materiality Assessment

Selection Result Details

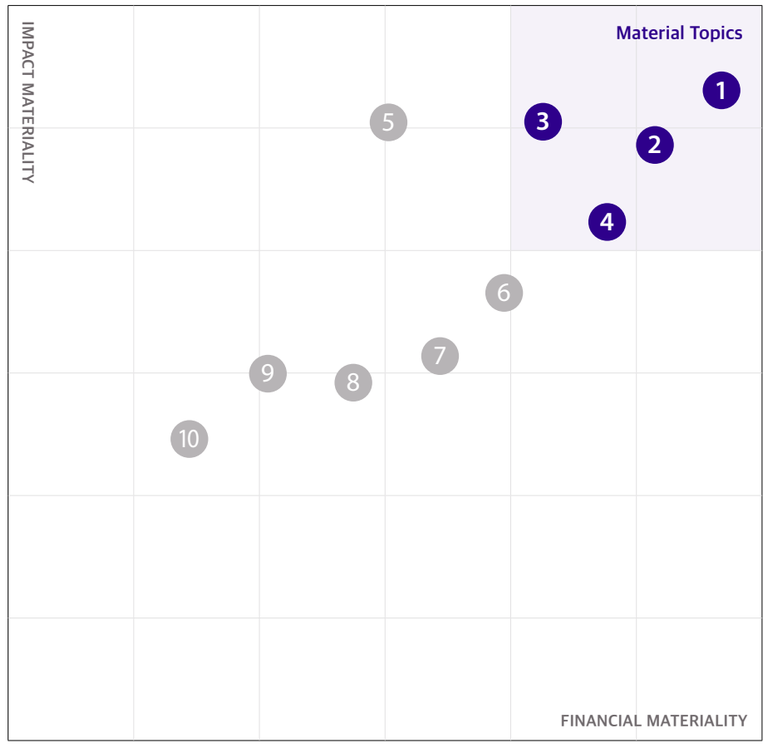
As a result of the double materiality assessment, four material topics were selected: Product Hazard Management, Response to Environmental Regulations, Greenhouse Gas Reduction, and Enhancement of Workplace Safety and Health. Activities related to each topic are disclosed in detail throughout this report. During the materiality assessment, we analyzed the likelihood of each issue occurring and the estimated period required for resolution, which also informed our assessment of recovery potential. Issues with higher likelihood were labeled as Actual, and those with lower likelihood as Potential. We categorized the resolution periods as short-term (within 1 year), mid-term (1-5 years), and long-term (over 5 years).

Material Topics

No	Type	2024 Issue	Actual/ Potential	Recovery Period	Financial Materiality	Impact Materiality	Reference Pages	GRI Standards
1	Environmental	Product Hazard Management	Actual	Short-term	1	2	13~15, 63, 79	416-1~2, 417-2
2	Environmental	Response to Environmental Regulation	Actual	Short-term	2	4	17	SASB RT-CH-530a.1
3	Environmental	Greenhouse Gas Reduction	Actual	Mid- to long-term	4	1	22, 64, 69	305-1~7
4	Social	Enhancement of Workplace Safety and Health	Actual	Short-term	3	5	23~27, 45, 78	403-1~10

Other Topics

No	Type	2024 Issue	Actual/ Potential	Recovery Period	Financial Materiality	Impact Materiality	Reference Pages
5	Environmental	Response to and Management of Climate Change Risks	Potential	Mid- to long-term	7	3	22, 64, 65, 69
6	Governance	Prevention of Corruption and Bribery	Potential	Short-term	5	6	55~57, 63
7	Environmental	Management of Air and Water Pollutants	Actual	Mid- to long-term	6	7	16~19, 69
8	Governance	Integration of Sustainability Strategies and Business	Potential	Short-term	8	9	58~59
9	Environmental	Development and Production of Eco-Friendly Products and Technologies	Potential	Mid- to long-term	9	8	29, 30, 70
10	Environmental	Establishment of a Circular Economy	Potential	Mid- to long-term	10	10	29, 31, 32, 67



* Hyosung Chemical reassessed issues closely related to our business operations through the 2024 double materiality assessment. Based on the issues identified last year, we redefined key issues through a process of segmentation and integration.
As a result of the 2024 Materiality Assessment, 'Response to Environmental Regulations' and 'Greenhouse Gas Reduction' were newly added, while 'Sustainable business expansion', 'Product Safety and Quality Management', 'Risk Management', and 'Reinforcement of Sustainable Management Leadership' were excluded. As a result, four material topics were selected for this year's sustainability report.

Double Materiality Assessment

Value Creation Model by Material Topic

Going beyond simply presenting ESG activities and performance, Hyosung Chemical has assessed the financial impact of each material topic to foster long-term, trust-based relationships with investors. To this end, we analyzed capital and operational expenditures to evaluate the long-term returns and competitiveness associated with our investments. We are continuously enhancing our valuation methodologies and financial strategies through expert consultations and stakeholder engagement. By embedding ESG issues into our value creation process, we aim to deliver greater value to all stakeholders.

OUR RESOURCES

CAPEX(Capital Expenditure)
KRW 1.851[1] billion

- Increased manufactured capital has generated long-term impacts on the other five capitals.
- Analyzed investments in long-term value-creating assets—including equipment, facilities, and buildings—by ESG issue.
- Assets based on current depreciation

OPEX(Operational Expenditure)
KRW 4.360[2] billion

- As essential expenditures for Hyosung Chemical's business operations, they have direct impacts on human, social, and natural capitals, and contribute to the company's non-financial value.
- Analyze expenditures by ESG agenda item reported to the quarterly ESG Management Promotion Committee.
- Based on ESG Management Promotion Committee agenda expenditures and internal administrative costs

Manufactured Capital	Physical assets such as owned and utilized real estate, facilities, and equipment	CAPEX: KRW 48.7 billion Smart Factory Investment: KRW 1.427 billion
Financial Capital	Financial capital to manufacture products and deliver services	Total Assets: KRW 2.46 trillion Total Liabilities: KRW 1.82 trillion Total Equity: KRW 647.6 billion
Intellectual Capital	Intangible assets, including knowledge, technology, and innovation	R&D Investment: KRW 2.12 trillion Number of Patents: 2,720[3]
Human Capital	Human capital, including employees' knowledge, skills, and experience	Number of Employees: 1,269 Total Training Investment: KRW 900 million
Social Capital	Social assets, including networks, organizational culture and reputation	Social Value Generated: KRW 1.43 billion Collaborative Partnership Program Partners: 67[4]
Natural Capital	Natural resources, including the atmosphere, water, soil and ecosystems	GHG Emissions Reduced: 5,234 tons Total Waste Recycling Rate: 69.9% Percentage of Recovered Packaging Materials: 30.8%[5]

Petrochemicals
Films
Specialty Gases

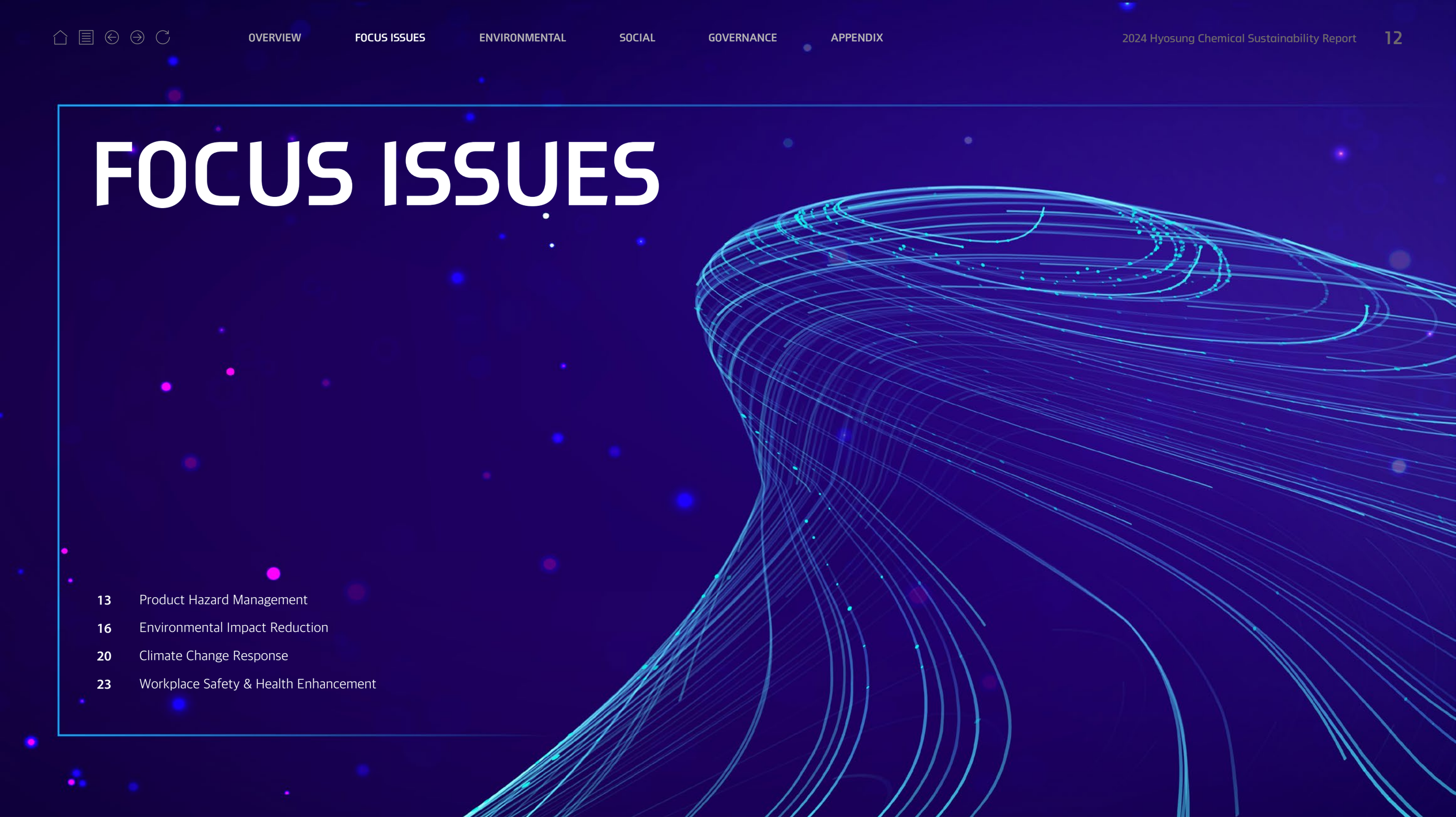
OUR VALUE CREATION

BUSINESS VALUE-CHAIN

Product Hazard Management KRW 720 million	Percentage of Products Assessed for Safety and Health Impacts (%)	100
	Violations of Regulations related to Product Safety and Health (Cases)	0
Response to Environmental Regulations KRW 891 million	Proportion of Sites certified with ISO 14001 Environmental Management System (%)	100
	Air and water pollutants legal thresholds versus own thresholds (Times)	0.8
GHG Reduction KRW 68 million	Cumulative GHG Emission Reduction[6] (tCO_2-eq)	8,621
	Completed Reduction Projects (Cases)	22
Enhancement of Workplace Safety and Health KRW 4,532 million	LTIFR[7]	2.20
	Examples of Identifying and Addressing Safety and Health Non-conformities (Cases)	688

1) The CAPEX amount of the four material issues
2) The OPEX amount of the four material issues
3) Based on the number of registered and pending patent applications
4) Total number of companies supported by the program
5) Percentage of recovered packaging materials (film PU pads, pallets, cores, and paper tubes) out of total volume sold
6) Cumulative performance from 2022 to 2024
7) LTIFR (Lost Time Injury Frequency Rate) = (Number of incidents requiring 3 or more days off * 1,000,000) / Total working hours

FOCUS ISSUES



Product Hazard Management

Governance

Hyosung Chemical's product hazard management governance consists of CEO, PU heads, plant managers, and working-level departments. The QA (Quality Assurance) team, the working-level department, establishes and implements product hazard management plans to identify and address non-compliance issues. Each plant manager monitors the hazard management system for all products shipped from their plant. PU heads oversee the hazard management of products[1] manufactured at all plants under their PU. The CEO holds ultimate responsibility for the hazard management of all products manufactured by Hyosung Chemical, regardless of PU.

We conduct reasonable and efficient inspections of incoming raw materials and finished products to check for the presence of environmentally hazardous substances, in compliance with established limits for human health and environmental safety.

Governance Structure

CEO	Oversee product hazard management company-wide
PU Head	Hold full responsibility and authority for hazard management within their respective PU
Plant Manager	Take charge of the hazard management system
QA Team	• Monitor raw materials and products for hazards • Conduct product hazard analyses • Provide internal training on hazardous substances • Receive and disseminate non-compliance issues

1. Example: Optical Film PU produces TAC films at both Yongyeon and Oksan plants, with the PU head overseeing hazard management for products from both sites.

Strategy

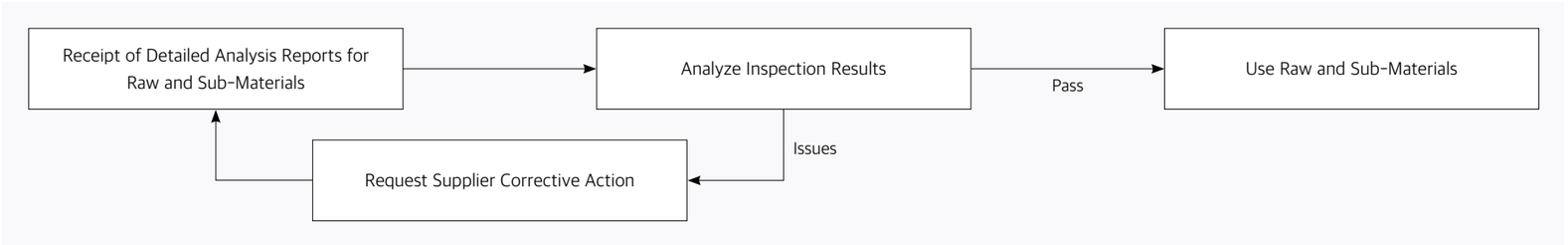
Product Hazard Management Process

To prevent negative impacts on human health and the environment, we conduct meticulous and thorough inspections of received substances and finished products for environmentally hazardous substances. We strive to maintain certifications and verifications from authorized institutions, providing an objective basis for their safety.

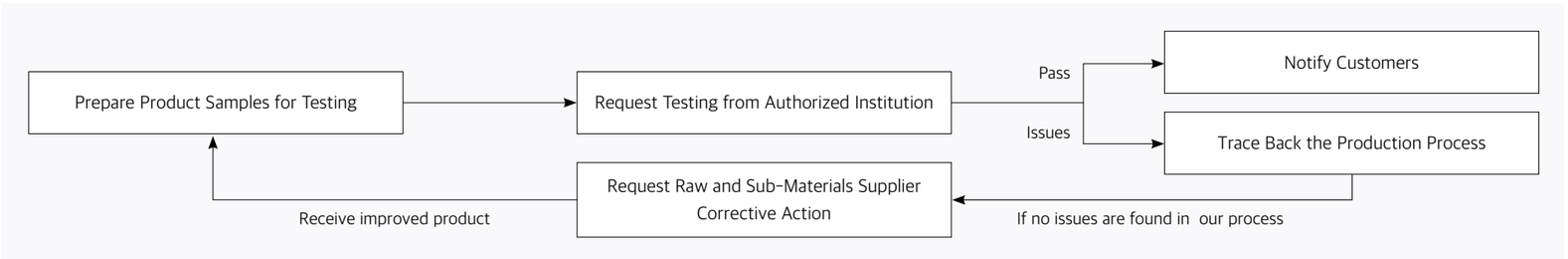
Example List of Environmentally Hazardous Substances Subject to Inspection

Cadmium, mercury, phthalates, halogens, antimony (Sb), sulfur, organotin compounds, PFAS (per- and polyfluoroalkyl substances), toluene.

Raw and Sub-Materials Management Process



Product Management Process



Product Hazard Management

Risk Management

Hazardous Substance Compliance by Product

All Hyosung Chemical products comply with a wide range of international hazardous substance regulations, especially those required by European and U.S. authorities across sectors including food and drinking water.

Product	Regulatory Compliance Examples
PP (Polypropylene)	• RoHS[1]: EU RoHS Directive • NSF[2]: US NSF Standards • FDA[3]: US FDA Standards • WRAS[4]: UK WRAS Certification
POKETONE™	• RoHS • FDA • SVHC[5]: Substances of Very High Concern under EU REACH[6] • NSF
Film	• RoHS • FDA • FSSC 22000: Food Safety Management System Certification • MFDS[7]: Korean MFDS Standards
TAC Film	• RoHS • SVHC • TSCA[8]: US Toxic Substances Control Act (EPA) • Low VOC[9]: Intertek Certification for No Emission of VOCs
NF_3	• RoHS

Targets and Performance

PP/DH PU

RoHS is an environmental regulation established by the EU to restrict the use of hazardous substances in electrical and electronic products. Key restricted substances include lead (Pb), mercury (Hg), and cadmium (Cd), which can pose serious risks to human health and ecosystems. In 2024, our PP/DH PU conducted RoHS-compliance inspections on 27 PP products for hazardous substance content. As a result, all products were confirmed to be in full compliance with the regulation.


intertek
TEST REPORT

PP RoHS Certificate of Compliance

1. Restriction of Hazardous Substances
2. National Sanitation Foundation
3. U.S. Food and Drug Administration
4. Water Regulations Advisory Scheme
5. Substances of Very High Concern
6. Short for Registration, Evaluation, Authorization and Restriction of CHemicals
7. Ministry of Food and Drug Safety
8. Toxic Substances Control Act
9. Volatile Organic Compounds
10. Abbreviation of Guójiā Biāozhǔn (國家標準), Chinese National Standard
11. Abbreviation of Grupo Mercado Común, the executive body of MERCOSUR in South America
12. Abbreviation of Kunststoffe und Trinkwasser (“Plastics and Drinking Water” in German)
13. Abbreviation of Attestation de Conformité Sanitaire (“Certificate of Sanitary Compliance” in French)
14. Abbreviation of Decreto Ministeriale (“Ministerial Decree” in Italian)
15. United States Pharmacopeia
16. Abbreviation of Euronorm, the European Standard

POK Business Division

Leveraging its non-toxic properties, we use POKETONE™ in applications involving contact with food and drinking water. To ensure safety, we have secured appropriate certifications, including FDA approval. We have also obtained certifications required for products used in the toy and medical sectors, contributing to enhanced customer safety across diverse sectors.

Regulatory Compliance List by Industry

Category	Regulation
Food	• FDA • MFDS • EU No.10/2011: EU Regulation on Food Contact Materials • NSF 51 • GB[10] 4806.6: National Standard of China • GMC[11] Resolution 02/12 & 32/07: MERCOSUR Regulation on Food Contact Material
Drinking Water	• NSF 61 • KTW[12]: Certification by German Food and Drinking Water Association • WRAS • ACS[13]: French Certification for Sanitary Compliance • DM[14] 174: Certification by the Italian Ministry of Health
Medical	• USP[15] Class VI: Biocompatibility Standard for Medical Devices by the U.S. Pharmacopeia • ISO 10993: Biocompatibility Evaluation Standard for Medical Devices
Toy	• EN71[16] Part 3, 9: Toy Safety Standard by the European Committee for Standardization

Product Hazard Management

Film PU

Film PU produces both PET and NY films, both of which are used as food packaging materials. To ensure compliance with food contact and hygiene-related safety regulations, both types of films undergo regular inspections by authorized third-party institutions. In January and February 2025, PET and NY films were certified by the FDA (U.S. Food and Drug Administration) and MFDS (Ministry of Food and Drug Safety, Korea), and the results were shared with our clients.

Optical Film PU

Optical Film PU, which produces TAC films —a key material in displays —meticulously manages its processes to prevent the presence of hazardous substances in its products. Only raw and subsidiary materials that meet our internal hazardous substance standards are approved for use. To ensure this, suppliers are required to submit annual inspection reports and certificates of compliance for relevant substances. These include RoHS-regulated substances such as cadmium (Cd), lead (Pb), and mercury (Hg), as well as halogens, SVHC (Substances of Very High Concern), and conflict minerals. If a supplier fails to meet our standards, they are required to identify the root cause and implement corrective actions. Use of the non-compliant material is suspended until an improved material is submitted and verified.

For finished products, we conduct annual hazardous substance analyses to meet client requirements. The results, issued by either authorized third-party institutions or client-designated institutions, are shared with our clients. In the event of non-compliance, both internal and supplier processes are reviewed to identify and address the root cause.

Neochem PU

Neochem PU annually inspects the NF3 product for RoHS-regulated substances, in accordance with the EU Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment. We have consistently received confirmation from clients, with our inspections covering all ten RoHS-regulated substances, including cadmium (Cd), lead (Pb), and mercury (Hg). We also proactively update our inspection list each year to include any newly designated RoHS substances. As a result of our continued compliance through 2024, we have maintained stable and trusted business relationships with our clients.


SGS
Test Report (Reference)
Applicant : HYOSUNG CORPORATION
Product Name : PET Film
Technical Manager / SGS KOREA


SGS
Test Report (Reference)
Applicant : HYOSUNG CORPORATION
Product Name : NY Film
Technical Manager / SGS KOREA

MFDS Certificate of Compliance - PET and NY Films


SGS
Test Report
HYOSUNG CHEMICAL CORPORATION

SVHC -Free Certification for TAC Film


intertek
TEST REPORT

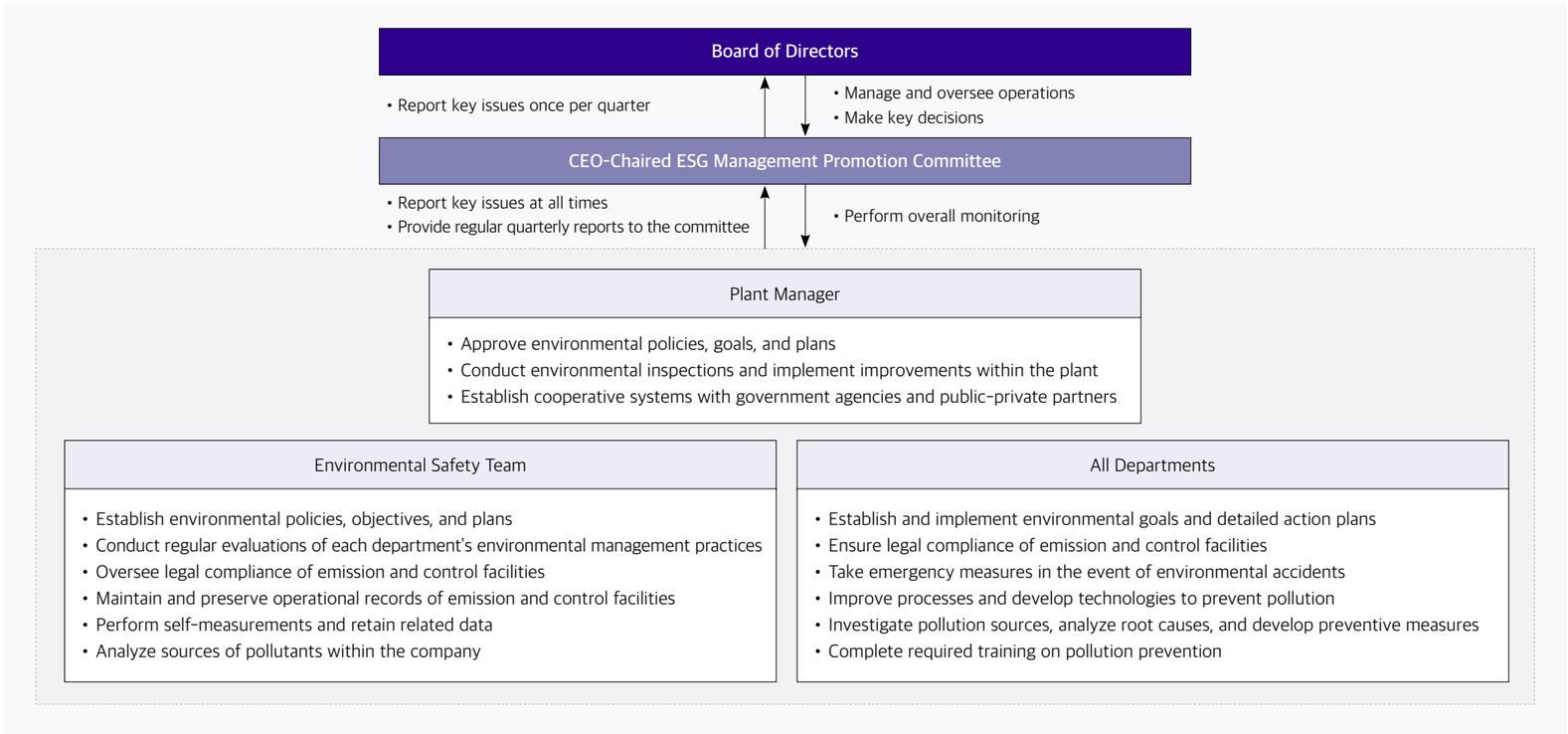
NF3 RoHS Compliance Test Report

Environmental Impact Reduction

Governance

Hyosung Chemical is dedicated to fostering a pleasant working environment and minimizing its environmental impact through efficient and systematic environmental management. Led by Environmental Safety Team, we establish and implement environmental management plans, and manage key environmental factors, including air and water pollutants, water usage, waste, chemical substances, odors, and noise, systematically. Performance outcomes and action plans are reported quarterly to the CEO-chaired ESG Management Promotion Committee, with significant issues escalated to the CEO whenever necessary. Key agenda items reviewed by the committee are also reported to the Board of Directors, thereby enhancing the company's environmental management governance.

Governance Structure

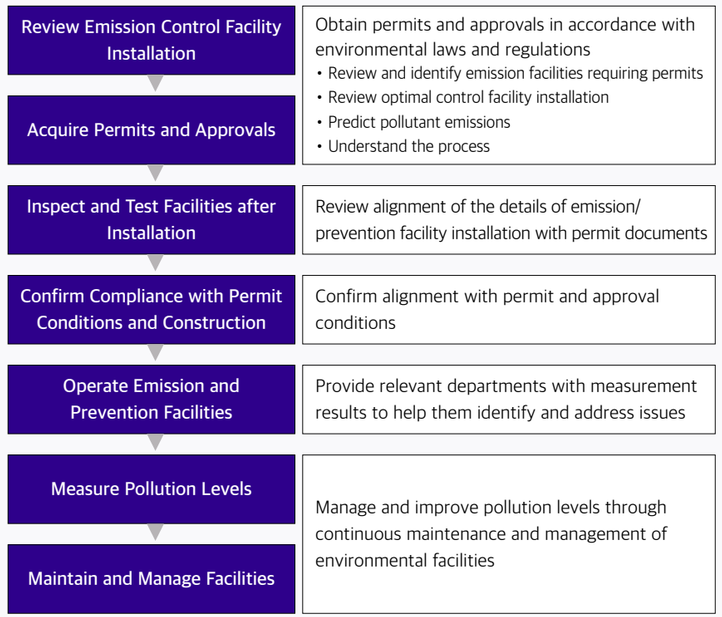


Strategy

Environmental Management Process

Hyosung Chemical operates a comprehensive management system for environmental pollutants and chemical substances based on ISO 14001 (Environmental Management System). In accordance with the Environment and Safety Management Manual, we have established a series of internal policies and guidelines, including the Environment, Health, and Safety (EHS) Management Regulation, Environmental Impact Assessment Regulation, Environmental Operation Management Regulation, Waste Management Guideline, and Hazardous Chemical Substance Management Guideline. These are shared across departments and enforced to ensure company-wide compliance.

Process Flowchart



Environmental Impact Reduction

Risk Management

Managing Environmental Regulatory Compliance

Hyosung Chemical conducts semiannual assessments of its environmental regulatory compliance, taking into account changes in the company's organizational context and stakeholder expectations. These assessments are led by designated personnel within each department, and when compliance issues are identified, appropriate corrective actions are promptly taken to prevent regulatory violations.

Checklist and Response Strategy by Applicable Law

Applicable Law	Examples of Checklist Items	Response Strategies
Clean Air Conservation Act	• Air pollutants subject to registration • Compliance with air pollutant limits at each emission point • Permits and reporting status of emission facility installation • Applicable standards for specific air pollutants • Increase or decrease in air pollutant emissions	• Establish internal emission standards that are stricter than legal requirements to prevent air pollutants • Operate a real-time monitoring system by installing TMS (Tele-Monitoring System, Stack Emissions Monitoring System) at major facilities
Water Environment Conservation Act	• Permit status of water pollutants, wastewater discharge facilities, and water pollutant control facilities in plants • Compliance with discharge limits by water pollutant • Maintenance of records on outsourced wastewater treatment	• Operate in-house wastewater treatment facilities or outsource the process to minimize impacts on water quality in the surrounding areas • Set internal standards at 80% of legal emission limits for tighter control
Wastes Control Act	• Compliance with waste treatment standards • Designated waste classification • Regulatory eligibility of waste transport and treatment vendors	• Manage general and designated industrial waste by entering treatment records into the Allbaro system, Korea's national online waste tracking platform • Conduct regular inspections to ensure that outsourced waste processors legally store and treat waste
Chemical Substances Control Act	• Compliance with personal protective equipment (PPE) requirements when handling hazardous chemicals • Proper labeling of Storage cabinets and containers • Completion of safety training on hazardous chemicals for managers, workers, and handlers	• Obtain the MSDS (Material Safety Data Sheet) from suppliers, confirm regulatory applicability, and proceed with chemical purchases only after securing safety management approval • Update the MSDS every two years under the supervision of the responsible department to reduce legal risks • Provide company-wide training for chemical handlers on K-REACH, the Chemical Substances Control Act (CCA), and MSDS management
Act on Registration and Evaluation of Chemical Substances	• Reflection of regulatory and usage changes in client-facing chemical information • Compliance with safety labeling standards for manufactured and imported products	
Malodor Prevention Act	• Permit and approval status of designated odor substances and odor emission facilities within the plant	• Conduct monthly self-monitoring for odors
Noise and Vibration Control Act	• Compliance with noise and vibration emission standards at the plants	• Conduct semiannual workplace environment monitoring to measure noise levels affecting both employees and the surrounding areas

Setting Environmental Performance KPIs

Departments at Hyosung Chemical responsible for ESG management develop performance management plans based on the ESG KPI guidelines provided by the HR team. These comprehensive guidelines cover environmental, social, and governance areas, and specifically outline environmental performance KPIs for departments engaged in environmental management. For instance, the Environmental Safety Team, tasked with monitoring environmental pollutant emissions, sets and manages KPIs aimed at reducing environmental burdens, including metrics such as the number of environmental regulation violations and the total volume of pollutant emissions.

Conducting Environmental Impact Assessment

Hyosung Chemical identifies significant environmental impacts by assessing both actual and potential factors that may affect the environment during its operations. Regular environmental impact assessments are conducted every four years, with ad-hoc assessments performed for special cases such as changes in the environmental management system or the enactment and revision of relevant regulations. Each department's personnel is responsible for identifying and evaluating the environmental impacts of their operations. The results are compiled into assessment reports and submitted to the Environmental Safety Team, which oversees the overall assessment process. The team analyzes the results by raw and subsidiary materials, products, processes, and facilities to determine the significance of each environmental impact. Based on the analysis, improvement plans are developed and implemented. In 2024, assessments were carried out at the Oksan plant of Neochem PU and the Yongyeon plant of Optical Film PU.

Environmental Training

As Hyosung Chemical operates sites that handle hazardous chemicals, all employees and workers of partner companies stationed at our plants are required to complete annual "Hazardous Chemical Employee Training." Those who directly handle hazardous chemicals must also complete biennial "Hazardous Chemical Handler Training." As of 2024, 1,046 employees completed the employee training, while 82 completed the handler training. In 2024, company-wide training on K-REACH, CCA, and MSDS management was conducted for personnel responsible for chemical handling, including the Environmental Safety Team and the Purchasing Team. The training aimed to enhance their understanding of chemical purchasing and management processes and to improve the use of the company's internal online chemical management system. In addition, the Environmental Safety Team personnel at all operational sites continuously monitor updates to the hazardous chemical list and trends in the enactment and revision of chemical-related regulations, sharing this information in monthly reports.

Environmental Impact Reduction

Targets and Performance

Waste Management

Hyosung Chemical is dedicated to maintaining a pleasant work environment while actively safeguarding the external environment through the responsible management of waste generated across its operations. To strengthen site-level accountability, each team head appoints a designated waste manager tasked with the following responsibilities:

Key Duties of Designated Waste Managers

1. Overseeing the management of waste generated by their respective teams
2. Establishing measures to minimize waste generated by their respective teams
3. Maintaining cooperation with relevant teams and developing joint response measures

The Environmental Safety Teams at each site serve as the central point of contact for all waste-related matters and directly manage external communications. They process general and designated waste in compliance with legal requirements and record all disposal details in the Allbaro system. They also monitor waste treatment status monthly via a digital tracking system. To ensure continuous environmental management, each department conducts self-inspections of its assigned area at least once a month. The Environmental Safety Team also performs inspections the entire site at least monthly and regularly verifies that external waste disposal contractors store and treat waste in compliance with legal requirements. Contractors with at least one treatment record in the past two years are inspected on a biennial basis, while newly added contractors are inspected as needed. Hyosung Chemical remains committed to the ongoing monitoring of both internal and external waste treatment systems.

Waste Discharge Reduction

Optical Film PU uses filters made of metal threads to remove foreign substances during processing. These metal filters require regular disposal and replacement. In 2022, the Yongyeon Plant of Optical Film PU purchased 2,000 metal filters. Since then, process adjustments were made to reduce the rate of pressure buildup in the filters, which significantly decreased the frequency of replacements. As a result, waste generation was also reduced, with the number of filters purchased in 2024 dropping by 30% to 1,400 units compared to 2022.

Water Management

Hyosung Chemical identified its water-related risks using Aqueduct 4.0, a global water risk assessment tool developed by the World Resources Institute (WRI). Water risk is a composite indicator that reflects multiple dimensions, including water quantity, water quality, regulatory risk, and reputational risk. Water stress refers to the ratio of total water withdrawals to the annually available water resources in a given area. A higher water stress score indicates a more severe level of water scarcity.

Water Risk and Stress by Site

Category[1]		Seoul/Gumi/Anyang	Ulsan	Oksan
Water Risk		Low ~ Medium	Medium ~ High	Low ~ Medium
Water Stress	2025 (Present)	Medium ~ High	Medium ~ High	High
	2030 (Projected[2])	Medium ~ High	Medium ~ High	High

Water Resource Risks/Opportunities and Response Strategies

Equipped with membrane water treatment technology, Hyosung Chemical views the expansion of this technology in response to intensifying water scarcity as an opportunity for enhancing its water resource management.

On the other hand, non-compliance with wastewater pollutant discharge limits is recognized as a significant risk. Failure to meet legal requirements may lead to administrative actions such as fines or business suspension, which could significantly impact the company's financial performance. Specifically, under Articles 75 to 82 of the Water Environment Preservation Act, non-compliance can result in administrative fines of up to KRW 10 million or criminal fines of up to KRW 70 million. To mitigate these risks, we have established a monitoring system that tracks water quality-related parameters daily, including process water usage, wastewater generation, and wastewater pollutant levels. Additionally, the Environmental Safety Team conducts semiannual self-measurements of water pollutants in wastewater to verify compliance with legal standards.

Air Pollution Control

Hyosung Chemical manages air pollutant emissions by assigning unique identification numbers to the emission points of each facility. For each emission point, we manage pollutant emission concentrations based on its strict standards, which exceed legal compliance requirements. The Environmental Safety Team verifies the operating status of each air emission facility and conducts self-measurements according to legal frequencies. They submit the results to the SEMS (Stack Emission Management System) within the designated period each month. Furthermore, TMS (Telemonitoring System, an automated stack monitoring system) is installed in key facilities to operate a real-time air pollutant emission monitoring system. For the management of dichloromethane ($CH2Cl_2$), an air pollutant used in its processes, Optical Film PU operates with installed local exhaust ventilation systems and adsorption towers to minimize pollutant emissions. Yongyeon Plants 1 and 2 have signed a 'Voluntary Agreement for Fine Dust and Total Air Pollutant Reduction Management' with the Nakdong River Basin Environmental Office to improve air quality in the Ulsan region. The agreement, effective for two years starting from 2025, aims to reduce emissions of dust, nitrogen oxides (NOx), and sulfur oxides (SOx) by 10% compared to 2023 by setting and implementing site-specific reduction targets for substances contributing to fine dust generation. To achieve these targets, we plan to efficiently manage its processes, including the operation of low-NOx burners.

CASE STUDY

To minimize the impact of noise on areas surrounding its operational sites, Hyosung Chemical has installed protective covers on equipment located in noise-generating zones. Semiannual workplace environment assessments are conducted to measure noise levels affecting both employees and neighboring communities.

Additionally, the company performs monthly self-monitoring and implements corrective actions to reduce odor emissions. In 2024, PP/DH PU installed an automatic deodorant spray system in its wastewater treatment facility. The system is operated by a timer and is managed efficiently by adjusting spray intervals based on seasonal variations in odor intensity.

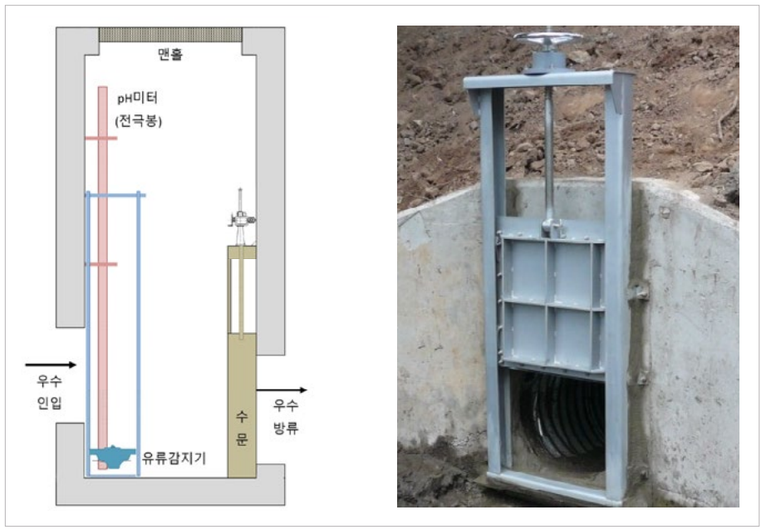
1. Low: <10% / Low~Medium: 10-20% / Medium~High: 20-40% / High: 40-80% / Extremely High: >80%
2. Business as usual scenario

Environmental Impact Reduction

Water Pollutant Prevention

Hyosung Chemical either directly operates or outsources wastewater treatment facilities to minimize the impact on water quality in surrounding areas. To ensure strict control, discharge limits for water pollutants such as BOD (Biochemical Oxygen Demand) and TOC (Total Organic Carbon) are internally set at 80% of the legal limits.

In 2024, PP/DH PU installed an oil detector and an automatic shutoff valve at the final rainwater discharge outlet to prevent the release of water pollutants into surrounding areas. When the oil detector senses an abnormal condition, it sends an alert to the control room, which automatically triggers the shutoff valve to close the water gate. We maintain emergency readiness to investigate the root cause and take immediate corrective actions in the event of such an occurrence.



Oil Detector and an Automatic Shutoff Valve Installation Structure

Chemical Management

Hyosung Chemical complies with all legal requirements related to chemical handling to prevent chemical accidents and to ensure a pleasant working environment for all employees. For all chemicals used at its sites, suppliers are required to submit a MSDS through the company's internal chemical management system, E-CMS. The MSDS is reviewed to verify substance information and determine whether the chemical is subject to regulatory control before purchase. When introducing new chemical substances, the company conducts internal reviews and preliminary risk assessments to identify and eliminate potential hazards in advance.

Hazardous chemicals are received under the supervision of a designated manager to ensure safe handling. The quantities received, used, and stored are recorded and managed in the chemical inventory. All personnel involved in chemical handling and facility management are required to complete Hazardous Chemical Handler Training.

We monitor these facilities in real time to identify potential risks, inspecting the corrosion and sealing conditions of storage containers, as well as the operational status of safety valves and leak detectors. The latest version of the Material Safety Data Sheet (MSDS) is maintained on-site, and individual containers are strictly managed with appropriate labeling. To ensure preparedness for chemical spills and emergency situations, we regularly conduct emergency response drills and training sessions. We also disseminate the contents of the chemical accident prevention and management plan and provide training on MSDS information, proper handling procedures, and process control measures for hazardous chemicals.

Reduction of Hazardous Chemical Usage

Neochem PU uses HF (hydrogen fluoride) as a raw material for NF_3 gas production. As HF is classified as a hazardous chemical under the Chemical Substances Control Act, Neochem PU reduces HF usage by condensing and recovering HF within the production process. As of 2024, approximately 245 tons of HF were recovered.

Film PU replaced a solution containing the toxic substance CH_2O (formaldehyde) with a non-toxic alternative. This replacement solution was identified through R&D-led testing and was finalized after passing client validation at the end of 2024.

Climate Change Response

Governance

Carbon Emission Reduction TFT

Hyosung Chemical operates a company-wide Carbon Emission Reduction Task Force (TFT) to address the climate crisis. On a quarterly basis, plant managers, representatives from operational departments, and the ESG Management Team convene to share and review GHG emission reduction performance and plans. The ESG Management Team, as the lead department, is responsible for coordinating the meetings and compiling GHG emission data and reduction plans. All matters discussed during the meetings are reported to the CEO, who oversees Hyosung Chemical's overall GHG emission status.

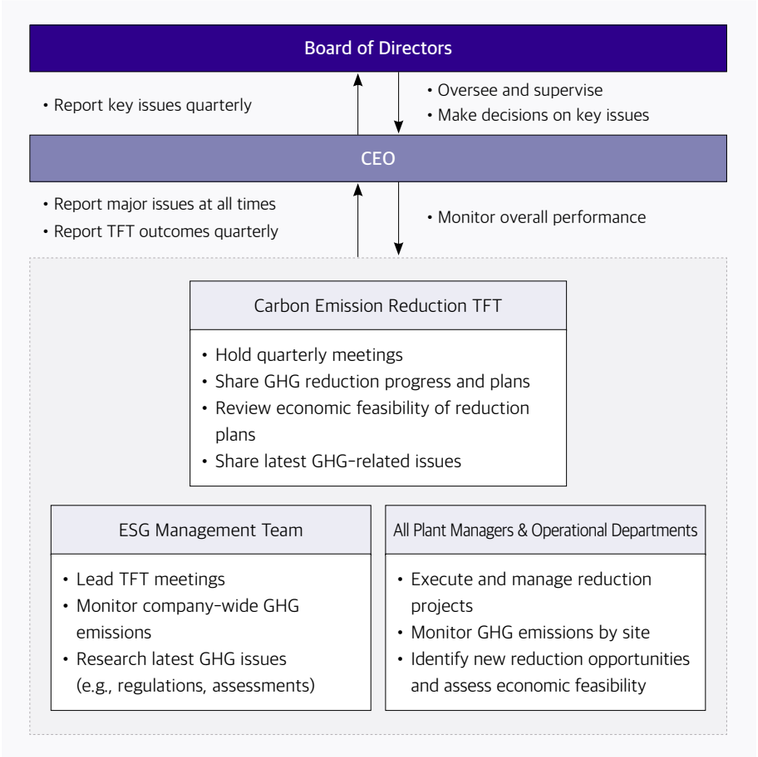
Key Agenda by Meeting

Date	Key Agenda
March 21, 2024	• 2023 CDP CC[1] results and future action plans • Legislative trends of the U.S. Clean Competition Act
June 18, 2024	• The ministry of environment's support program for LCI DB[2] calculation • Competitors' GHG reduction measures
September 24, 2024	• Case Study: Response to client request for GHG emission reduction
December 19, 2025	• Projection of the 2024 carbon emission permit surplus and shortfall by PU • CCUS[3] Act overview and trends
March 27, 2025	• 2024 CDP CC results and action plans

Reporting to the Board of Directors

Hyosung Chemical regularly reports matters related to climate change and carbon neutrality to the Board of Directors (BOD). In 2024, Hyosung Chemical reported to the Board the receipt of the 'Carbon Management Sector Honors' award under the 2023 CDP Climate Change category, along with the company's response to the evaluation. We also reported key climate-related initiatives, such as the implementation of our internal carbon pricing. As the company's highest governing body, the BOD monitors and oversees major environmental issues, including performance outcomes, risks, and response measures. The Board continues to play an active role in strengthening Hyosung Chemical's environmental management system.

Governance Structure



1. Short for Carbon Disclosure Project Climate Change; CDP's climate assessment requiring corporate disclosure on climate-related issues.
2. Life Cycle Inventory Database; provides data on inputs and outputs across a product's life cycle.
3. CCUS: Carbon Capture, Utilization and Storage; technology for capturing, using, and storing CO_2 emissions.

Strategy

GHG Emissions Reduction Targets for Scope 1 and 2

Hyosung Chemical is making various initiatives across its business operations to minimize climate change impacts. To contribute to achieving the national GHG reduction target for the industrial sector announced in 2021, we've set an internal goal to reduce our domestic operations' GHG emissions by over 14.5% by 2030 compared to 2018, and we're actively working to meet this target.

Review of Mid-/Long-Term Reduction Tasks

(Unit: thousand tCO_2-eq)

Tasks for review	Key Details	Target Reduction by 2030
Energy Efficiency Improvement	Plant upgrades, power-saving facility operation, waste heat recovery, thermal efficiency enhancement, etc.	16
Steam Consumption Reduction	Waste heat recovery based on in-process energy diagnostics	9
Hydrogen Combined Heat and Power (CHP) Generation	Hydrogen-fueled power generation to replace LNG	56
CCUS	Amine-based wet CO_2 capture and operation, CO_2 capture using water solubility	100
Total		**181**

Conduct of Internal Carbon Pricing

Hyosung Chemical sets and announces the internal carbon price, the price per 1 tCO_2-eq of GHG emissions, to all departments per year. This system is designed to incorporate the internal carbon price into the economic feasibility analysis for new facility investments, in addition to the conventional financial evaluation. For new or expanded facilities that are expected to increase GHG emissions compared to pre-investment, the internal carbon price is added as an additional cost in the feasibility evaluation. Conversely, for facilities that are expected to reduce emissions, the internal carbon price is applied as a cost-saving factor. For instance, during the quarterly Carbon Emission Reduction Task Force (TFT) meetings, each PU presents its reduction initiatives that reflect the internal carbon price as a cost-saving effect.

Climate Change Response

Risk Management

Analysis of Climate-Related Risks and Opportunities

Hyosung Chemical has established a risk management process to identify and systematically respond to climate-related risks and opportunities. These are identified through an analysis of stakeholder requirements and both internal and external business environments, followed by an assessment of their potential financial impacts and corresponding response strategies. Under the Emissions Trading System (ETS), we face both a risk and an opportunity—namely, the risk of additional costs due to a shortage of emission permit, and the opportunity to generate revenue by selling surplus emission permit. As a result of estimating the financial impact of carbon emission permit surplus or shortage during the third planning period (2024-2025), a surplus of emission permit is projected. By applying the internal carbon price to the expected volume of surplus emission permit to be sold, we estimate that this could generate revenue of approximately KRW 300 million to KRW 1.9 billion over the two years.

Financial Impacts and Responses by Risk and Opportunity

Risk and Opportunity Type			Time Frame[1]	Financial Impacts	Responses
Transition Risks	Policy/ Regulation	• Rising domestic emission permit prices • Stricter global carbon regulations (e.g., EU CBAM[2], U.S. Clean Competition Act)	Mid- to Long-term	• Increased costs due to reduced free emission allocations and a higher proportion of paid allowances under Korea's ETS • Potential carbon tax if CBAM and U.S. CCA expand to plastics and chemicals	• Monitor GHG reduction performance by site against set targets
	Technology	• Growing demand for low-carbon technologies and products	Mid- to Long-term	• Increased costs for product carbon footprint assessments and eco-certifications • Increased R&D expenses for low-carbon technologies and products	• Calculate product carbon footprints using LCA[3] • Expand recycled-material offerings such as PCR-PP • Increase R&D investment in low-carbon and eco-friendly technologies and products
	Market	• Increased stakeholder pressure to reduce emissions and expand the use of renewable energy	Mid- to Long-term	• Revenue loss due to unmet stakeholder expectations	• Identify carbon reduction actions via TFT meetings • Procure renewable energy through REC[4] purchases • Increase on-site renewable energy generation through solar panel installation
	Reputation	• Heightened investor interest in climate action	Mid-term	• Reduced investment due to lower ESG scores or ratings	• Enhance disclosure of sustainability information internally and externally • Improve ESG scores and ratings • Proactively respond to stakeholder requests
Physical Risks	Acute	• Frequent extreme weather events (e.g., heatwaves, typhoons, floods)	Short-term	• Production disruptions due to physical asset damage, including flooding • Transaction losses due to logistics delays caused by typhoons and heavy snow	• Upgrade facilities to withstand extreme weather events • Establish emergency response training and guidelines • Set up emergency logistics contacts and secure insurance
	Chronic	• Rising average temperatures	Long-term	• Increased HVAC costs to maintain product quality and workplace conditions	• Install high-efficiency HVAC systems
Opportunities	Product/Service	• Rising demand for sustainable products • Growing demand for recycled/reused materials	Mid- to Long-term	• Increased sales of POKETONE™ and TAC film • Increased revenue from expanded PCR-PP product sales	• Gain a competitive edge through product carbon footprint reduction • Expand eco-certified product lines
	Market	• Revenue from ETS participation	Short-term	• Revenue generated from the sale of surplus emission permit	• Generate revenue by selling surplus emission trading

1. Time frame: ① Short-term: within 1 year ② Mid-term: 1-5 years ③ Long-term: over 5 years 2. CBAM: Carbon Border Adjustment Mechanism 3. LCA: Life Cycle Assessment 4. REC: Renewable Energy Certificate

Climate Change Response

CASE STUDY

Typhoon and Flood Prevention: Additional Stormwater Drainage Installation Case

In response to climate change-induced natural disasters, Hyosung Chemical has implemented preventive measures against typhoons and flooding. We invested approximately KRW 170 million to reinforce the walls and roofs of the Yongyeon plant, preparing it for strong winds and heavy rainfall. To prepare for flooding, we inspected and improved the plant's internal drainage system to ensure effective water flow. Additionally, we reinforced cracks both inside and outside the building to prevent water leakage and structural issues, securing overall stability.

Typhoon and Flood Prevention: Before and after Additional Stormwater Drainage Installation

Targets and Performance

2024 GHG Emissions Reduction Performance

In 2024, Hyosung Chemical reduced a total of 5,234 tCO_2-eq of GHG emissions through its greenhouse gas emission reduction projects. PP/DH PU reduced steam consumption by replacing equipment in the flare stack, which safely combusts and releases gases generated during the petrochemical process. Optical Film PU lowered electricity consumption by enhancing the management of chilled water pumps, while Neochem PU also achieved electricity savings by installing additional busbars, metal plates used for current transmission. Going forward, we will continue to monitor these projects to ensure sustained GHG emission reductions.

GHG Emissions Reduction Plan after 2025

Hyosung Chemical is currently pursuing and reviewing a variety of projects with the goal of reducing 6,316 tCO_2-eq of greenhouse gas emissions in 2025. Managers in each PU are actively working to identify new reduction measures, assess their economic feasibility, and share their findings during quarterly Carbon Emission Reduction TFT meetings. A total of 22 reduction projects are either in progress or under planning, and we will continue to explore and implement additional GHG reduction initiatives going forward.

GHG Emissions Reduction Performance by PU

(Unit: tCO_2-eq)

PU	Reduction Type		Total Reduction
	Electricity	Steam	
PP/DH	-	1,370	1,370
POK	37	-	37
Film	49	-	49
Optical Film	327	116	443
Neochem	3,335	-	3,335
Total	**3,748**	**1,486**	**5,234**

GHG Emissions Reduction Plan by PU

(Unit: tCO_2-eq)

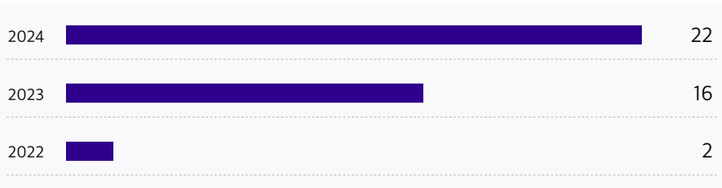
PU	Reduction Type		Estimated Reduction
	Electricity	Steam	
PP/DH	-	849	849
POK	1,087	10	1,097
Film	110	-	110
Optical Film	142	22	164
Neochem	4,096	-	4,096
Total	**5,435**	**881**	**6,316**

Cumulative GHG Emissions Reduction by Year

(Unit: tCO_2-eq)

Number of Completed Reduction Projects by Year

(Unit: Projects)



Workplace Safety & Health Enhancement

Governance

Safety and Health Management Policy

At Hyosung Chemical, safety and health are our highest priority in all management decisions. We are committed to creating a safe and healthy work environment through continuous improvement and preventive measures, with the ultimate goal of achieving zero accidents and zero injuries.

Risk Management	Ensure compliance with all regulations and policies throughout the entire product lifecycle
Hazard Elimination	Proactively eliminate potential hazards to secure world-class competitiveness
Enhanced Safety System	Conduct continuous safety education and training for employees
Legal Compliance	Secure and maintain budget allocations for preventing chemical and occupational accidents
Customer Value Management	Actively listen to internal and external stakeholders to prevent safety and health risks
Strengthening Safety Partnerships	Continuously promote and support safety and health improvements for partner companies

EHS Committee

Hyosung Chemical holds monthly EHS Committee meetings chaired by the CEO to review the environmental, health, safety management status of all sites and to inspect the implementation of preventive targets and performance. In 2024, a total of 82 improvement items were submitted to the committee, all of which (100%) were fully addressed.

1. CSO: Chief Safety Officer

Safety & Health Organization and Responsibilities

Board of Directors
- Establish and approve safety and health plans
- Deliberate and approve safety and health budgets and performance

CEO
- Oversee safety and health management
- Report to BOD

Safety and Health Organization (CSO[1], Safety and Health Team)
- Monitor SAPA compliance
- Oversee the EHS committee

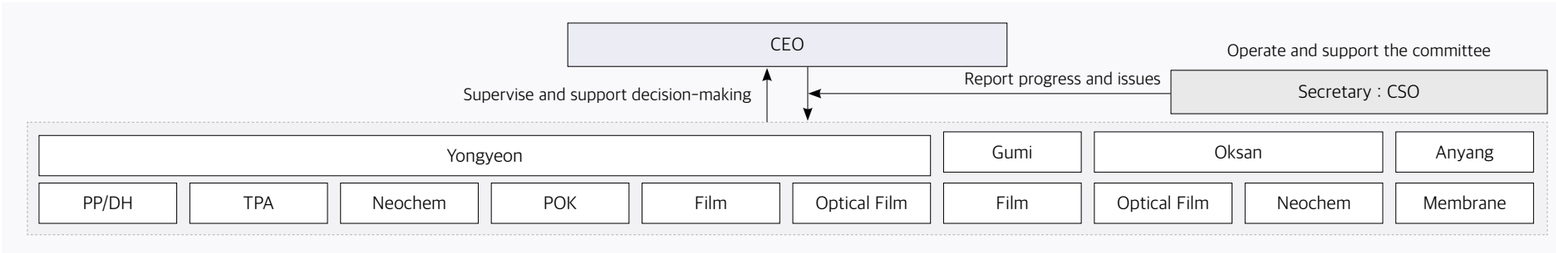
Safety and Health Management Officer (former Plant Manager)
- Supervise safety and health management at all plants

Occupational Safety and Health Committee
- Deliberate and approve matters subject to OSHA (the Occupational Safety and Health Act)
- Discuss safety and health issues at plants

Environmental Safety Team
- Manage workplace safety and health
- Oversee fire safety, hazardous materials, and gas safety
- Manage chemical substances and the environment
- Oversee the EHS management system

Supervisor (Team Leader/Unit Leader)
- Inspect hazardous machinery for abnormalities
- Verify proper use of PPE and protective devices by workers
- Report and respond to occupational accidents
- Perform other safety and health management duties

Environmental Safety Manager at Plant
- Perform environment and safety duties within the team
- Discuss team-level environment and safety tasks
- Conduct environment and safety patrols



Workplace Safety & Health Enhancement

Strategy

Mid- to Long-term Roadmap for Safety and Health

Hyosung Chemical is implementing a mid- to long-term roadmap for safety and health management, aiming to achieve an LTIFR[1] of zero by 2030.

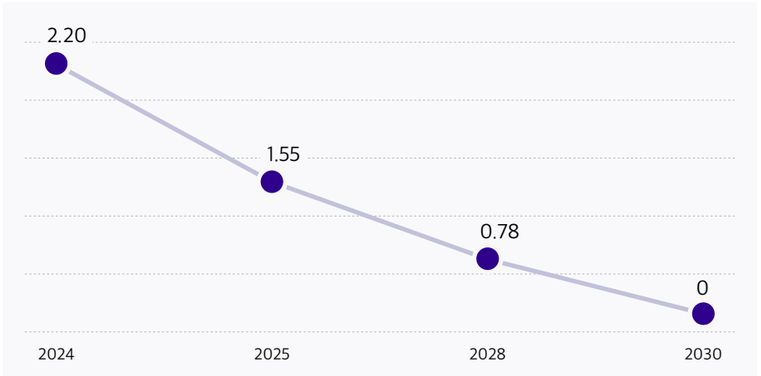
	2023	2025	2028	2030
Core Values	**COMPLIANCE** Regulatory Compliance	**GROUP SAFETY** Safe Working Environment	**DOMESTIC SAFETY** Enhanced Safety Cooperation	**GLOBAL SAFETY** Embedded Safety Culture
Strategic Goal	Establish a dedicated organization for domestic regulatory compliance	Advance risk assessment by developing experts	Close safety and health management gaps between primary and subcontractors	Raise safety awareness to world-class levels
Strategic Tasks	• Form a dedicated organization for safety and health • Conduct a safety survey at domestic and overseas sites • Conduct patrols by PU environment and safety managers • Hold EHS Committee meetings	• Reinforce internal work standards and revise risk assessments • Introduce expert risk assessor certification • Strengthen Safety Guardian activities during regular maintenance • Strengthen proactive emergency response training	• Eliminate on-site hazards through risk assessment training • Collaborative Partnership Fund Project for Partner Company • Support partner training and strengthen safety evaluations • Ensure consistent safety management across primary and subcontractors	• Expand safety awards to promote safety culture • Introduce a digital safety management system • Provide safety culture content and services • Establish a global-standard safety system

2024 Key Achievements

- Revised contractor safety and health evaluation system
- Establish management standards to prevent loading-related accidents
- Enhanced new employee training process

※ 2024 LTIFR Performance : 2.20

LTIFR Reduction Goals



1. LTIFR (Lost Time injury Frequency rate) =
(Number of incidents requiring more than 3 days of leave or medical treatment * 1,000,000) / Total hours worked

Workplace Safety & Health Enhancement

CASE STUDY

Hazard Identification and Improvement through Plant Manager On-site Inspections

On-site inspections by plant managers are a core safety management activity aimed at identifying actual hazards in the workplace and taking prompt corrective actions. In 2024, the plant manager of POK Biz. Division's Yongyeon site conducted a total of 10 on-site inspections and successfully identified and resolved six safety hazards related to falls, injuries, overturning, collisions, and burns.
Hyosung Chemical will continue to promote a safety-first culture by maintaining regular on-site inspections by plant managers across all plants and actively enhancing safety awareness among employees.

Fall Protection: Before and after safety fence reinforcement improvements

Risk Management

Emergency Response System Management

Hyosung Chemical operates customized emergency response guidelines tailored to the unique risks and operational features of each PU. These plans are developed based on field experience and expertise to enable immediate action in the event of an actual emergency, thereby minimizing damage and ensuring business continuity. This system reflects our commitment to strengthening company-wide emergency response capabilities and upholding the principles of sustainable management that prioritize the safety of all stakeholders.

Enhance Risk Assessment

In 2024, Hyosung Chemical systematically organized and standardized work procedures across all plants and conducted 2,025 task-specific risk assessments to identify and improve potential hazards. One example includes the installation of safety fences to separate pedestrian walkways from forklift routes, preventing collisions when forklifts reverse after unloading products. These efforts strengthened workplace safety and reinforced our safety and health management system, with employee protection as our top priority.

2024 Emergency Response Plan Achievements

• Maintained PU-specific emergency response plans • Established internal guidelines for the M-Project team in 2024	• Conducted 368 emergency scenario response drills (Fires, CPR, process accidents, power outages, chemical leaks, and natural disasters, etc.)	• Reflect training performance in "Safety Mileage" scores and provide awards • Award bonus points for weekend or nighttime drills using various scenarios	• Revised emergency response guidelines 12 times • Designated additional emergency assembly points and updated the emergency contact network	• Shared training results during monthly EHS committee meetings • Consolidated and managed training details company-wide

Response to the Serious Accidents Punishment Act.

To comply with the safety and health obligations stipulated by the Serious Accident Punishment Act, Hyosung Chemical has established and operates 11 internal safety and health regulations. To ensure adherence, our Safety and Health Team conducts regular semiannual inspections, and verifies adherence to legal requirements through both documentation reviews and on-site inspections. In 2023, 297 non-compliance issues were identified and fully resolved. In 2024, an additional 688 issues were discovered, all of which have been resolved to date. The Safety and Health Team continuously monitors these non-compliance issues, reporting improvement status to management through the EHS Committee, enhancing our overall safety and health system.

Safety and Health Certification

Hyosung Chemical operates a safety and health management system to prevent industrial accidents and ensure compliance with occupational safety and health regulations. The company also implements the Process Safety Management (PSM) program in accordance with the Occupational Safety and Health Act.

Site	Yongyeon Plant 1		Yongyeon Plant 2		Yongyeon Plant 3			Gumi Plant	Oksan Plant	
PU	PP/DH	Neochem	TPA	POK	Film	Optical Film	Neochem	Film	Optical Film	Neochem
Certification	KOSHA-MS[2]	ISO 45001[3]	KOSHA-MS		-		ISO 45001	ISO 45001	-	ISO 45001
PSM (Rating)	S		S		M+			S	S	

1. Safety system to manage chemical and process risks and prevent major industrial accidents. 2. Workplace-specific H&S management system developed by KOSHA. 3. International standard for safety and health management systems

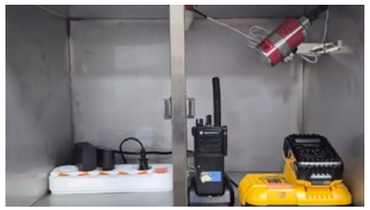
Workplace Safety & Health Enhancement

Targets and Performance: Employees

Operating Latest Safety and Health Equipment

To proactively eliminate hazards and create a safer working environment at industrial sites, Hyosung Chemical continues to adopt the latest safety and health equipment. In 2024, we installed forklift and power tool charger storage units equipped with automatic fire suppression units to prevent fire hazards associated with battery charging, enabling early fire suppression in the event of an incident.

Forklift Charger Storage Units


Power Tool Charger Storage Units

Fire Safety Expert Consultation

Since 2022, Hyosung Chemical has enhanced its fire response capabilities through annual consultations with external fire safety experts. In 2024, these experts observed and guided emergency scenario drills conducted by each team at the Yongyeon Plant, helping identify areas for improvement and enhancing overall response capabilities. We've also conducted practical training for on-site fire safety personnel, reinforcing their skills in facility inspection and equipment operation. Through ongoing inspections, we continue to identify and proactively eliminate fire hazards in our workplaces.

Establishing Load Management Guidelines

At the direction of the CEO, Hyosung Chemical established new load management guidelines in June 2024 to prevent accidents caused by improper stacking and to foster a safer working environment. The guidelines specify standards for stacking locations, height, spacing, and designated outdoor storage areas, and are strictly followed across all sites to ensure safe and orderly stacking operations. We will continue to prevent workplace accidents and improve operational efficiency through systematic load management and regular site inspections.

Enhancing the Education Process for New Employees

Since 2024, Hyosung Chemical has expanded its training program for new employees to strengthen their awareness of safety culture and enhance their EHS capabilities. In addition to the legally mandated onboarding training (1 day, 8 hours), we introduced an additional EHS system training course (1 day, 8 hours) to offer a more structured program. The course covers topics such as Process Safety Management (PSM), KOSHA-MS, and on-site safety management, to establish a safety-first organizational culture and improve our ability to prevent workplace accidents.

Safety and Health KPI

Hyosung Chemical has implemented a safety and health performance evaluation system to strengthen accountability in safety and health management and promote the safety and health of its employees.

Target Group	Safety and Health KPI	
Plant Mangers Executives Team Leaders	Number of Serious/Industrial Accidents	
	Compliance with the Serious Accidents Punishment Act.	Serious Accidents Punishment Act.
		Performance Evaluation
Office Employees (Grade 1~5)		Safety and Health Performance Evaluation

Safety Inspections

Hyosung Chemical conducts various safety inspection activities to proactively identify and eliminate potential hazards at its sites, thereby preventing accidents.

Inspection Category	No. of Issues Identified	Resolution Rate (%)
Joint workplace Health & Safety Inspections with Partner Companies	247	100
Inspection Patrols with Team Environment and Safety Managers	607	
Safety and Health Team-led Inspection Patrols	219	

Communicating Serious Disaster Cases

Hyosung Chemical collects and analyzes serious industrial accident cases occurring nationwide on a monthly basis and disseminates the findings across all operational sites. Based on incidents reported by the Ministry of Employment and Labor and other relevant institutions, we identify root causes and establish preventive measures tailored to our operations. These materials are incorporated into regular safety training programs at each plant to raise employee awareness of such incidents and reinforce a culture of safety. Through this approach, we aim to proactively prevent similar accidents and build a safer working environment.

Safety Letter

To raise safety awareness among employees and strengthen accident prevention efforts, Hyosung Chemical publishes a biweekly "Safety Letter." The newsletter includes practical, easy-to-use information for the workplace, such as recent safety and health-related issues, safety and health materials provided by the Korea Occupational Safety and Health Agency (KOSHA), and key safety guidelines.
All workplaces display the Safety Letter in highly visible locations to ensure the timely delivery of safety information and further embed a strong safety culture.

January 2025 Issue of the Safety Letter

Workplace Safety & Health Enhancement

Targets and Performance: Partner Companies

Support for Strengthening the Safety Management System of High-Risk Partner Companies

At Hyosung Chemical, partner companies stationed at our sites and engaged in machinery, electrical work, logistics, or the handling of hazardous materials are designated as high-risk partners. In 2024, we provided labor cost support for dedicated safety managers to 7 partners and funded outsourced safety management services for 13 others, boosting their autonomous safety management capabilities. In 2025, we plan to continue both forms of financial support while expanding efforts to improve the working environment for partner company employees, further contributing to the creation of safer work environments.

Strengthening Safety Communication with Partner Company Employees

To foster a safe and healthy working environment and promote continuous improvement in collaboration with our partner companies, Hyosung Chemical gathers and reflects feedback from their employees through various channels, including partner councils, PU-level environment and safety meetings, and mobile feedback platforms. In 2024, a total of 108 suggestions were received from partner companies, all of which have been addressed.

Specifically, we addressed a concern raised by a partner employee regarding a narrow forklift operation path by pouring concrete to widen it, thereby ensuring a safer working environment for forklift operations. In addition, fixed footholds were installed to eliminate tripping hazards caused by piping along key access pathway used for maintenance work. We plan to strengthen our improvement initiatives to create a safer working environment through continuous cooperation with partners.

Award for Outstanding Safety and Health Partner Companies

As part of our shared value with in-house partner companies, Hyosung Chemical paid rewards to the top two partners that achieved outstanding results in the 2024 safety and health level evaluation to strengthen the partners' autonomous safety and health management capabilities and motivate other partners. We plan to expand the safety and health award system for partners to continuously help close the safety and health level gap between primary and subcontractors.

Reforming the Safety and Health Evaluation System for Partner Companies

In accordance with the company-wide policy (Evaluation and Management Guidelines for Outsourcing, Contracting, and Commissioned Services), Hyosung Chemical has conducted semiannual safety and health evaluations for 41 contractors since 2024. The evaluation consists of ten categories, including safety and health implementation plans, the quality of risk assessments, training, and emergency response systems. Based on the results, penalties such as bidding restrictions may be imposed, ensuring that only qualified contractors are selected and contracted.

Starting in 2025, we plan to incorporate the previous year's accident records into the evaluation criteria for partner companies across all sites. We will also implement bidding restrictions for companies that do not meet our safety management standards. Through these measures, we aim to enhance our partners' autonomous safety management capabilities and foster a safer working environment.

Identifying and Improving Risk Factors at Partner Worksites

PP/DH PU is actively promoting safety improvements to strengthen partner companies' safety management practices, including the use of personal protective equipment (PPE), compliance with safety procedures, and management of on-site hazards. In 2024, a total of 39 risk factors were identified and fully resolved.

Prior to scheduled maintenance, preliminary inspections are conducted on key equipment such as tools, wires and cables, and welding machines. Equipment found to be non-compliant is recommended for disposal or replacement to prevent industrial accidents such as sling breakage, fire, and electric shock during regular maintenance work. Going forward, we plan to expand these theme-specific inspections to more partner companies to identify and address workplace risks in a more systematic and effective manner.

CASE STUDY

In addition to legally required training, Hyosung Chemical offers supplementary programs to enhance all employees' safety and health competencies and support their development into field experts. In 2025, we plan to further expand both online and offline training programs in response to employee needs and establish a more structured safety and health learning environment.

Training on Personal Protective Equipment (PPE)

From July 8 to 12, 2024, the Yongyeon Plant of POK Biz. Division conducted training for 52 engineers and contractor employees on the proper use of PPE and protective clothing. As part of the training, all participants, while wearing PPE themselves, inspected the plant's PPE storage units and confirmed the availability and condition of the equipment. The overall inspection verified that all PPE was properly stocked and well-maintained.

Musculoskeletal Disorder (MSD) Prevention Training

On June 14, 2024, Film PU's Yongyeon plant conducted training on Musculoskeletal Disorder (MSD) prevention for the plant manager, team leaders, and personnel from the Environmental Safety Team and Logistics Team. The session included a review of past MSD-related incidents and discussed implementing a daily 10-minute stretching routine led by unit leaders before work as a practical prevention measure. Film PU will continue to strengthen its MSD prevention efforts to improve employee health and workplace safety.

Descent Device Training

On October 10, 2024, employees from the Oksan Plant—two from Optical Film PU and three from Neochem PU—participated in fire safety training at the Chungbuk Safety Experience Center. The session included instruction on the use of emergency descent devices. This training enhanced participants' ability to effectively operate the devices in the event of an emergency at the plant.

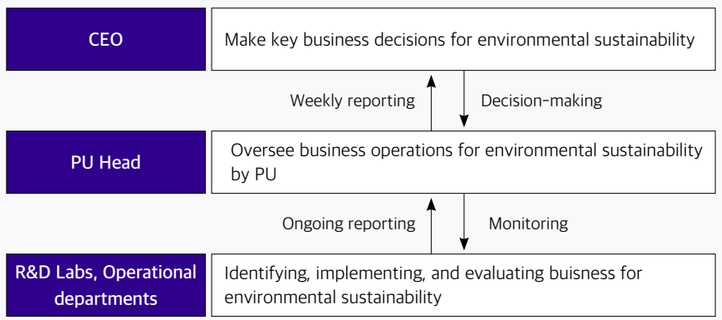
ENVIRONMENTAL

Business for Environmental Sustainability

Governance and Strategy

As petrochemical products—Hyosung Chemical's core business—are recognized as one of the main contributors to environmental challenges, we have developed a business strategy aimed at minimizing their negative impact and promoting environmental sustainability.
We are working to reduce GHG emissions generated throughout the entire production cycle, from the extraction of raw materials to the final manufacturing of products such as POKETONE™, NF_3, and 20% F_2/N_2 gas. We operate a waste recycling system through our PCR-PP (Post-Consumer Recycled Polypropylene)[1] project and mitigate water resource risks by implementing a membrane-based water treatment system. We also aim to reduce environmental impact by producing TAC (Tri-Acetyl Cellulose)[2] films made from biomass sources.
To drive our sustainability efforts, Hyosung Chemical has established and is operating an environmental governance system.

Governance Structure



1. Polypropylene (PP) made from recycled post-consumer plastic waste
2. A high molecular weight chemical compound used in textiles and film materials
3. Cradle-to-Gate: From raw material extraction to product shipment
4. A certification granted to products that contain at least 20% recycled content as part of their raw materials.
5. A regulatory framework that provides temporary regulatory exemptions or suspensions for the development of new technologies and industries.

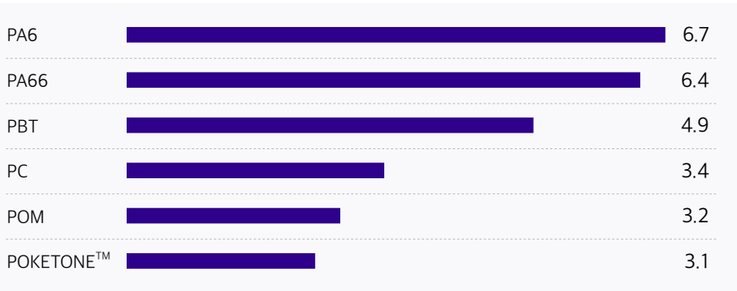
Targets and Performance

POKETONE™, Aiming for Low-Carbon Production

Using one year's worth of production data, we conducted a Life Cycle Assessment (LCA) to evaluate the environmental impact of POKETONE™—from raw material extraction to final product shipment (cradle to gate). As shown in the table below, POKETONE™ exhibits a lower cradle-to-gate GHG emission compared to other competing engineering plastics.

Cradle-to-Gate[3] GHG Emissions per Kg

(Unit: kg CO_2-eq)



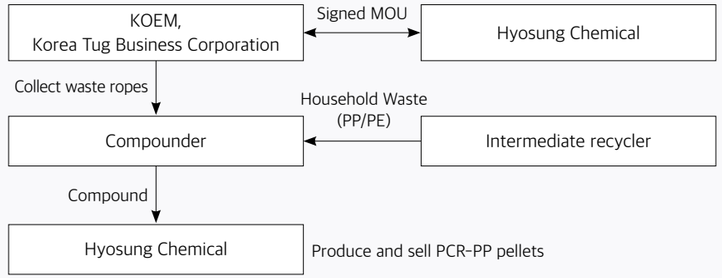
※ Data source for other plastics: Eco-profiles data by PLASTICS EUROPE

In 2024, we took our first step toward reducing GHG emissions from the POKETONETM production process. First, we are working to replace ethylene—the primary raw material for POKETONE™—with bio-ethylene derived from used cooking oil (UCO). Our internal analysis suggests that this replacement could reduce cradle-to-gate GHG emissions to approximately 2.8 kg CO_2-eq per kilogram of product.
Additionally, we consulted a specialized agency to explore transitioning to solar power—a renewable energy source—for POKETONE™ production. This transition is expected to significantly reduce Scope 2 GHG emissions. Moving forward, Hyosung Chemical is committed to continuously managing the environmental impact of POKETONE™ manufacturing by improving production efficiency and regularly updating LCA results.

Building Waste Recycling System through PCR-PP Business

Hyosung Chemical signed a Memorandum of Understanding (MOU) with the Korea Marine Environment Management Corporation (KOEM) and the Korea Tug Business Corporation to collect waste polypropylene (PP) ropes discarded from tugboats. These ropes are compounded with household PP/PE waste to produce PCR-PP pellets, which are then used to manufacture products for specific applications such as automotive parts.

PCR-PP Production Process Overview



In 2024, we supplied 1,421 tons of PCR-PP pellets—produced from approximately 900 tons of marine waste—to a pallet manufacturer. We subsequently procured approximately 310,000 pallets made from these recycled materials to replace single-use pallets previously used across our operations.
To meet growing customer demand for increased recycled content, we are developing high-content PCR-PP containing over 80% recycled materials. Raw material input and final product traceability are strictly managed under the Global Recycled Standard (GRS)4 certification system. In collaboration with a container circulation service provider, we have applied for a regulatory sandbox5 to verify the safety of PCR-PP cups for food contact.

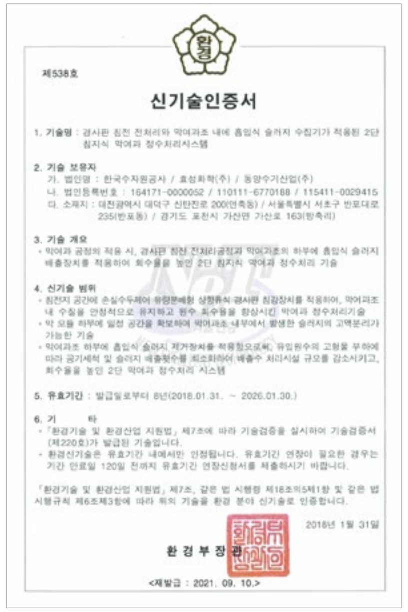
Business for Environmental Sustainability

TAC Film, Bio-based Plastic

TAC films used in display applications are a type of bio-based plastic primarily derived from cotton linter. Bio-based plastics can partially or fully replace petrochemical-based raw materials, which emit greenhouse gases during production. Moreover, the plant-based feedstocks used in bio-based plastics have a lower environmental impact upon disposal compared to petrochemical-based materials. As such, TAC films help reduce environmental impacts—including GHG emissions and pollution—throughout their entire life cycle, from production to end-of-life.

TAC films have been recognized by the U.S. Department of Agriculture (USDA) as bio-based plastics containing 47% biomass-derived carbon, and are certified under the BioPreferred® Program in the 'Film - Semi-Durable' category.

BioPreferred® Program Certification Mark



제538호

신기술인증서

1. 기술명 : 경사판 침전 전처리와 막여과조 내에 흡입식 슬러지 수집기가 적용된 2단 침지식 막여과 정수처리시스템

2. 기술 보유자
가. 법인명 : 한국수자원공사 / 효성화학(주) / 동양수기산업(주)
나. 법인등록번호 : 164171-0000052 / 110111-6770188 / 115411-0029415
다. 소재지 : 대전광역시 대덕구 신탄진로 200(연축동) / 서울특별시 서초구 반포대로 235(반포동) / 경기도 포천시 가산면 가산로 163(방축리)

3. 기술 개요
· 막여과 공정의 적용 시, 경사판 침전 전처리공정과 막여과조의 하부에 흡입식 슬러지 배출장치를 적용하여 회수율을 높인 2단 침지식 막여과 정수처리 기술

4. 신기술 범위
· 침전지 공간에 손실수두제어 유량분배형 상향류식 경사판 침강장치를 적용하여, 막여과조 내 수질을 안정적으로 유지하고 원수 회수율을 향상시킨 막여과 정수처리기술
· 막 모듈 하부에 일정 공간을 확보하여 막여과조 내부에서 발생한 슬러지의 고액분리가 가능한 기술
· 막여과조 하부에 흡입식 슬러지 제거장치를 적용함으로써, 유입원수의 고형물 부하에 따라 공기세척 및 슬러지 배출횟수를 최소화하여 배출수 처리시설 규모를 감소시키고, 회수율을 높인 2단 막여과 정수처리 시스템

5. 유효기간 : 발급일로부터 8년(2018.01.31. ~ 2026.01.30.)

6. 기 타
· 「환경기술 및 환경산업 지원법」 제7조에 따라 기술검증을 실시하여 기술검증서(제220호)가 발급된 기술입니다.
· 환경신기술은 유효기간 내에서만 인정됩니다. 유효기간 연장이 필요한 경우는 기간 만료일 120일 전까지 유효기간 연장신청서를 제출하시기 바랍니다.

「환경기술 및 환경산업 지원법」 제7조, 같은 법 시행령 제18조의5제1항 및 같은 법 시행규칙 제6조제3항에 따라 위의 기술을 환경 분야 신기술로 인증합니다.

2018년 1월 31일

환 경 부 장 관

<재발급 : 2021. 09. 10.>

New Technology Certification for Membrane

Membrane-based Water Treatment System to Mitigate Water Resource Risks

Hyosung Chemical's membrane-based water treatment system helps mitigate water-related risks such as water scarcity and pollution by purifying water for reuse and improving the quality of domestic and industrial wastewater. At the core of the system is hollow fiber membrane technology, which effectively removes contaminants, E. coli, and pathogenic protozoa, allowing only clean and safe water to pass through. The system incorporates pressurized membrane filtration and two-stage submerged membrane filtration technologies and is recognized as New Technology by the Ministry of Environment.

The pressurized hollow fiber membrane technology helps mitigate water scarcity risks by enabling water purification for potable use and water reuse for alternative water sourcing. Similarly, the submerged hollow fiber membrane technology is applied for the same purposes, helping address water shortages. In addition, it is used in the treatment of wastewater, thereby helping to reduce water pollution risks.

In 2024, we installed a pressurized hollow fiber membrane system at a wastewater reuse facility that repurposes treated effluent from the Anyang Bakdal Wastewater Treatment Plant. The reclaimed water is used as supply for the plant's odor control system, saving approximately 800 tons of water per day through effluent reuse. Additionally, submerged hollow fiber membrane systems were introduced at a livestock wastewater treatment facility in Cheongyang and an industrial wastewater treatment facility in Incheon.

In the same year, we developed a membrane filtration product with enhanced packing density, enabling more membranes to be installed within the same footprint. We plan to continue investing in membrane technology development to expand the application of our membrane-based water treatment systems across a wide range of facilities, contributing to the mitigation of water resource risks.

Environmental Impact Analysis of Products

Of the 39 ESG-related inquiries received from stakeholders in 2024, 20 were related to GHG emissions, accounting for approximately 51%—a notably high proportion. To fulfill the demands of stakeholders and achieve our VISION 2030[1] targets, we calculated the carbon footprints of six products—PP, TPA, PET film, TAC film, NF_3, and 20% F_2/N_2—in 2024.

Environmental Product Declaration (EPD)[2] Certification for NF_3 and 20% F_2/N_2

Neochem PU conducted LCA to analyze product-level environmental impacts and to manage and reduce greenhouse gas (GHG) emissions generated during the manufacturing of NF_3 and 20% F_2/N_2. Over a five-month period, from November 2024 to March 2025, Neochem PU quantified seven environmental impact categories across both pre-manufacturing and manufacturing stages: resource footprint, carbon footprint, ozone depletion, acidification, eutrophication, photochemical smog creation, and water footprint. To enhance the credibility of the data, Neochem PU obtained the EPD certification from the Korea Environmental Industry & Technology Institute (KEITI). Among the seven categories, carbon footprint will be a key focus moving forward, with efforts underway to explore reduction measures such as process optimization.

Environmental Impact Analysis of PP, TPA, PET Film, and TAC Film

Hyosung Chemical participated in the 2024 LCA Support Program led by the Ministry of Environment to expand its LCA-based environmental impact analysis, which had previously been limited to POKETONE™ products. Through this program, full life cycle environmental assessments were conducted for additional products—PP, TPA, PET film, and TAC film. In particular, for TAC film produced at the Yongyeon and Oksan plants, site-specific assessments were carried out. Production teams, Engineering teams, and Environmental Safety teams from each PU worked collaboratively to collect process-level data. Based on this, key environmental impacts such as carbon footprint, acidification potential (impact on soil and water), and ecotoxicity impacts were quantified.

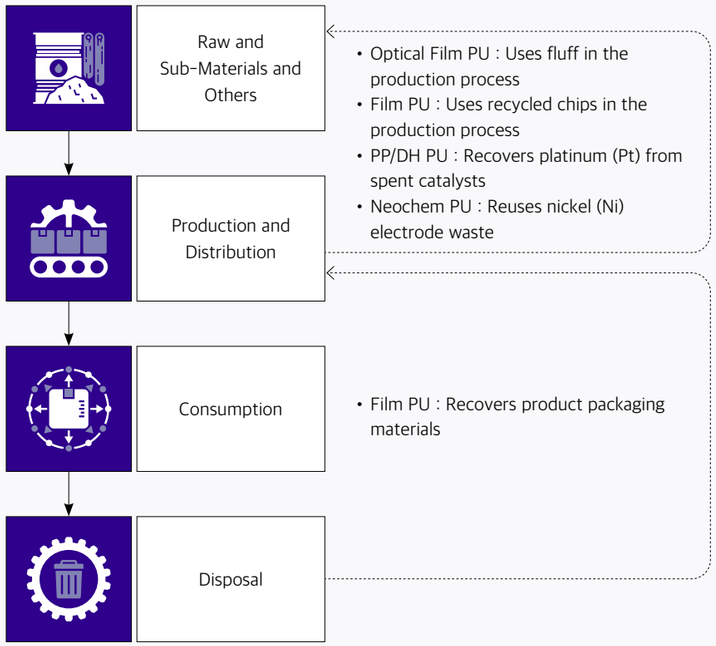
1. Reduce greenhouse gas (GHG) emissions by at least 14.5% by 2030, compared to 2018
2. A certification program that promotes the disclosure of quantified environmental impacts throughout the entire life cycle—from raw material extraction and production to transportation, use, and disposal—to enhance the environmental performance of products and services

Waste Resource Circulation System Operation

Governance and Strategy

Hyosung Chemical adopts a company-wide approach to resource circularity to help preserve the Earth's resources for future generations. To enhance resource efficiency and promote the circulation of waste materials throughout the entire product life cycle—from production and distribution to consumption—each business division has established and operates a waste resource circulation system.

Waste Resource Circulation Process



Targets and Performance

Reusing TAC Film Production Waste

Optical Film PU reuses a type of production waste known as "fluff" by blending it with raw materials at a specified ratio. Fluff is produced by shredding trim waste and substandard TAC films that are inevitably generated during the TAC film production process. In 2024, a total of 10,253 tons of raw materials were used for TAC film production, with fluff accounting for 3,522 tons, representing 33.5% of the total input.

Film Recycled Chip Input

Process waste—such as by-products and defective products generated during film production—is reintroduced into the manufacturing process as raw material through a recycling system. The film production process includes a stretching stage, where the film is thinned. During this stage, the film's edges, which are secured by equipment, inevitably experience a decline in quality and are trimmed after stretching. Additionally, films are cut to customer-specified widths and lengths prior to shipment. These trimmed sections, along with other defective products, are classified as process waste.
Waste generated from trimming and product defects is shredded through a crusher process and fed into a recycling system. This results in recycled chips that can be reused as raw materials in film production. In 2024, Hyosung Chemical used 31,846 tons of recycled chips, accounting for 34.5% of the total raw material consumption of 92,253 tons. Going forward, we will continue to manage and maintain this film production waste recycling system.

TAC Film Production Facility

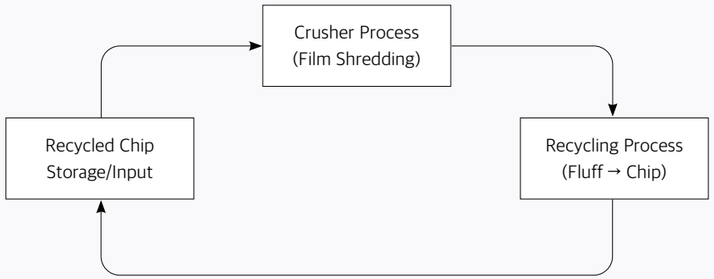
2024 Optical Film Fluff Input Performance

Site	Fluff Input (Ton)	Raw Material Input (Ton)	Fluff Input Proportion (%)
Yongyeon	1,922	5,653	34.0
Oksan	1,600	4,600	34.8
Total	**3,522**	**10,253**	**34.4**

2024 Film PU Recycled Chip Input Performance

Site	Recycle Chip Input (Ton)	Raw Material (Chip) Input (Ton)	Recycle Chip Input Proportion (%)
Yongyeon	19,821	52,948	37.4
Gumi	12,025	39,305	30.6
Total	**31,846**	**92,253**	**34.5**

Film PU Waste-to-Process Recycling Flow



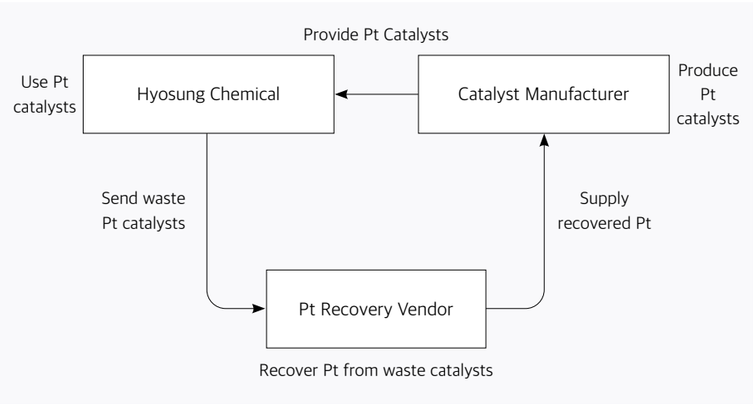
Waste Resource Circulation System Operation

Recovering Catalysts from Platinum (Pt)

Hyosung Chemical produces polypropylene (PP) through a two-step process. The first step is the Dehydrogenation (DH) process, in which propane is converted into propylene. The second step is the Polypropylene Polymerization (PP) process, where propylene is polymerized to produce polypropylene.

All platinum (Pt) catalysts used in the DH process are fully replaced with new ones every five years due to performance degradation over time, resulting in waste catalyst. The spent catalysts are handed over to a waste recovery vendor, which recovers approximately 99% of the platinum content. The recovered platinum is then supplied to a catalyst manufacturer for reuse in the production of new catalysts.

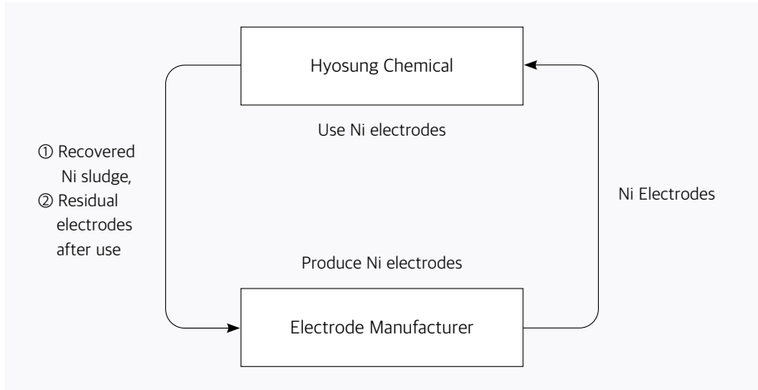
Platinum Circulation System

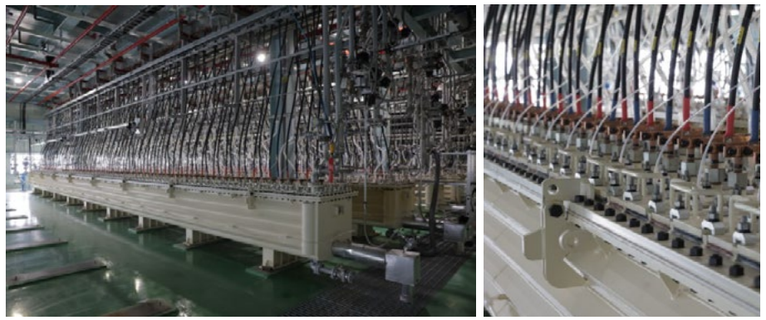


Recycling Nickel (Ni) Electrode Waste

Neochem PU uses nickel electrodes for the electrolysis of raw materials in the NF_3 production process. After use, process waste known as sludge is generated, and residual electrodes with worn or detached parts remain. Typically, about 65% of the electrode mass is corroded or converted into sludge, leaving approximately 30% as residual electrodes.

To enable the recycling of recovered nickel sludge and residual electrodes into new nickel electrodes, we clean them in-house and deliver them to a nickel electrode manufacturer. In 2024, out of a total of 332 tons of nickel electrode usage, 213 tons of nickel sludge and 75 tons of residual electrodes were recycled, resulting in a recycling rate of 87%.





Electrodes Used in Neochem PU Production Process

Recovering Product Packaging Materials

Hyosung Chemical employs a range of packaging materials—including FRP (Fiber Reinforced Plastic) cores, wooden pallets, plywood pads, and paper tubes—for the delivery of its PET and nylon films. Although these materials are typically discarded after use, we evaluate their potential for reuse.

Recovery processes vary by packaging material. FRP cores, used to wind the films, are retrieved directly from clients, then cleaned and reused at our facilities. Wooden pallets and plywood pads, which support the safe transport and storage of products, are collected by an external vendor and graded into three quality categories: A, B, and C. We repurchase and reuse only A-grade materials as they meet the highest standards. Paper tubes, used for storing and transporting films, are initially inspected in-house to identify those suitable for reuse. Selected tubes are then sent to an external partner for reprocessing and reintegrated into our packaging operations.

2024 Packaging Material Recovery Performance - Film PU's Yongyeon Plant

Category	Used Quantity (Units)	Recovered Quantity (Units)	Recovery Rate (%)
FRP Core	768	891	116.0
Wooden Pallet	38,643	26,810	69.4
Plywood Pad	139,403	69,316	49.7
Paper Tube	105,509	19,536	18.5

Biodiversity

Governance

Governance and Policy

Hyosung Chemical recognizes biodiversity conservation, closely linked to climate change, as a major environmental issue and has implemented internal policies to address it. We have also established a working group composed of ESG teams from each Hyosung Group affiliate to discover issues and monitor progress through close consultation.

Strategy

Co-prosperity Initiatives for Farming and Fishing Communities

Hyosung Chemical has steadily pursued co-prosperity initiatives with farming and fishing communities. Designed to promote balanced development between urban and rural areas, these initiatives support biodiversity, environmental improvement, education, and welfare. Hyosung Chemical and other key Hyosung Group affiliates hold monthly joint reviews to set direction and refine project details, ensuring responsible management. Through these efforts, we enhance quality of life in rural areas while advancing the value of biodiversity. We remain committed to growing with local communities through sustainable co-prosperity initiatives.

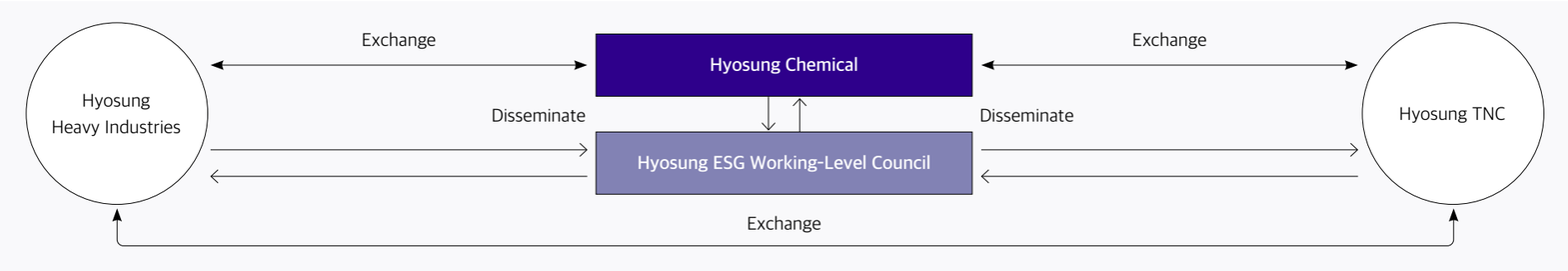
Risk Management

Biodiversity Risk Management

In accordance with the Wildlife Protection and Management Act, we assessed biodiversity risks around our major sites by identifying endangered species in the surrounding areas. Our analysis was based on the IUCN Red List and the Korea Ministry of Environment's List of Endangered Species. No endangered species habitats were found in our sites.

We remain committed to conserving biodiversity around our operations and minimizing negative impacts through stakeholder engagement and training.

Biodiversity Activity Communication Process



Number of Endangered Species Around by Site

(Unit: Number)

Region	Nationally Designated Endangered Species (Domestic)	IUCN Red List[1] (Overseas)
Seoul	1	80
Yongyeon	6	92
Oksan	4	26
Gumi	7	24

1. A list of endangered species announced by IUCN (International Union for Conservation of Nature). Based on this list, Critically Endangered (CR), Endangered (EN), and Vulnerable (VU) species were counted and identified within a 25 km radius of our operational sites.

Key Biodiversity Activities

Key Activity	Partner Agencies	Project Details	Mid-term qualitative Goal (~2027)	Mid-term quantitative Goal (~2027)	Long-term Goal (~2030)
Seagrass Restoration and Marine Forest Creation	Ministry of Oceans and Fisheries, Korea Fisheries Resources Agency	• Provide habitats and enhance the marine environment through seagrass restoration	• Complete Wando sea forest creation and established local management system	• Create a 159ha sea forest by planting 40,000 seagrass in Wando tidal flats	• Create new regional sea forests
DMZ Forest Restoration	Korea National Arboretum	• Restoration of degraded forest areas in the DMZ and provide support to local farming communities	• Expand restoration efforts for degraded forest areas in the DMZ	• Restore 1,500㎡ of degraded land and plant 59,500 native plants	• Restore forest ecosystems in restored degraded areas
Winter Migratory Bird Protection	Gimhae City	• Protect winter migratory birds by providing food	• Maintain wintering migratory bird population at Gimhae Hwapocheon Wetland	-	• Increase the number of winter migratory birds under care and protection
Endangered Insect Restoration Support	National Institute of Ecology	• Support the restoration of endangered species: jewel beetles and giant water bugs	• Increase endangered insect populations	-	• Increase the release of endangered insect populations into the wild

Biodiversity

Targets and Performance

DMZ Forest Ecosystem Conservation Activities

In September 2024, Hyosung Chemical signed an MOU with the Korea National Arboretum (KNA) at the Hyosung Chemical Banpo Building to promote the restoration of deforested areas in Yanggu-gun, Gangwon-do. Under this agreement, we are actively engaged in restoring degraded forest ecosystems near the barbed-wire fence along the DMZ in Yanggu-gun.

MOU with KNA

Project Overview

Category	Detail
Project Needs	• Yanggu-gun in Gangwon-do is one of Korea's most prominent forest regions. However, as a key military zone located near the Korean Peninsula's DMZ, large areas have been recklessly cleared for military training and to secure visibility for border surveillance, resulting in severe forest degradation and soil erosion • Forest degradation that leads to barren land can result in soil erosion during rainfall, causing damage to local residents. It also has negative ecological impacts, including biodiversity loss
Expected Outcomes	• Restoring native plants in barren forest areas near the DMZ barbed-wire fence contributes to ecosystem stability • Contract farming of native plants by local farmers generates additional income and contributes to revitalizing the local economy • The restoration of native plants helps stabilize the soil and reduce erosion during rainfall, positively contributing to the prevention of river pollution and the protection of nearby farmland
Implementation Schedule	• Survey and selection of eligible farmers/contract growers (~ by the end of January 2025) • Seedling cultivation (~ by the end of May 2025) • Environmental groundwork and planting event with employee participation (~ by the end of July 2025) • Development of new project plans for 2026 (~ by the end of December 2025)

Seagrass Medow Restoration Project

Hyosung Chemical is carrying out a seagrass meadow restoration project to help revive marine ecosystems. Seagrass is a crucial underwater plant and a source of blue carbon absorption, generating oxygen through photosynthesis and offering vital habitats for marine life. In 2024, we transplanted 40,000 seagrass shoots and seaweed species across 159 hectares. To assess the ecological impact, our partner agency—the Korea Fisheries Resources Agency (FIRA)—conducted a comparative study of the area before and three years after restoration. The results confirmed the project's effectiveness in enhancing marine ecosystem health, showing a 2.5-fold increase in benthic organisms, a 1.5-fold increase in observed species, and a 1.2-fold rise in the species diversity index. We remain committed to supporting and actively participating in marine ecosystem restoration initiatives.

Supporting Endangered Insect Restoration

Hyosung Chemical is undertaking a variety of initiatives to promote the conservation of endangered insects and the restoration of biodiversity. In 2024, we provided support for facilities for artificial propagation of jewel beetles and giant water bugs. In 2025, we plan to provide additional support for essential food for the propagation process and plan to host a jewel beetle release event involving employee participation. In addition, we signed an MOU with the National Institute of Ecology on the artificial propagation of the endangered Dung beetle. Through these efforts, Hyosung Chemical continues to enhance awareness of biodiversity conservation while contributing to the restoration of local ecosystems.


Seagrass Medow Restoration Activities


Release of Rehabilitated Vultures (Winter Migratory Bird Protection)

Winter Migratory Bird Protection Activities

Since 2023, we have been conducting feeding support activities to help endangered and nationally designated natural monument species, such as cinereous vultures, greater white-fronted geese, and whooper swans, successfully overwinter in Korea. In January 2025, Hyosung employees visited the Hwapocheon Wetland Ecological Park in Gimhae to participate in a hands-on feeding activity using domestically sourced agricultural and livestock products. They also supported the release of three cinereous vultures back into the wild after the birds were rescued and treated for starvation. Each year from November to March, large numbers of winter migratory birds fly to the Korean Peninsula in search of warmer conditions. However, many suffer from exhaustion and starvation due to a lack of food. We will continue to engage in these efforts for migratory bird protection.

Project Overview

Species	Population (Individuals)		
	2022~2023	2023~2024	2024~2025
Cinereous Vulture	300	406	600
Whooper Swan	170	103	82
Greater White-fronted Goose	5,000	5,035	5,700
Black-faced Spoonbill	15	27	19
Red-crowned Crane	-	1	-
White-naped Crane	-	286	74
Other Bird Species	2,676	3,018	2,426
Total	**8,161**	**8,876**	**8,901**

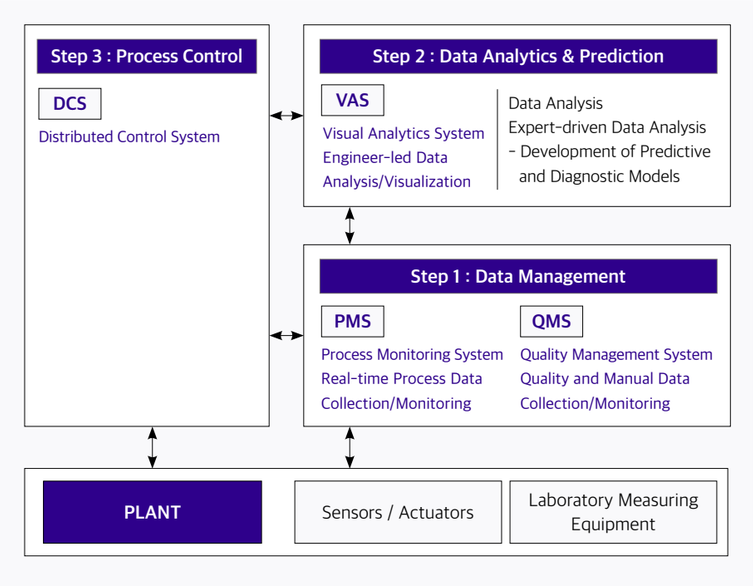
Smart Factory Development & Operation

Governance and Strategy

Building Smart Factory for Sustainable Business

Hyosung Chemical has developed and operated PMS (Process Monitoring System), QMS (Quality Management System), and VAS (Visual Analytics System) to integrate all manufacturing-related resources in real time and to enable prompt, data-driven decision-making. With these systems, we strive for meticulous quality management. In addition, we are committed to improving operational productivity and reducing energy consumption by assigning dedicated personnel at each plant, identifying key analysis tasks, and continuously monitoring performance outcomes.

Structure of Hyosung Chemical's Smart Factory Platform



Conducting Statistics-Based Process Improvement Training

To maximize the performance of our Smart Factory operations, Hyosung Chemical offers regular statistics-based process improvement trainings throughout the year for engineers, team leaders, and plant managers across all plants. Through this training, engineers strengthen their data-driven decision-making capabilities, leading to enhanced product quality, cost reduction, and overall operational efficiency.

2024 Statistic-based Process Improvement Training

Training Program	No. of Participants	Training Period
SPC (Statistical Process Control)	46	April 2024
Design of Experience	17	June 2024
Six Sigma	26	July 2024
Total	**89**	-

QMS (Quality Management System)

The QMS contributes to improving work efficiency by digitalizing data that was previously managed manually. Plant engineers can achieve operational standardization by entering data in a standardized format within the system. Furthermore, quality management data from QMS can be seamlessly integrated with big data platforms such as PMS and VAS. This integration provides foundational data for determining optimal operating conditions through virtual metrology (quality prediction) and quality simulation tools.

PMS (Process Monitoring System)

The PMS collects real-time data for integrated management of plant processes. When any data deviates from predefined control standards, the system triggers an immediate alert to enable prompt response. Users can, based on PMS, analyze and optimize processes using functions such as correlation analysis between process tags and univariate regression analysis.

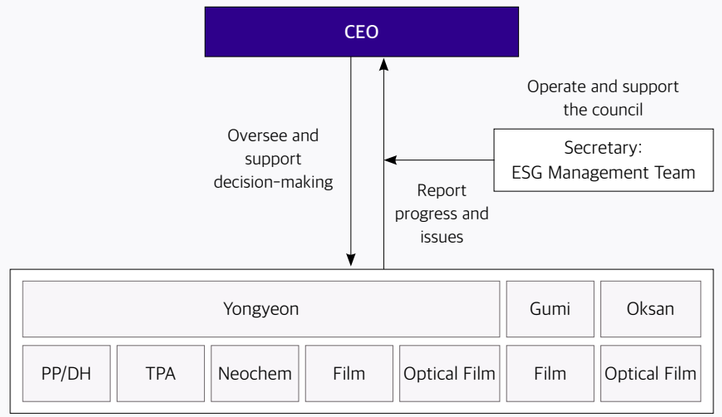
VAS (Visual Analytics System)

VAS is a system that provides functions for quality-process correlation analysis and significance analysis and is used to identify key influencing factors and support data-driven analysis. Plant engineers use comparative analysis of historical data to examine changes in process and quality conditions, incorporating the results into process optimization and improvement efforts.

Smart Factory Day

To reduce energy costs and enhance product quality through smart factory operations, Hyosung Chemical holds a monthly "Smart Factory Day" meeting led by the CEO. At these meetings, Smart Factory coordinators from each plant report on the progress of key analytical tasks and share future plans. Feedback from the sessions is reflected in ongoing big-data analysis, supporting continuous performance improvement.

Smart Factory Operation Council



Smart Factory Development & Operation

Targets and Performance

2024 Key Analysis Task Progress and Estimated Annual Economic Impact

Hyosung Chemical successfully completed 11 key analysis tasks in 2024. These initiatives are projected to generate annual economic benefits exceeding KRW 10 billion, with over KRW 5 billion attributed to energy savings and another KRW 5 billion to quality improvement.

2024 Key Analysis Tasks

Category	Completed Tasks
Energy Savings	Optimize the electric current efficiency of the ECF process
	Extending the Maintenance Interval of DF Cells
	Optimize the conditions for the DH reaction
	Improve the productivity of Unipol product lines
	Optimize the unit consumption of acetic acid
Quality Improvement	Improve Um for optical films
	Reduce foreign matter in Nylon film production
	Improve heat resistance in PET films
	Ensure quality stability during production speed-up
	Establish a control system for key process and quality parameters: phase 1
	Establish a control system for key process and quality parameters: phase 2
A total of 11 tasks	

Smart Factory Implementation Completed at Neochem PU Oksan Plant

In December 2024, Hyosung Chemical completed the implementation of a smart factory at Neochem PU's Oksan plant, aiming to enhance operational efficiency through big data analytics. Beginning in 2025, we plan to designate dedicated personnel, provide them with statistical analysis training, and sequentially establish and execute key analytical tasks—ultimately generating tangible results, as demonstrated in previous achievements.

2025 1st Half Key Analysis Tasks

We have established five key analysis tasks for the first half of 2025. Building on the previous year, these tasks include initiatives for energy savings and quality improvement, along with the development of an early detection system for equipment abnormalities during operation. Upon completion, the tasks are expected to generate annual economic benefits exceeding KRW 3 billion.

2025 1st Half Key Analysis Task Overview

Category	Planned Tasks
Energy Savings	Activation of PP Catalyst
	Unipol PP Catalyst Cost Reduction
Quality Improvement	Improvement of TD Solution Production Line
	Improvement of Holes in PET Film
Others	Establishment of Early Detection System for Equipment Abnormalities
5 in total	

Promotion of POK Biz. Division's Smart Factory

Hyosung Chemical is currently pursuing the establishment of a smart factory at the POK Biz. Division's Yongyeon plant, the only site among our plants that has not yet adopted smart factory infrastructure. Starting in the second half of 2025, dedicated personnel will be assigned to the plant to prepare for smart factory adoption in phases—first by having staff complete statistical analysis training, followed by the development and execution of key analysis tasks to ensure stable operations

Preparing for Smart Factory 2.0

Since 2020, our smart factory operations have contributed to improving work productivity by reducing energy consumption and enhancing quality management. Starting in the second half of 2025, we plan to advance to "Smart Factory 2.0," an upgraded initiative that goes beyond conventional big-data analysis. By introducing FDC (Fault Detection and Classification)[1] activities, we aim to strengthen data-driven decision-making and maximize facility operational efficiency.

1. A quality and productivity management methodology that analyzes process data to detect and classify defects.

CASE STUDY

Film Quality Improvement through Smart Factory Big-data Analysis

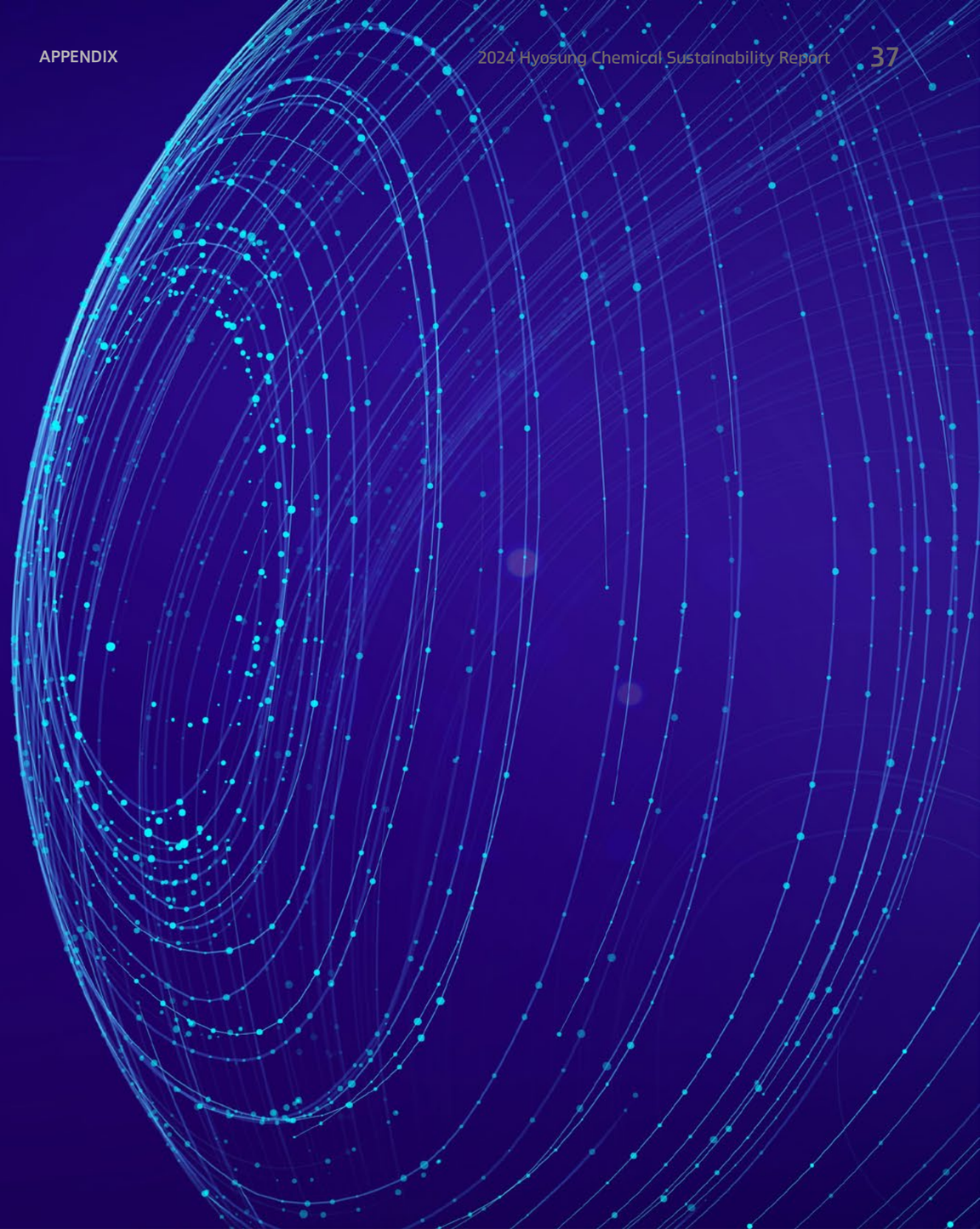
In March 2023, Hyosung Chemical supplied a 125㎛ (micrometer) film to Shinwha Intertek, which was processed into DMOP and delivered to Samsung Electronics. During Samsung's post-TV assembly testing, a stain appeared on the screen approximately 20 minutes after power-on. A root cause analysis identified a specific surface pattern on the film, known as "Um," as the primary cause. This issue led to a significant drop in optical film sales, highlighting an urgent need for resolution.

This surface pattern ("Um") was believed to form during the thickness control process and became more pronounced when pressure was applied during film winding and storage. While the facility structure and airflow during the manufacturing process were suspected as the root cause, the exact origin of the issue remained unidentified at the time.

In response, Hyosung Chemical applied smart factory big data analysis techniques to address the issue. By November 2023, we had built a database of surface pattern ("Um") quality and film winding conditions. We then established an analysis system to define the correlations between these factors and applied the findings to drive improvements. Beginning in February 2024, we conducted statistical and case analyses on bending caused by fixed thickness, identified as the root cause, to pinpoint key process variables. These variables were then incorporated into optimized operating conditions to enhance product quality. Through these efforts, our optical film sales successfully recovered to normal levels.

Optical Film

SOCIAL



Customer Oriented Management

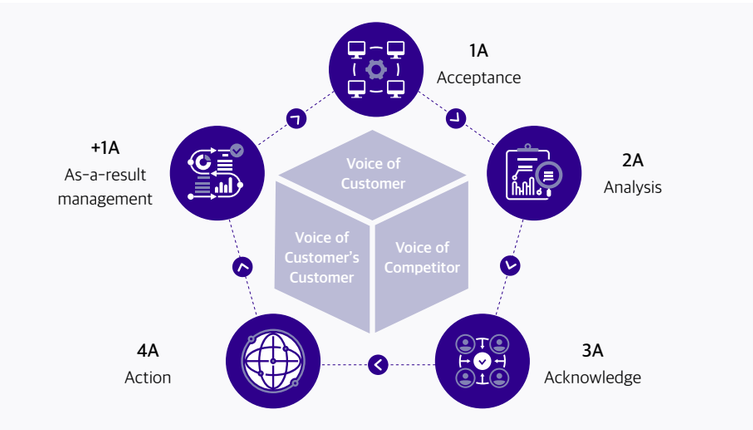
Governance

C-Cube System

Since introducing the C-Cube system in 2019, Hyosung Chemical has embedded the 4A+1A process as an internal execution framework to analyze Real VOC through multi-dimensional data collection. Real VOC refers to uncovering customer needs or issues that even customers themselves may not yet recognize. By identifying and addressing these hidden insights, we aim to deliver meaningful solutions and ensure the highest level of customer satisfaction. In addition, C-Cube activities help identify new tasks for future growth, such as responding to the growing eco-friendly trend, and contribute to strengthening our brand value.

The C-Cube system is utilized not only in sales but also across all key business areas, including quality, marketing, and production. Rather than a simple operational tool, it serves as a Big Data Platform developed in line with the DT (Digital Transformation) trend. All records are stored in a centralized database and used for big data analysis. C-Cube allows each business unit (PU) to define its own management types and priority levels. It also offers freely configurable specialized areas analysis and keyword analysis features, enabling data analysis tailored to the specific needs of each business area.

4A+1A Process



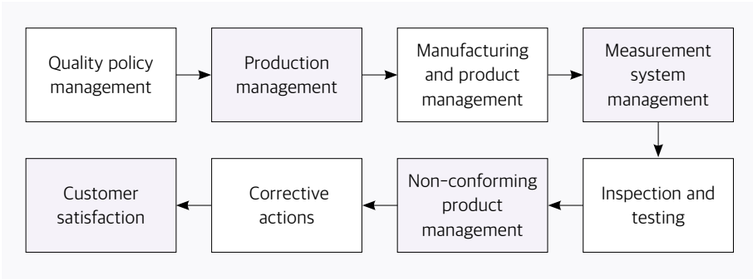
Strategy

Quality Management Process for Enhanced Customer Value

Hyosung Chemical operates an optimized quality management system in accordance with ISO 9001, the international standard for quality management. As HYOSUNG Polypropylene is used not only in Korea but also across global markets, including China, Japan, Southeast and Southwest Asia, the Middle East, Europe, and the Americas, we conduct quality control and improvement activities tailored to the customer standards of each country.

In line with our quality assurance process, we manage product quality systematically and implement targeted improvement activities that address customer needs identified through VOC (Voice of Customer) analysis.

Quality Management Process



Acquiring Customer-Specific Certifications

In addition to commonly required certifications, we actively pursue authentication requested by specific customers or required in certain industries. POK Biz. Division has acquired the IATF 16949:2016 certification required by the automotive industry. Film PU has obtained FSSC 22000 (Food Safety System Certification) to meet the needs of customers in the food packaging sector. Meanwhile, PP/DH PU has secured a range of certifications required to regional product use, including Phthalate-free, US FDA, RoHS, and eco-friendly GRS (Global Recycled Standard) certification.

Quality Complaint Response Process

Upon receiving customer complaints regarding product safety or quality, Hyosung Chemical promptly investigates the root cause and establishes preventive measures to avoid recurrence. If the issue is found to be attributable to our fault, we initiate a compensation process to strengthen customer trust and satisfaction.

Customer complaints related to product quality are handled through a four-step process. In the first step, the sales team receives and records the customer's complaint. In the second step, relevant departments, such as Quality Assurance and Production, collaborate to identify the root cause of the issue. In the third step, an official response is provided to the customer. If the issue is found to be attributable to Hyosung Chemical, the compensation method and amount are discussed and agreed upon with the customer. Finally, in the fourth step, the complaint is formally closed, and the effectiveness of the implemented preventive measures is reviewed to ensure recurrence is avoided.

Additionally, we regularly hold technology exchange meetings with our clients to directly hear and understand their needs. These customer requests are recorded in our internal online system so that employees can incorporate them into their daily operations. In 2024, PP/DH PU registered a total of 1,458 quality-related VOCs, including meeting records and issue logs, into the system, averaging 5.6 entries per day, all of which were registered in the C-Cube system and incorporated into actual work processes.

Customer Complaint Handling Process

Step	Detail	Team in Charge
Receipt	Receive and log a quality complaint from a customer	Sales
Action	Investigate the root cause, Develop and implement preventive actions	Quality Assurance (QA) and other production-related teams
Compensation Plan Discussion	Discuss and agree on a compensation plan with the customer	Customer Service (CS), Including Customer Technical Support, Technical Support (TS)
Closure	Evaluate the effectiveness of the preventive measure	QA and production-related teams

Customer Oriented Management

Risk Management

Business Continuity Management System

Hyosung Chemical operates a business continuity management (BCM) system to prevent any disruption to our clients' operations caused by delivery delays.

Particularly in businesses such as semiconductors and displays supplied by Neochem PU, where market cycles are shorter, any disruption in supply can lead to significant losses for clients. To prevent such risks, we are intensively focusing on risk management. For example, Neochem PU has established more than six emergency response scenarios to ensure business continuity, including raw material supply disruptions, power outages, natural disasters, equipment failures, labor strikes, and IT system breakdowns.

Furthermore, we have established and operate an Emergency Response System to prepare for accidents involving high-pressure gas containers, including cylinders and tube trailers. We have developed response scenarios for potential incidents such as fires, gas leaks from cylinders, and transportation accidents. Based on these scenarios, we conduct emergency drills and maintain a high level of preparedness for unforeseen events.

POK Biz. Division has also established an emergency response plan to ensure business continuity. In particular, we categorized the raw materials, subsidiary materials, and utility disruptions and devised response plans based on 17 scenarios. To strengthen preparedness, dedicated personnel have been assigned not only within the company but also from relevant external partner companies and suppliers.

Film PU has developed comprehensive fire emergency scenarios covering the entire process—from the initial outbreak to emergency communication, immediate response actions, and specific roles and procedures assigned to each person involved, including detailed response guidelines and location information. These scenarios are used to conduct simulation drills.

Targets and Performance

Communication and Operational Processes to Enhance Customer Value

Committed to customer satisfaction, Hyosung Chemical provides technical support through exhibitions and seminars, while also facilitating regular communication with customers. For instance, we participate in major international trade shows such as Chinaplas in China and K-Fair in Germany, and host technical seminars across various regions both in the office and abroad to promote technology exchanges. On the product safety front, we have obtained certifications including REACH, RoHS, FDA, EU 10/2011, and BIS, verifying that our products are free from hazardous substances. We also maintain a review process that eliminates harmful substances from the initial stages of new product development, supported by ongoing monitoring of global chemical regulations. In line with our focus on technological innovation to enhance customer value, we primarily produce and sell high-value-added products. Most recently, we launched a new line of thinner and lighter pipe products, contributing to increased sales. Through regular communication with our partner and customer companies, we continue to build strong, trust-based relationships. In the event of a quality complaint, we activate a prompt response process designed to minimize customer inconvenience. In addition, we continuously monitor customer evaluations of our raw material suppliers, conducting root cause analyses and implementing improvement measures to achieve higher ratings.

Webinars

Hyosung Chemical is strengthening its communication system with customers to enhance their confidence in our products and proactively address their inquiries. As part of this effort, POK Biz. Division hosts an annual webinar, encouraging participation from a diverse range of customers, including peer material manufacturers, research institutes, and distributors. This seminar allows for in-depth discussions about products with experts from each operational division, moving beyond the brief product introductions typically provided by sales representatives. It also facilitates the identification of previously unrecognized customer needs. Feedback gathered from these seminars is then incorporated into product development.

Chinaplas Exhibition


Webinars

Respect for Human Rights of Employees

Governance and Strategy

Human Rights Management Principles

Hyosung Chemical has established and published human rights policy on our official website, aligning with global human rights management guidelines such as the UN Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights. We encourage compliance with this policy not only by our employees, both domestic and international, but also by external stakeholders, including partner companies, distributors, and clients.

Since 2022, we have collaborated annually with an external consulting agency to review and improve our internal checklist for human rights impact assessments. By conducting these assessments, we proactively prevent human rights violations and address identified risks. Furthermore, we have established and operate human rights management training, along with grievance handling and redress processes, as required by domestic law. The ESG Management Promotion Committee consistently monitors our human rights management performance.

Hyosung's 9 Human Rights Management Principles

1 Protection of Human Rights of Local Residents

2 Non-discrimination

3 Humanitarianism

4 Compliance with Working Conditions

5 No Workplace Harassment

6 Freedom of Association

7 Prohibition of Forced Labor and Child Labor

8 Guaranteed Industrial Safety

9 Privacy Protection

Mid- to Long-Term Roadmap for Human Rights Management

Hyosung Chemical has developed and is implementing a mid- to long-term roadmap for human rights management. This roadmap aims to advance our human rights management system, manage human rights risks across all stakeholders, and further internalize and disseminate human rights management practices throughout our operations.

Mid- to Long-Term Roadmap for Human Rights Management

Mission	Human Rights Protection for All Stakeholders		
Strategic Goals and Directions	Advancement of the Human Rights Management System • Systemize the Human Rights Management Response Process • Advance Human Rights Risk Management	Management of Human Rights Risks for Stakeholders • Support Business Partners' Human Rights Management • Advance Stakeholder Communication Channels	Internalization and Dissemination of Human Rights Management • Activate Human Rights Training and Awareness Campaigns • Enhance Human Rights risk management of Overseas Subsidiaries
Mid- to Long-Term Roadmap and Implementation Tasks	2021~2023 • Declare ESG Management • Establish and Publicize the Human Rights Management Policy • Define R&Rs of the Human Rights Management Response Organization • Conduct Human Rights Impact Assessments at Domestic Sites • Provide Human Rights Management Training and Operate a Grievance Handling Process	2024~2026 • Update the Human Rights Policy and Obtain CEO Approval • Conduct Human Rights Impact Assessments at Overseas Subsidiaries • Establish and Update the Mid- to Long-Term Roadmap for Human Rights Management • Digitalize the Grievance Handling and Redress Process and Identify Areas for Improvement	2027~2029 • Develop Human Rights Risk Mitigation Measures and Evaluate the Effectiveness • Conduct Human Rights Impact Assessments for Business Partners • Carry Out Human Rights Due Diligence at Overseas Subsidiaries • Share Practices in Human Rights Management Internally and Externally

Employee Diversity and Inclusion

Hyosung Chemical is committed to promoting workforce diversity by recruiting employees regardless of nationality, gender, or disability. We disclose relevant employee indicators each year through our sustainability reports. The ratio and quantitative targets for female employees in management positions and above are managed through our implementation plan and report of 'Affirmative Action'. To enhance diversity on our Board of Directors, we ensure that at least 20% of the Independent director candidate pool consists of women. Additionally, Hyosung Chemical ensures equal opportunities for all employees by prohibiting any form of discrimination in promotions, compensation, or salaries based on nationality, gender, or disability. We also conduct annual training programs to raise awareness of diversity and eliminate discrimination, including sessions on workplace harassment prevention and disability awareness. Furthermore, we are committed to fostering an inclusive work environment by improving accessibility for employees with disabilities, such as enhancing access to restrooms both inside and outside our facilities.

Respect for Human Rights of Employees

Human Rights Training

We provide annual human rights training for all employees to institutionalize human rights management across the organization and strengthen internal capacity. The training covers key topics such as workplace bullying prevention, sexual harassment prevention, child and forced labor, ethical management, and education regarding case of the Fair Trade Act.

Education for Pre-Retirement employees

We provide reemployment support services for employees approaching retirement. In 2024, a total of 18 employees participated in the program, and the number is expected to increase to 35 in 2025.

Risk Management

Human Rights Impact Assessment

Hyosung Chemical conducts annual human rights impact assessments for relevant departments to proactively identify and manage potential human rights risks across its business operations. Based on the findings and improvement areas identified through these assessments, we establish and publicly disclose our human rights policy and mid-to-long-term roadmap. To enhance the objectivity of the process, we collaborate with an external consulting firm to evaluate the current status of our human rights management and to provide recommendations for improvement.

Handling of Human Rights Grievances and Redress Actions

We operate a secure grievance handling channel to ensure that both employees and external stakeholders can report human rights-related concerns without fear of retaliation. Employees may file reports via the HR Counseling Center within our groupware system, while external stakeholders can use the Whistleblowing Center on our official website. This platform facilitates the collection of diverse feedback and concerns regarding human rights issues from all stakeholders. In the event of a reported human rights violation, an investigation is promptly initiated in accordance with our established grievance redress procedure. The anonymity of the reporter and the confidentiality of the report are strictly maintained throughout the process. Additionally, protective measures are in place to prevent any retaliation from the alleged offender.

Human Rights Violation Redress Procedure

Reporting	Reporter or victim
↓	
Receipt	Registered in the Human Rights Violation Reporting Book
↓	
Consultation & Reporting	Human Rights Management Officer Receives reports of human rights violations/Reports to department head
↓	
Investigation	Case investigated within 7 days of receipt
↓	
Committee Deliberation and Approval	Dismissal, Recommendations for correction and action
↓	
Correction & Action	Corrective measures and recommendations are implemented
↓	
Reporting & Disclosure	The case is reported to senior executives and disclosed as necessary

Targets and Performance

HR Counseling Center

Hyosung Chemical actively listens to employee grievances and concerns and identifies appropriate solutions to help employees stay focused and engaged in their work. We are committed to building a sound labor-management culture grounded in mutual respect and consideration by continuously addressing employees' suggestions and challenges.

	As of 2024, one grievance case has been submitted and resolved

Labor Union Status

Hyosung Chemical has two labor unions composed of Technical workers, and employees are free to join a union on a voluntary basis. As of 2024, 99% of employees (355 out of 356) are members of the Chemical Workers' Union, and 97% (258 out of 265) are members of the Film Workers' Union. Working conditions are determined through separate negotiations with each labor union.

Labor-Management Council Status

We hold quarterly labor-management council meetings at each of its sites (Headquarters: for office employees; Yongyeon: for chemical and film divisions; Gumi: for film division; Oksan: for chemical and film divisions). Through these councils, we listen to employee suggestions and make improvements, fostering a labor-management culture grounded in mutual respect and consideration.

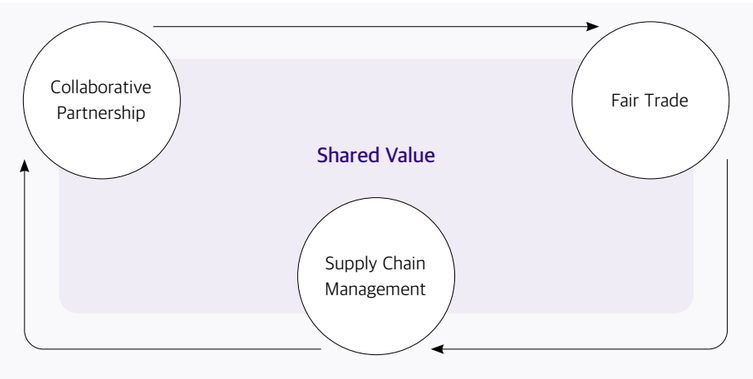
2024 Activities & Achievements	4 meetings at the Headquarters, 8 meetings at Yongyeon (4 for Film and 4 for Chemical), 8 meetings at Oksan (4 for Film and 4 for Chemical), 4 meetings at Gumi (Film)

Sustainable Supply Chain Development

Governance

Sustainable Supply Chain Policy

To fulfill our corporate social responsibilities by respecting human rights and addressing environmental issues across our operations, Hyosung Chemical is committed to enhancing sustainability throughout its supply chain. To this end, we have established a Sustainable Supply Chain Policy that aligns with internationally recognized standards, including the guidelines of the International Labour Organization (ILO), Organization for Economic Cooperation and Development (OECD), and the EU's Corporate Sustainability Due Diligence Directive (CSDDD). In particular, we have broadened the definition of our "supply chain" to include all stakeholders involved throughout the entire process—from sourcing of raw and subsidiary materials to manufacturing, transportation, distribution, and the final delivery of our products and services. This approach ensures that no blind spots are overlooked in our supply chain management. All procurement departments assess potential risks when selecting new partner companies, and also conduct annual re-evaluations of existing partner companies to prevent, eliminate, or mitigate both actual and potential risks.We are committed to minimizing the environmental impact of our operations by pursuing green procurement. Our procurement departments actively seek out products that contain fewer hazardous substances, generate less waste, or consume fewer resources. We also strive to identify opportunities for recycling or transitioning to bio-based materials. Additionally, to reduce GHG emissions, we manage Scope 1, 2, and Scope 3 emissions, with plans to continuously expand our management scope.



Strategy

Strategies and systems

Hyosung Chemical believes that "partner competitiveness is the company's growth engine". Guided by the principle of "Hyosung shares a common destiny with its partners", we collaborate with them toward common goals to build a brighter future. Through collaborative partnership, we will seek shared value with our business partners and become an ethical company that complies with fair trade. This approach fosters sustainable and collaborative progress, even amidst rapidly changing markets.

Collaborative partnership	We will engage in mid- to long-term collaborative activities with other companies, pursuing shared value to create sustainable growth engines and jobs, and to help establish an economic foundation for a fair society. • Establish a Foundation for Collaborative partnership
Fair Trade	We will foster fair trade and free competition in compliance with fundamental economic principles. • Establish a fair trade order • Prohibit abuse of market dominance • Prohibit collusion • Prohibit unfair transaction practices
Supply Chain Management	We will fulfill our social responsibilities by developing supply chain management strategies that support collaborative partnership and comprehensively manage supply chain risks. • Establish supply chain management strategies • Develop and support a supplier code of conduct • Manage supply chain risks

Risk Management

Strengthening Registration and Evaluation of Business Partner

We are committed to establishing fair and transparent standards for selecting business partners. To manage supply chain risks, all new partner companies undergo a registration assessment that evaluates not only traditional criteria, such as quality, delivery date, pricing, and business performance, but also their compliance with environmental and safety regulations, and their ethical management, including human rights and labor practices.
Additionally, we conduct annual reassessments of existing partner companies, taking differentiated follow-up actions based on the evaluation results.

Partner Company Selection Process

Partner Company Recruitment → Partner Company Selection Review → Partner Company Selection (Bidding and Contracting) → Start of Transaction (Ordering and Receiving)

Assessment Criteria and Scoring

Criteria	Business Performance	Human Rights Management	Environmental and Safety Compliance
Scoring	50	30	20

Follow-up Actions by Evaluation Result

90 and above	80and above	70and above	60and above	Below 60
Grant priority in contract allocation and exempt from re-evaluation the following year	Grant priority in contract allocation	Maintain business relationship	Issue a warning and placed under close supervision; subject to special review within three months	Suspend business relationship

Sustainable Supply Chain Development

Establishing Fair Trade Practices

Hyosung Chemical is dedicated to fostering a fair trade culture with our partner companies and has integrated the Fair Trade Commission's recommendations into our company policies. These policies include the 4 fair trade practices: contract negotiation, partner company selection and management, establishment and operation of internal deliberation committee, and the issuance and retention of written documents. We have also issued guidelines explicitly prohibiting retaliatory actions such as unilateral trade bans or suspensions against our partner companies. By implementing these measures, we are building a robust foundation for equitable partnership and striving to build reasonable and transparent business relationships.

Four Fair Trade Practices	
• Contract Negotiation Practices	• Partner Company Selection and Management Practices
• Establishment and Operation Practices of Internal Deliberation Committee	• Document Issuance and Retention Practices

Commitment with Fair Trade Responsibilities

Hyosung Chemical complies with and applies the Standard Subcontract Form issued by the Fair Trade Commission. This form includes provisions that protect the tangible and intellectual property rights of our partner companies, such as the prohibition of forced provision of technical data, technical data escrow, licensing and guarantees of intellectual property rights, and the transfer of ownership of deliverables. We are committed to safeguarding the tangible and intellectual property of its partner companies.

Fair Trade Principles for Partner Companies

To ensure both Hyosung Chemical and its business partners consistently earn public trust and pursue sustainable growth, we have established the Partner Company Code of Conduct. This code enables us to foster transparent and fair business relationships and recommends social responsibility guidelines for all our partner companies. By publicly disclosing this code on our official website, we emphasize our commitment as not just an agreement between Hyosung Chemical and our business partner, but a social pledge. In 2024, 83 partner companies signed the code of conduct.

Targets and Performance

Preferential Payment Terms for Outstanding Partner Companies

Hyosung Chemical selects top-performing subcontractors each year—based on their engagement with our policies and high partner company evaluation scores—as recommended by the procurement department. For these selected partner companies, we offer more favorable payment terms by providing cash payments. In 2024, six partner companies were selected, resulting in improved cash flow and reduced interest burden.

Collaborative Partnership

To fulfill our corporate social responsibilities, we operate various programs that promote sustainable and mutual growth with our partner companies. Each year, we develop and implement support plans to help partner companies enhance employee human rights and occupational safety and health, expand market access, strengthen eco-friendly business capabilities, reduce energy consumption, and advance ESG management.

Collaborative Partnership Support Programs

Support Programs	Support Details	No. of Beneficiaries
Safety and Health	• Safety manager appointment • Safety equipment purchase	• 20 • 4
Improvement Working Environment	• Portable air conditioner purchase for rest areas and similar facilities • Provision of PCs	• 5 • 2
Market Access Expansion	• Payment guarantee fees to secure credit	• 32
Eco-friendly Business Capabilities	• Development and installation of new eco-friendly products	• 2
Energy Savings	• Upgrade of outdated and inefficient equipment	• 1
ESG Management	• ESG management and consulting	• 1

CASE STUDY

Support for Supply Chain Partner Companies

Support for Energy-Saving Equipment

Hyosung Chemical pursues co-prosperity with our partner companies and is committed to enhancing their sustainability to enable collaborative Partnership. One key initiative is the Energy-Saving Equipment Support Program, which helps improve energy efficiency based on on-site diagnostics of partner company facilities. This leads to cost savings, strengthens partner companies' price competitiveness, and reduces greenhouse gas emissions, all of which contribute to greater sustainability for both parties. In 2024, we supported a partner company whose energy expenses accounted for a significant portion of its manufacturing costs. The partner company had been experiencing increased electricity bills and energy loss due to the use of an outdated and oversized transformer. Through the program, we helped replace the transformer and expect to reduce annual electricity usage by 18,057 kWh and greenhouse gas emissions by 8.57 tCO_2-eq. In addition, through three additional improvements, the power saving effect was approximately 20,097 kWh/year, and the greenhouse gas reduction effect was 9.54 tCO_2-eq/year.

Before and After Transformer Replacement

Support for Manufacturing Equipment

To foster mutual growth and enhance sustainability through business expansion, we provide essential manufacturing equipment to partner companies seeking to enter new markets. Plastic cutting boards should be embossed to prevent material from slipping when used on the cutting board. Hyosung Chemical provided extruder embossing equipment for the manufacturing of POKETONE™ cutting boards to a business partner who was planning to launch a new cutting board product utilizing POKETONE™, an environmentally friendly material.

Talent Acquisition & Development

Governance and Strategy

Performance Evaluation

To fulfill its mission and create value through business activities, Hyosung Chemical sets clear goals and growth directions for employees. We motivate our employees by offering differentiated compensation and promotion opportunities, encouraging them to achieve their goals voluntarily. Each employee subject to performance evaluation prepares a performance plan that includes KPIs and obtains approval. They receive feedback from their team leader semi-annually and may revise their plan as necessary. We help maximize individual performance by applying differentiated compensation based on individual achievement. Performance evaluations and related compensation are conducted without discrimination based on gender or disability.

Work Attitude Evaluation

We assess employees' work attitudes in detail based on specific behavioral criteria for each category. To enhance objectivity, evaluators are provided with 360-degree feedback from co-workers as a reference. Each employee also receives a personalized evaluation report highlighting their strengths and areas for improvement, which serves as a basis for feedback.

Promotion System

Promotions are determined based on a comprehensive assessment of various factors, including individual performance, recognition and disciplinary records, foreign language proficiency, and leadership, to evaluate whether the employee possesses the qualities and competencies required for the next level.

Compensation System

To foster a performance-driven culture, we offer greater rewards for higher achievements through a compensation system linked to both organizational and individual performance. Compensation consists of basic salary, allowances, and performance-based incentives.

Basic Salary	The fundamental component of compensation, differentiated based on individual performance evaluations.
Allowances	Additional compensation based on job position and relevant certifications.
Performance Incentives	Differentiated rewards based on PU (Performance Unit) evaluations, reflecting performance against the organization's annual targets set at the beginning of the year.

Risk Management

Talent Development Program

Hyosung Chemical offers job-specific training to all employees Level 1 and above, led by the Human Resources team. Sales training includes negotiation skills (since 2024), while production/technical training covers Statistical Process Control (since 2020) and Six Sigma & Design of Experiments (since 2022), each held twice a year.

The sales training is designed to build core negotiation skills by helping employees understand key concepts and identify stakeholders' needs to influence counterpart behavior. The production and technical training enhances process capability analysis skills and understanding of analysis to support smart factory efficiency and builds foundational knowledge in process management to strengthen data-driven decision-making in the future.

At the Hyosung Group level, common training programs are provided by the Human Resources Development Center in line with the annual management direction. These include management training, such as accounting, as well as communication and VOC programs. After each training session, participants submit an outcome report and a satisfaction survey, which are shared with management and instructors to help tailor future programs more effectively to employee needs.

We support job-specific and language training based on employee interests and cover the cost of one language proficiency test per year. Employees eligible for reemployment support services are also free to choose and take courses that suit their needs.

On-the-Job Training (OJT) for New Skilled Employees

We develop specialized talent development programs with equal emphasis on both office and skilled workers. For new skilled employees, we provide OJT programs that include theoretical, safety, and basic-to-advanced process training before they are assigned to plant operations. This approach helps prevent safety accidents and enhances job performance. Practical training, including on-site instruction and pre-assignment onboarding, is also offered. These sessions are conducted by frontline supervisors, delivering real-world insights directly from the field. The training continues even after deployment, completing a three-month OJT cycle.

Training for Outstanding Talent

Hyosung Chemical provides training for high performers who consistently deliver strong performance in key roles, with the goal of developing them into future leaders. Selected based on recommendations from each business unit, these employees are granted opportunities of access to language and job training programs, as well as seminars, regardless of institution or subject.

Developing Female Talent and Leaders

Hyosung Chemical recruits and promotes talent based on objective criteria such as job performance, expertise, and leadership, regardless of gender. To enhance gender equality, we have set a female employment target in line with industry averages and actively implement measures from the recruitment stage, such as hosting campus recruitment sessions for women and assigning female interviewers. We also include gender equality provisions in our Human Resources (HR) policies to ensure that female employees are not disadvantaged in performance evaluations or promotions. Evaluation standards are clearly defined for those returning from maternity or parental leave, and female executives participate in the promotion (HR) committee to further ensure fairness. Beyond institutional measures, we provide gender equality training for interviewers to raise awareness among employees. Additionally, a female representative is assigned within the grievance handling department to address issues related to female employees more effectively.

Best Family Friendly Management Certification

We offer a variety of welfare programs to support employees in balancing work and family life, including benefits related to childbirth, childcare, and education. We first obtained the Family Friendly Management Certification in December 2020 and have continued to renew it annually, with plans to continue this year.

Talent Acquisition & Development

Targets and Performance

Creating a Great Work Place

Hyosung Chemical implements a flexible working hour system on a monthly basis, allowing employees to freely adjust their working hours within each month. We also operate a range of family-friendly programs to support work-life balance, including reduced working hours during pregnancy and childcare periods, parental leave, spousal paternity leave, and an in-house daycare center. In addition, we offer tuition support for employees' children. To promote work-life balance, we provide designated leave days, refresh leave, and long-service leave. Employees are encouraged to combine these with annual leave for greater flexibility.

Welfare Programs Operation

Hyosung Chemical provides a range of welfare programs tailored to each stage of the employee lifecycle from onboarding to retirement, such as congratulatory and condolence support, loan assistance, tuition support, health checkups, and long-service awards. We also operate an exclusive online welfare mall to enhance employee satisfaction.

Policies and Programs

Category	Details
Paid Time Off (PTO)/Half-day PTO/Partial-day PTO	8-hour/4-hour/2-hour time off
Long-service Leave	3 to 5 days of paid leave with vacation allowance for long-term employees
Designated Leave Days	Designate days off before/after public holidays to encourage extended vacations
Summer Vacation	5 days of paid vacation annually with vacation allowance
Prenatal Checkup Leave	1 to 4 days off per month depending on pregnancy stage
Reduced Hours During Pregnancy	2-hour daily reduction during early pregnancy (up to 12 weeks) or late pregnancy (after 32 weeks)
Reduced Hours for Childcare	Up to 3 years of reduced working hours for employees with children under age 12
Maternity / spousal Paternity Leave	90 days for maternity leave; 20 days for spousal paternity leave
Fertility Treatment Leave	Paid leave for infertility-related treatments and procedures
Parental Leave	Up to 18 months of leave available before or after childbirth (available to both parents)

Welfare Programs

Category	Details
Congratulatory and Condolence Support	Monetary gifts, leave, and congratulatory or condolence wreaths/items provided for employees' and their family events
Short-term Loan Support	Low-interest loans offered to employees using internal funds
Tuition Support	Tuition and admission fees covered for employees' children in high school and university
Health Checkup Support	Comprehensive medical checkups provided for employees and their spouses aged 40 and above
Group Accident Insurance Support	Coverage for accidents, illnesses, hospitalization, dental treatment, and actual expense reimbursement
Education Support	Financial support for external training programs and language test fees
Vehicle Subsidy Support	Monthly allowance for personal vehicle use
Communication Expense Support	Monthly reimbursement for work-related mobile communication expenses (e.g., sales staff)
Birthday Gift Program	Gift certificates provided to employees and designated individuals such as their family members on birthdays
Company Foundation Day	Paid leave and gift certificates on company foundation day
In-house Club Support	Support for employee clubs to encourage leisure activities and organizational activation
Employee Welfare Mall	Operation of an affiliated welfare mall and official gift mall exclusively for employees
Resort Benefits	Access to various affiliated resort and recreational facilities
Commuting Support	Shuttle bus service provided for on-site employees

Community Engagement

Governance and Strategy

Sharing management Strategy

In today's world, corporations are increasingly expected to take on responsibilities that go beyond their traditional roles of production and employment—actively addressing a broad range of societal challenges. Hyosung Chemical is committed to leading this change.

Under the slogan 'Together through Sharing', we pursue our vision of becoming 'a company that empowers beneficiaries to shape their own futures through education and sharing'. To realize this vision, we have established three key social contribution strategies: supporting vulnerable communities both at home and abroad, promoting culture and arts, and honoring patriots and veterans who served the nation.

Strategy to Communicate with Local Communities

Hyosung Chemical implements social contribution strategies designed to provide meaningful support to local stakeholders through continuous communication. Above all, we strive to proactively identify negative environmental and social impacts that our business activities may have on local communities. When such impacts are identified, we work in close collaboration with the community to develop and implement effective solutions, and we disclose the outcomes transparently.

Risk Management

Local Community Engagement around Our Business Sites

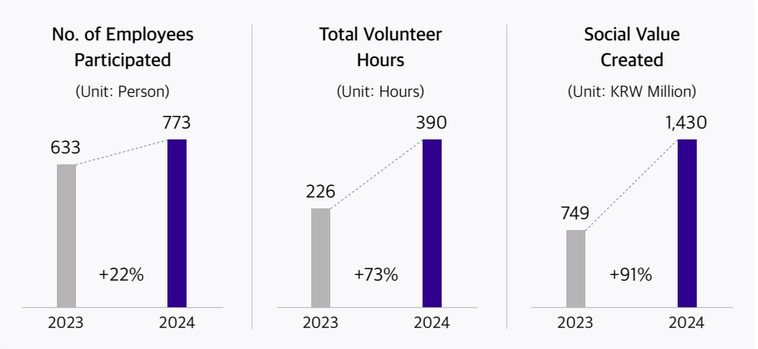
Hyosung Chemical has established dedicated teams at each business site to engage with the surrounding local communities. These teams regularly host community town halls and council meetings to actively listen to the voices of local residents, with all sites working to fulfill their corporate social responsibilities. We also make continuous efforts to identify and address any negative environmental or social impacts our operations may have on neighboring communities.

Feedback collected through community councils and reporting channels is analyzed to identify issues with potential negative impacts. Each issue is then assessed and scored based on its severity and likelihood of occurrence. These scores are used to prioritize issues, develop tailored action plans, and implement necessary measures. The resulting plans are transparently shared with a wide range of local stakeholders, including local residents and public institutions. We also conduct regular monitoring and evaluation to track the progress and effectiveness of these action plans to improve our engagement with local communities.

Targets and Performance

2024 Social Contribution Performances

We measure our social contribution performance based on evaluation standards developed by external experts. Rather than focusing on one-time donations, we aim to calculate the social value created and manage its outcomes, ensuring that our social contribution activities bring tangible benefits to local communities.



Strategy to Communicate with Local Communities

Slogan	Together Through Sharing		
Vision	A company that enables beneficiaries to chart their own futures through education and sharing		
Strategy	Support for the Vulnerable	Support for Culture and Arts	Support for Patriots and Veterans
Mid- to Long-term KPI	Foster a social environment that empowers beneficiaries to become self-reliant	Develop sustainable programs through ongoing communication with local stakeholders, rather than offering one-time support	Expand long-term support programs Provide daily necessities to 400 households of national veterans annually for three years from 2025 to 2027

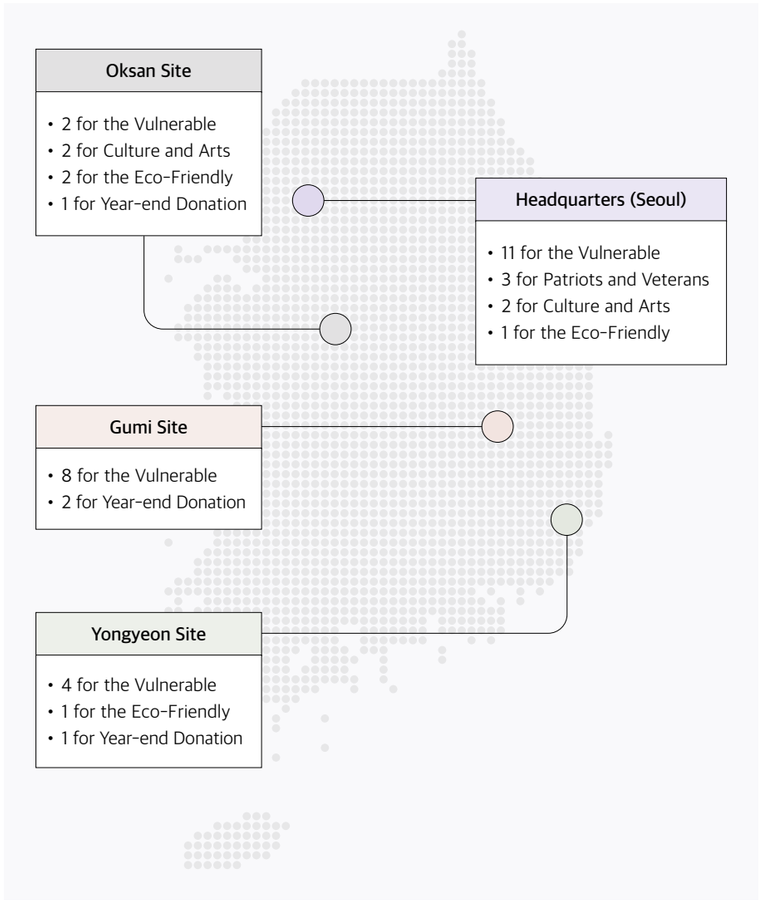
2024 Social Contribution Performance by Theme for Local Communities

Category	Investment (KRW Million)	No. of Activities	No. of Employees Participated	Total Volunteer Hours	No. of Beneficiaries
Support for the Vulnerable	318	25	687	250	4,803
Patriots and Veterans	30	3	16	40	12,763
Culture and Arts	5	4	11	32	6,402
Eco-Friendly	5	4	52	61	20,811
Year-end Donations	18	4	7	7	44
Total	**377**	**40**	**773**	**390**	**44,823**

Community Engagement

2024 Social Contribution Activities by Business Site

Hyosung Chemical is dedicated to advancing local communities and generating social value by carrying out region-specific social contribution activities at each of our business sites.



2024 Activities by Business Site (Details)

Site	Key Activities	Detailed Locations (Institutions)
Headquarters (Seoul) (17)	Support for employment activation through professional training for women with career experience	Jongno Women Resources Development Center
	Donated goods from employees to Goodwill Store and created jobs for people with disabilities and those in need	Goodwill Store (Eunpyeong Branch)
	Delivered Kimchi to vulnerable residents in Mapo-gu	Mapo-gu Office
	Preserved cultural heritage through palace cleanup activities	Deoksugung Palace (Jung-gu, Seoul)
	Provided financial support for disabled artists for creation and exhibitions	Seoul Disability Arts Center
	Conducted Seoul National Cemetery maintenance activities and 11 other programs	Seoul National Cemetery
Yongyeon Site (6)	Donated “Good Company” funds to local vulnerable groups through institution	Seonam-dong Administrative Welfare Center
	Concluded sisterhood relationship with community custody	Ulsan Child Care Center
	Conducted exchange activities with sister villages (One Company, One village)	Cheongsong Village, Ulju-gun
	Supported for vulnerable to celebrate Chuseok	Ulsan Community Chest of Korea
	Conducted environmental cleanup around the site, and 1 other activities	Seongam Neighborhood Park
Oksan Site (7)	Conducted zoo clean-up activities for biodiversity conservation	Cheongju Zoo
	Provided financial aid to children at the Oksan Community Children’s Center	Management coporation for Cheongju integrated industrial complex
	Sponsored local cultural events in Oksan-myeon	Hanmaeum Festival in Oksan-myeon
	Donated to 20 low-income families with minors receiving basic welfare support	Oksan-myeon
	Supported summer camp meal costs, school supplies, and toys for children in institutional care, and 2 additional activity	Hyenung Children’s Home (Oksan)
Gumi Site (10)	Supported social safety net projects (e.g., local festivals and caregiving programs) in the outskirts of Gumi	Gumi Community Welfare Center
	Provided Christmas gifts to local community childcare centers, and 8 other activities	ChildFund Korea

Community Engagement

Targets and Performance: Support for the Vulnerable

Employment Support for Women with Career Breaks

Hyosung Chemical, together with other Hyosung Group affiliates, donated KRW 70 million to the Jongno Women Resources Development Center to support job training and employment programs for middle-aged and senior women who have experienced career breaks. The donation was used to operate two vocational training programs on caregiving and accounting/clerical work, which provided job-related education for a total of 40 participants. For 12 years since 2013, 483 women have participated in these programs through the Jongno Women Resources Development Center, with 409 successfully finding employment, achieving an 85% employment rate.

Support for Artists with Disabilities

Since 2018, we have been supporting the creative activities of artists with disabilities in partnership with the Seoul Foundation for Arts and Culture. In 2024, we sponsored a special exhibition titled “Art of Tilting” held at the Hangaram Art Museum in the Seoul Arts Center, which focused on disability-themed art. The exhibition featured works by six teams of resident artists from the 14th cohort of the Seoul Disability Arts Center. The funds were spent to support their artistic creation and the promotion of their work.

Hyosung Volunteer Corps

Formed jointly with other Hyosung Group affiliates, the Hyosung Volunteer Corps empowers employees to actively participate in social contribution by providing regular opportunities for volunteering. All employees are welcome to join the corps, and paid volunteer leave is available as part of our support system. Since 2023, the corps has been visiting Seoul Bethany Daycare Center once a month to assist children with disabilities in outdoor activities. As of April 2025, nine Hyosung Chemical employees are active members of the corps, and we will continue our support for children with disabilities on an ongoing basis.

CASE STUDY

Social Contribution Activities near Business Sites

The Seonam-dong Local Social Security Council Activities

Hyosung Chemical’s Yongyeon Plant makes annual “Good Company Donations for Sharing” to the Administrative Welfare Center in Seonam-dong, located near the plant. In its ongoing efforts to contribute to local development, the Yongyeon Plant continues to support residents through various social contribution activities. In addition, some of our employees serve as members of the Seonam-dong Local Social Security Council. Going forward, the plant plans to continue contributing to the local community through ongoing support.

- Appointed as a member of the Seonam-dong Local Social Security Council (March 2021)
- Participates in monthly council meetings
- Donated KRW 3 million in “Good Company” donations in 2024.

Donation to ChildFund Korea

In December 2024, the Yongyeon Plant donated KRW 10 million to ChildFund Korea and KRW 5 million to the Ulsan Children’s Center to support underprivileged children in the Ulsan area. The donations were raised through voluntary contributions from employees at the plant. The funds will be used to support vulnerable through the two organizations. Since 2015, the plant has consistently supported vulnerable members of the local community through sustained charitable giving.

The Overseas Child Sponsorship Program for Employees

The Overseas Child Sponsorship Program is a social contribution initiative designed to support children in Vietnam by improving access to education, clean drinking water and sanitation, environmental conditions, and basic living support. For every donation made by an employee, the company provides a matching grant of the same amount. These funds are used to build additional classrooms, improve access to clean drinking water and sanitation, promote public awareness, and establish local libraries where children live, thereby contributing to improved quality of life for the children and their communities for the children and their communities.

Community Engagement

Targets and Performance: Support for Culture and Arts

Cultural Heritage Protection Activities

Since 2006, Hyosung Chemical has collaborated with other affiliate companies on environmental cleanup activities aimed at preserving cultural heritage. These palace cleanup efforts are conducted in partnership with Arumjigi, a non-profit foundation dedicated to preserving historical sites and cultural properties. Each year, our employees actively participate in these activities during regular work hours. In 2024, Hyosung Chemical employees and volunteers from other affiliates took part in an environmental cleanup at Deoksugung Palace.

Targets and Performance: Support for Patriots and Veterans

Support for the 'Patriot's Home' Project

Since 2012, Hyosung Chemical has been supporting the Patriot's Home Project—known in Korean as Narasarang Bogeumjari—as part of a group-wide initiative. In 2024, we visited the Republic of Korea Army Headquarters in Gyeryong-si, Chungcheongnam-do, and donated KRW 100 million to the project. The funds were used to improve the living conditions of 13 veteran households and to provide subsidized housing support for 121 veterans. More recently, we also supported the construction of new homes for six Turkish Korean War veterans. We remain committed to supporting patriots and veterans through a variety of ongoing initiatives.

Welfare Benefits for Army Soldiers

Since 2010, Hyosung Chemical has joined the group-wide initiative of the One Company, One Military Unit and formed a sisterhood relationship with the Gwanggaeto Unit, making annual donations to support army soldiers. We also visited the Gwanggaeto unit in 2024 and donated KRW 50 million for consolation and their welfare benefits. The funds were used for the development of the military base and for welfare items such as fitness equipment and outdoor basketball hoops. We also supported the construction of welfare facilities like a reading cafe and a laundry room.

Targets and Performance: Eco-Friendly Initiatives

Environmental Cleanup Activities at Banpo Hangang Park

In April 2024, 40 Hyosung employees took part in environmental preservation activities at Banpo Hangang Park as part of the "No Plastic - Let's Go Plogging Along the Hangang" campaign organized by the Seoul Volunteer Center. The group-wide participation was led by Hyosung Chemical. Located near Hyosung Chemical's headquarters, Banpo Hangang Park serves as a sanctuary for Seoul citizens. Since 2022, we have participated in annual plogging events to collect litter such as cigarette butts and disposable plastic cups, which are among the main culprit of environmental pollution, and to help clean up the park. This year, we continued our efforts through this eco-friendly initiative and plan to remain actively engaged in the years to come.

Environmental Cleanup Activities at Oksan Industrial Complex

In September 2024, Hyosung Chemical's Oksan Plant participated in the environmental cleanup campaign at the Oksan Industrial Complex, organized by the Management coporation for Cheongju integrated industrial complex. The event brought together around 20 resident companies in the complex and began with holiday greetings among participants in celebration of the upcoming Chuseok holiday. Employees then engaged in a group plogging activity for about an hour, promoting both physical well-being and environmental stewardship. Hyosung Chemical's Oksan Plant plans to continue actively participating in such cleanup efforts going forward.

Community Engagement

Environmental Cleanup Activities at Cheongju Zoo

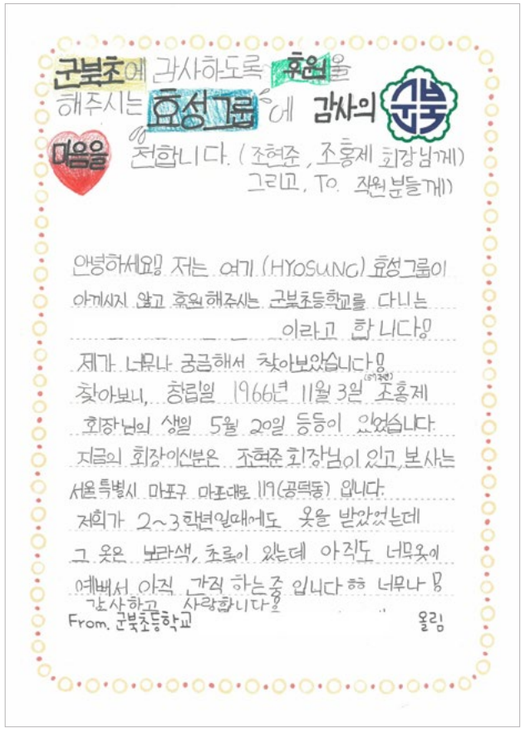
Since 2022, employees of Hyosung Chemical's Oksan plant have been volunteering every year at Cheongju Zoo, located near the plant. Their efforts include supporting animal behavioral enrichment programs to improve the well-being of endangered species, applying bird collision prevention tape to the glass enclosures for lions, and assisting with health check-ups for eagles. In October 2024, employees helped clean the zoo by collecting litter along pedestrian walkways, in parking areas, and in other public spaces. Hyosung Chemical will continue to clean up the zoo through ongoing volunteer activities.

Environmental Cleanup Activities at Seongam Neighborhood Park, Yongyeon

In April 2024, our Yongyeon Plant conducted an environmental cleanup at Seongam Neighborhood Park, located near the plant, to help maintain a clean and pleasant green space. A total of 27 volunteers from the plant participated in the initiative, removing litter and debris along the roads surrounding the park and plant. With the goal of improving the experience for local residents, we remain committed to creating social value through continued cleanup efforts that contribute to a healthier and more enjoyable park environment.

Support for Eco-Friendly Equipment and Products in Gunbuk-myeon

Since 2022, Hyosung Chemical has participated in a group-wide initiative to support agricultural and fishing communities, including various activities in Gunbuk-myeon, Haman-gun, Gyeongsangnam-do. In July 2024, we donated 354 meal trays made of polyketone to schools and community facilities in Gunbuk-myeon. These efforts reflect our commitment to fostering stronger social ties and promoting a culture of sustainable consumption in rural areas by providing meaningful support to those in need.



Information Security

Governance and Strategy

Information Security Management Framework

Since 2018, Hyosung Chemical has established and implemented information security policies to protect its key technologies and information assets, including personal information, and to ensure their responsible and secure use.

Information Security Management Framework

Security Policies	Security Management	Security Audit
• Personnel Security • Business Continuity • Personal Information Protection • Physical Security • Mobile Device Management	• Information Assets • Security Incident Response • IT Infrastructure Management	• Information Security Audit • Disciplinary Action According to Security Regulations

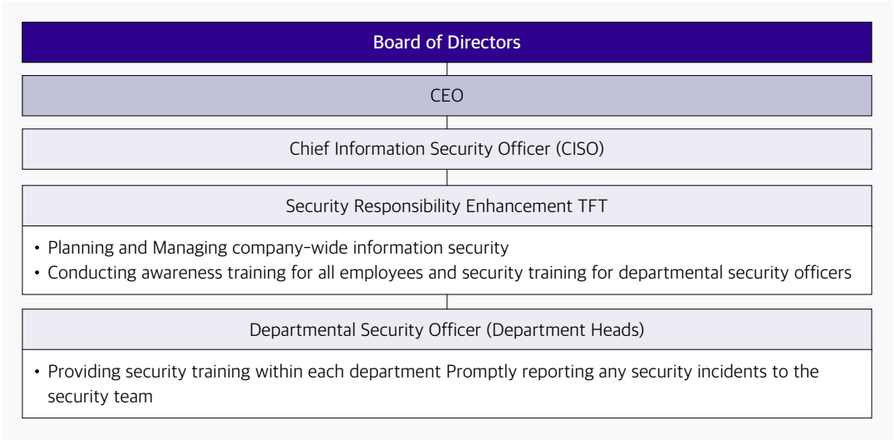
Information Security Governance

We strive to ensure the rigorous protection of all corporate information, including personal information, by appointing a Chief Information Security Officer (CISO) with over a decade of IT management experience under the CEO. To strengthen company-wide security awareness, the Security Responsibility Enhancement Task Force Team (TFT) has been formed under the CISO's leadership. Each department head is designated as a Department Security Officer and receives security training to ensure that any security issues can be promptly reported to the security team. In addition, we implement ongoing security checks and improvement initiatives. These include mobile camera restrictions and inspections of document transfers to safeguard our information assets.

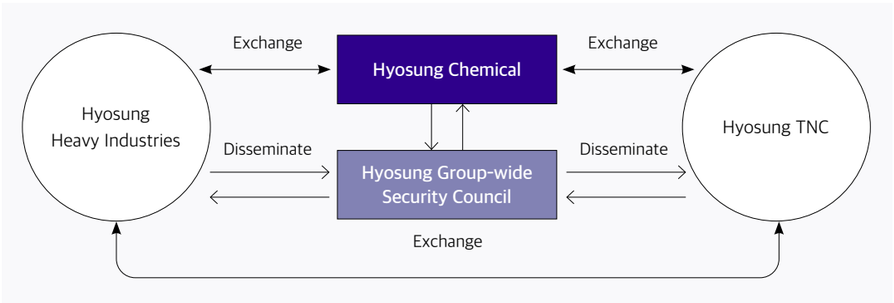
Participation in the Security Council

Hyosung Chemical actively participates in the security council organized by the holding company to identify information security issues and implement derived improvement measures. We are trying to strengthen the level of security through these information security activities. The council consists of representatives from the holding company and its affiliates, including Hyosung Chemical, and is held monthly on a regular basis.

Information Security Governance



Security Council Communication Process



Risk Management

Dissemination of Phishing Email Case

We strengthen our defenses against various cyber threats by regularly posting examples of phishing emails on the company bulletin board each quarter. These emails are crafted with malicious intent to steal personal information such as account credentials.

As phishing tactics continue to evolve, we update the examples to reflect the latest trends every quarter. In 2024, we primarily raised awareness by sharing phishing examples that impersonated the National Tax Service or partner companies.

Access Control and Management

Hyosung Chemical has established and enforces security regulations to ensure that information is used strictly within authorized boundaries, through user management, access control, and encryption. We have installed server security tools on all servers, including Windows-based systems, to support comprehensive server security management. These tools enable access control, logging of user activity, and automatic verification of security settings. We also maintain detailed records of account privilege creation, modification, and deletion, and analyze usage logs to prevent the abuse of privileges. Account password requirements are clearly defined, and privileges are automatically revoked for inactive accounts or when employees are transferred to other departments.

ECM System Introduction

We have implemented and operate an Enterprise Content Management (ECM) system called Hi-Cloud to centralize all information assets and strengthen security. By consolidating company data in a centralized platform and enforcing strict access controls, we proactively mitigate the risk of information leakage.

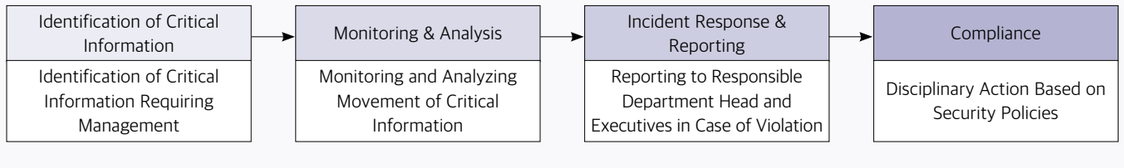
Information Security

Data Loss Prevention System Operation

Hyosung Chemical operates a Data Loss Prevention (DLP) system to identify, monitor, and protect critical internal information. The system enables the company to create a list of critical data requiring security control and to monitor in real time documents at risk of external leakage through email, the internet, and other channels.

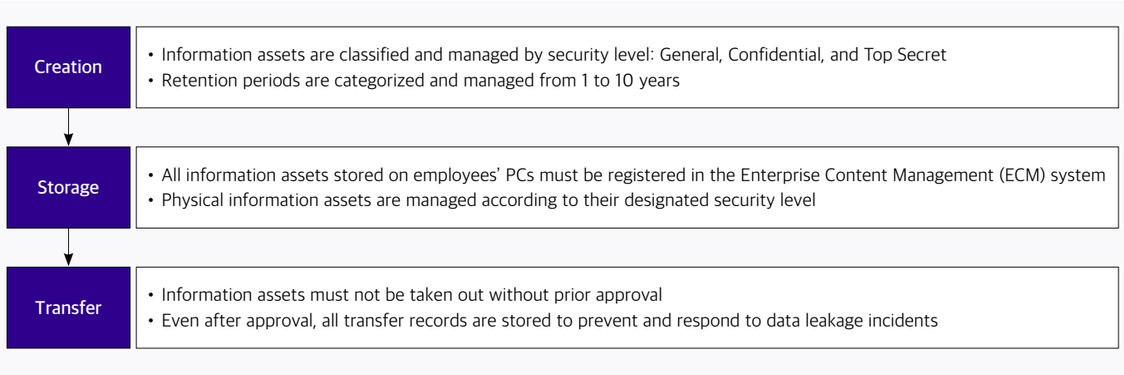
All detected cases undergo thorough investigation, and in the event of unauthorized leakage of critical information, appropriate actions, including disciplinary actions, are taken against the responsible employee and their department head in accordance with internal security policies. In addition, all internal and external stakeholders receive guidance from the Information Security Center on how to report security incidents and the procedures for handling them.

Data Loss Prevention Process



Security Management of Information Assets

We implement security controls for all tangible and intangible information assets, including printed and electronic documents, at each stage of the process—from creation and storage to external transfer.



Network Security Management

Hyosung Chemical operates a robust network security management system to strengthen security controls. This includes blocking unauthorized external access, monitoring for abnormal traffic, and implementing two-factor authentication to prevent account information leaks. In addition, the company utilizes a range of security programs to prevent the leakage of information assets and to respond to potential breaches. These include security management of company-designated PCs, document encryption, print output controls, and antivirus software.

Integrated Log Management and Security Control

Hyosung Chemical has established an integrated log repository to efficiently manage logs generated from security equipment such as servers, communication devices, and firewalls. We monitor and track abnormal system activities through log reviews, including weekly checks on USB external drive usage, and email transmissions or file downloads originating from outside the company. All department heads are required to review the logs generated within their respective departments and record their comments in the system. The Chief Information Security Officer (CISO) then performs a final review and grants approval.

Review of External Document Transfers

We have established an approval process for documents that must be taken outside the company for business purposes. Each external transfer requires prior approval from the relevant team leader. Team leaders are responsible for compiling all processed transfer records on a weekly basis, reviewing them for any irregularities, and reporting their findings to the CISO.

Information Security

Targets and Performance

Information Security Pledge

To enhance awareness of information security, Hyosung Chemical mandates the submission of signed information security pledges by new hires, current employees, retirees, and staff from external partner companies. In 2024, we conducted an on-site verification of pledge collection during a security audit at the Oksan Plant.

Information Security Pledge Submission Rate by Current Employees, Retirees, and External Staff	100%

Information Security Training

To enhance security awareness and strengthen information security capabilities among all employees, we provide annual information security training. In 2024, the training focused on real-world cases of industrial technology leakage in Korea and key takeaways for improving our internal security practices. In light of increasing public concern over personal information breaches, we also offer specialized annual training for employees who handle personal information—whether it belongs to internal and external stakeholders, clients or partner companies. This training includes guidance on proper personal information management, preventive measures against data leakage, and effective response protocols in the event of a breach.

2024 Information Security Training Details

Training	No. of Trainees	Completion Rate (%)	Training Period
Information Security Training	1,122	87	August 2024
Training for Personal Information Handlers	550	92	September 2024

Security Audit of Business Sites

To ensure compliance with security regulations at our business sites, we conduct annual on-site security audits jointly led by the company's security officer and the holding company's security team acting as third-party reviewers. The audit covers a wide range of areas, including physical access control for personnel and entry/exit within the plant, PC and IT asset management, and overall office security conditions. In 2024, an audit was carried out at the Oksan plant. Based on the findings, several improvement measures were proposed, such as relocating CCTV cameras, writing a PC asset management ledger, and strengthening security protocols for shared-use PCs. These proposals are currently under review for implementation. A similar audit is scheduled for the Yongyeon plant in the third quarter of 2025.

CASE STUDY

Strengthening Security Level Management for Confidential Documents

Hyosung Chemical has established and implemented internal document security guidelines. All documents classified as confidential are now further divided into three security levels (Levels 1 to 3), and the designated security level is automatically watermarked on printed copies. To ensure adherence to these guidelines, the company's security manager, along with the security managers at each plant, has conducted quarterly patrol inspections since the third quarter of 2024. These ongoing efforts have significantly enhanced our ability to manage confidential documents.

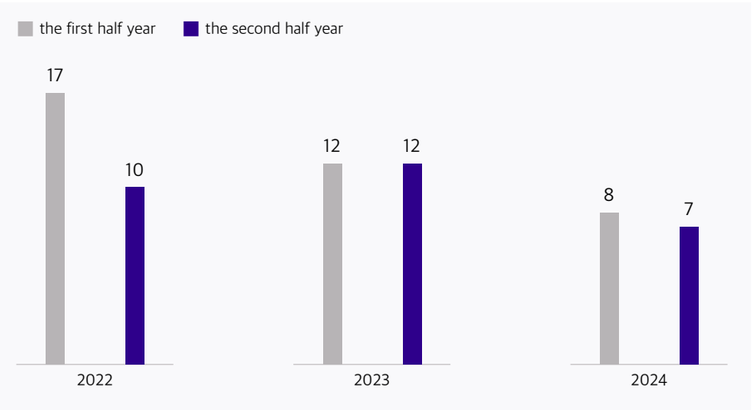
70% Marking Rate for Internal Document Security Levels in Q3 2024	→ 93% Marking Rate for Internal Document Security Levels in Q4 2024

Malicious Email Simulation Training

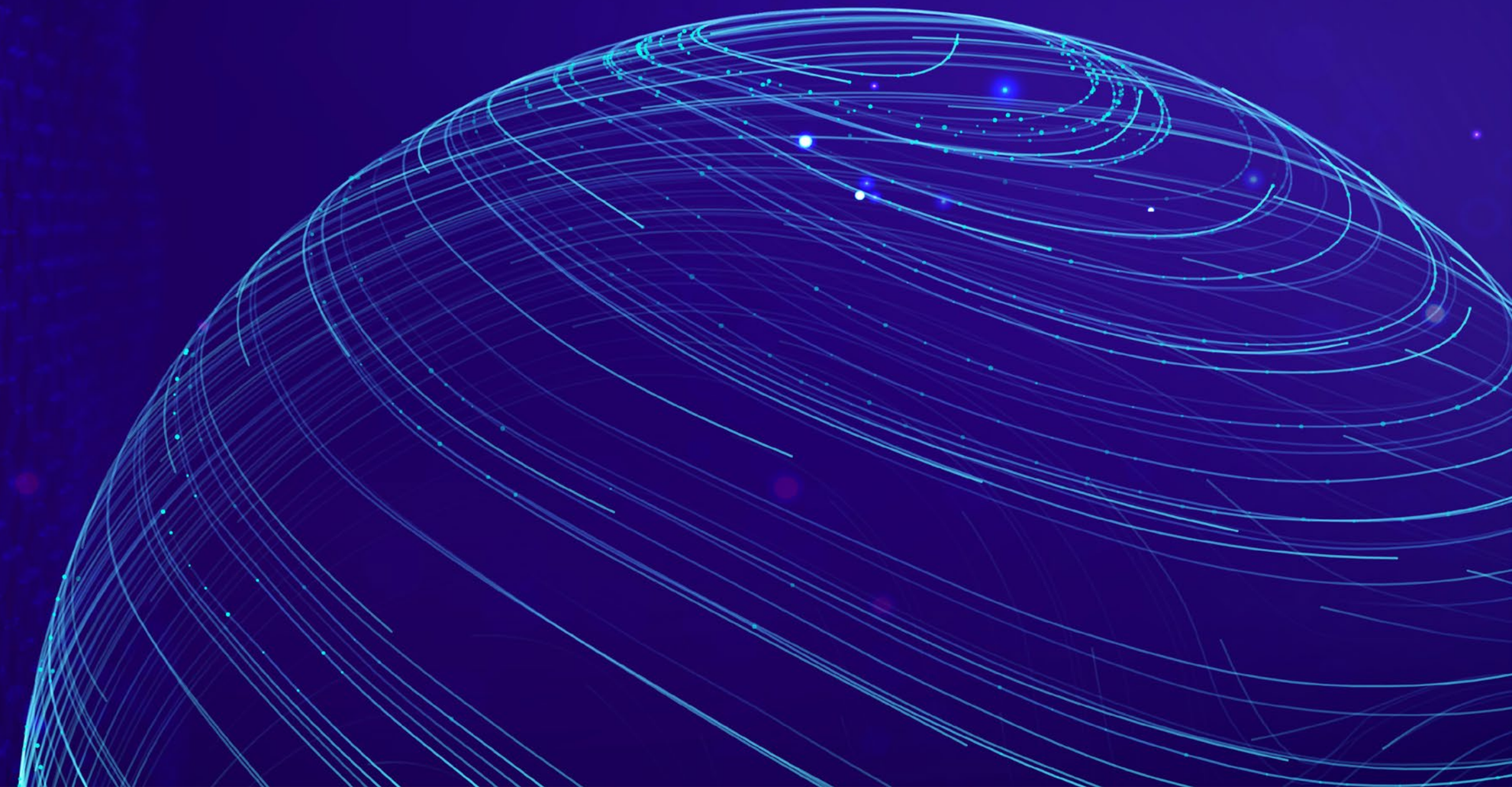
Since 2021, Hyosung Chemical has conducted simulated malicious email(Spam mail that spreads malicious software and induces system infection) training twice a year, in the first and second halves of the year. We also distribute a "Malicious Email Response Guide" to enhance our response capabilities in the event of malware infections. As a result, the rate of malware infection incidents has been steadily declining.

Malware Infection Attempt Rates by Year

(Unit: %)



GOVERNANCE



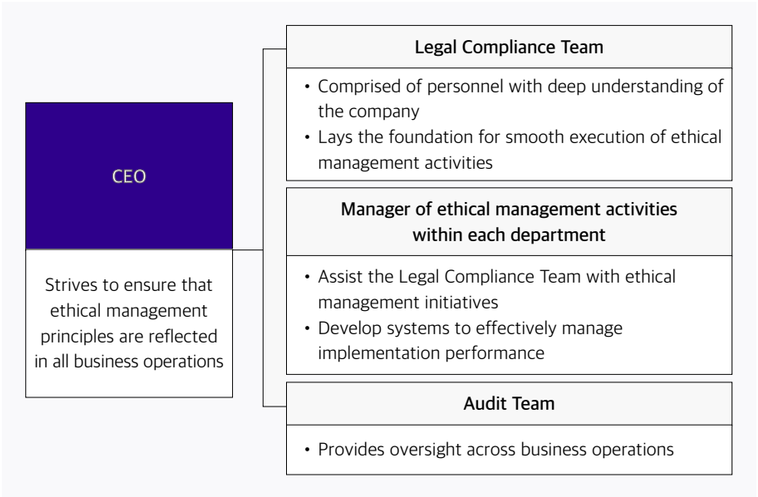
Ethical Management

Governance

Ethical Management Governance System

Hyosung Chemical has established a strong ethical management system led by the CEO, striving to ensure that ethical principles are naturally integrated into all business activities. Our core ethical initiatives are managed by the Legal Compliance Team, composed of employees with a deep understanding of the company to ensure a strong foundation for the smooth execution of ethical programs. Furthermore, we've appointed ethical management managers within each working-level department to assist the Legal Compliance Team's efforts and effectively manage ethical management performance. Additionally, an independent internal auditor with no conflict of interest is designated to provide objective oversight across on-site and headquarters operations.

Ethical Management Organization System



Strategy

Strengthening Ethical Management

Hyosung Chemical has established the "Code of Ethics" and "Code of Ethics Practice Guidelines" to promote transparent management practices rooted in integrity, which provide a clear foundation for all employees to make sound and ethical decisions. We continuously monitor global guidelines, laws, and regulations, both domestically and internationally. This allows us to revise our compliance standards for issues like employee embezzlement/breach of trust and whistleblower protection, strengthening our company-wide ethical standards. In addition, we regularly review and update our policies covering human rights management, anti-discrimination and harassment, anti-corruption, and other areas of corporate ethics. Since 2020, our CEO has demonstrated strong commitment to ethical management by participating in the "BEST(Business Ethics and Sustainability management for Top performance) Forum CEO Pledging Ceremony," hosted by the BEST ESG Forum, for five consecutive years.

Ethical Management Communication Channel Operation

Hyosung Chemical has operated a systematic ethical management system that allows reports of unethical conduct by Hyosung employees, including personnel misconduct, workplace bullying, and sexual harassment, whether occurring inside or outside the company. Employees can report such cases through the HR Counseling Center on the company's internal groupware and the Whistleblower Center on our official website, while external stakeholders can submit reports via the Whistleblower Center.
Anonymous reporting is allowed, and to protect the identity of whistleblowers, we operate multiple communication channels including anonymous online consultations, email, and postal mail. The identity of the reporter and the contents of the report are kept fully confidential, and any form of retaliation or disadvantage against the whistleblower is strictly prohibited. As of 2024, no reports were filed.

Expansion of Ethical Management Awareness

At Hyosung Chemical, all new employees are required to familiarize themselves with the company's ethical management philosophy, Code of Ethics, and Code of Ethics Practice Guidelines upon joining the company. They must also sign an Ethical Conduct Pledge and a No-Gift and Improper Solicitation Agreement as a commitment to ethical practices. In addition, we collect Supplier Code of Conduct Compliance Agreements from our business partners to promote awareness of ethical standards across our supply chain. To further enhance ethical awareness, we produce and distribute promotional videos and magazine-style content through our internal groupware system. We also provide all employees with annual ethical management training to reinforce ethical practices and expand ethical management awareness.

2024 Key Ethical Management Activities

1	Mandated ethical management training for new and promoted employees
2	Selected departments with a high risk of conflicts of interest due to direct relationships with partner companies, and provided regular training on topics including subcontracting laws and contract violation cases
3	Provided training to sales departments on trade secret protection and violations, cases of embezzlement, bribery, and document forgery, as well as relevant laws such as the Fair Trade Act and the Fair Agency Transactions Act, to inform them of legally prescribed procedures and standards
4	Collected the "Partner companies' Code of Conduct Compliance Agreement" from partner companies to ensure their alignment with our ethical management practices, including anti-corruption
5	Provided ethical training materials and venues for partner companies' employees
6	Offered ESG management consulting support to promote the awareness of ethical management throughout the entire supply chain

Ethical Management

Risk Management

Compliance Program Operation

The Compliance Program (CP) refers to a set of internal systems and practices—such as monitoring, training, supervision, and disciplinary measures—designed to help companies voluntarily comply with fair trade laws and regulations. Through CP, we aim to proactively prevent losses arising from legal violations, foster a healthy culture of competition and fair trade, and fulfill our responsibilities in business ethics, thereby realizing responsible management.

In June 2018, Hyosung Chemical adopted the Compliance Program (CP) originally introduced by Hyosung Corporation in September 2006, as part of its corporate spin-off. We update and distribute the Fair Trade Compliance Manual annually to help employees understand and follow CP operational guidelines. Through the implementation of CP, we aim to proactively prevent risks associated with legal violations and to instill a strong culture of compliance and ethical management among our employees. These efforts reflect our commitment to becoming a model company that fully adheres to fair trade principles.

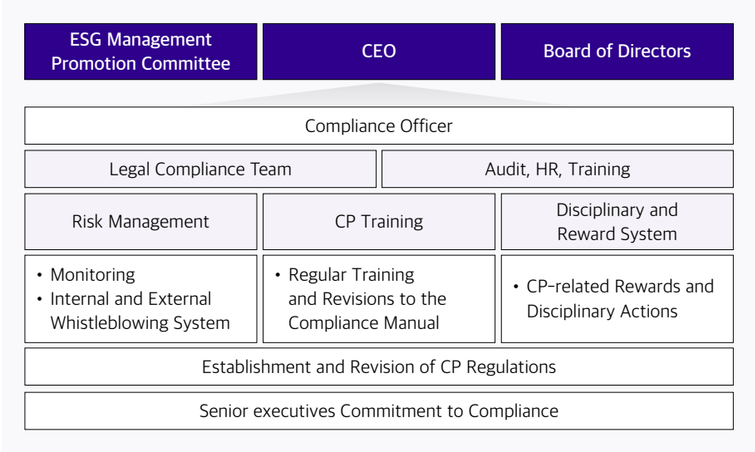
Role and Responsibility in CP Revision

To ensure the successful establishment of the Voluntary Compliance Program, the Compliance Officer appointed by the CEO periodically reviews and updates the Fair Trade Compliance Manual to reflect any newly enacted or revised fair trade laws and regulations. The officer is also responsible for developing and implementing company policies related to the program.

CP Promotion Organization and Compliance Officer

The Legal Compliance Team is responsible for overseeing fair trade compliance efforts, aiming to minimize related risks by ensuring that all employees are familiar with the company's CP guidelines, providing fair trade training, and conducting monitoring activities. The Compliance Officer, appointed by the Board of Directors, is tasked with operating the fair trade compliance program and is authorized to report significant issues directly to the Board and senior executives, with regular reporting duties to both.

CP Operation Framework



Strengthening Internal Monitoring and Follow-Up Management

Hyosung Chemical conducts regular audits in accordance with internal audit policies, along with special audits focused on specific topics or pending issues, and whistleblower audits based on internal and external reports. We also carry out operational assessments and audits across all business functions—including business planning, sales, and production—with particular attention to technology and quality. Throughout these processes, we maintain the independence of audit activities, protect the anonymity of auditees and whistleblowers, and ensure that they do not suffer any form of retaliation or disadvantage.

We conduct regular audits by internal audit policies and special audits when specific topics or pending issues arise. Based on audit, we take appropriate measures depending on the severity of each case, such as issuing warnings, imposing disciplinary actions, or requiring compensation. The results of all audits are reported to the CEO, and those subject to audit are required to promptly address any identified issues. Furthermore, the Audit Team conducts regular follow-up audits to ensure that similar problems do not recur.

Internal Control over Financial Reporting (ICFR)

To enhance the reliability of its financial statements, Hyosung Chemical has implemented and operates an ICFR system. This system facilitates company-wide sharing of operational policies and key issues related to internal accounting. The Audit Committee ensures the independence of the system by holding exclusive in-person meetings with external auditors. In 2024, we also completed the establishment of ICFR systems for two overseas subsidiaries.

ICFR Operation Procedure

Planning for Operation Status Review	• Define key controls by reflecting quantitative and qualitative materiality based on the previous year's financial statements and update the Risk Control Matrix (RCM) • Discuss the proposed key controls with the external auditor
Assessment of Control Activities (Monthly)	• Review and evaluate the design of control activities • Assess the appropriateness of changes to organizations and business processes. • Monitor the ICFR systems of oversees subsidiaries
Change Management (Quarterly)	• Identify internal and external changes to assess their impact on the company's ICFR and review or establish relevant controls
Audit and Reporting of ICFR	• Audit by an audit firm on the company's design and operational evaluation • Report the results to the General Shareholders' Meeting, the Board of Directors, and the Audit Committee after completing internal accounting management operation status assessments

Ethical Management

Targets and Performance

Company-wide Ethical Training

In July 2024, we conducted online training on ethical management and the Fair Trade Act for all employees to enhance compliance awareness.

Number of Participants Who Completed Training in 2024

Training Program	Participants (No.)			Total
	Korea	Vietnam (Vina)	China (Quzhou)	
Ethical Management	1,144	20	5	1,169
Fair Trade	1,151	20	5	1,176

Key Training Topics in 2024

Ethical Management (Anti-Corruption)	• Importance of ethical management • Compliance with internal policies and rules (e.g., contract review, legal consultation) • Prevention of Trade Secret Protection Act violations (key points and violation case studies) • Prevention of Improper Solicitation and Graft Act (Kim Young-ran Act) violations (applicable scope, prohibited acts, penalties, case studies) • Prevention of Serious Accidents Punishment Act violations (overview, obligations, case studies) • Accident case studies
Fair Trade	• Prevention of Fair Trade Act violations (e.g., collusion, unfair transaction practices) • Prevention of Subcontracting Act violations (applicable entities/subjects, obligations and prohibitions, key considerations)

Tailored Compliance Training by Job Function

In addition to company-wide training, Hyosung Chemical offers separate external training programs for employees who are considered to be at higher risk of engaging in unfair transactions or unfair competition practices. In 2024, a total of eight members from the Purchasing Team completed online courses on the Fair Trade Act offered by the Fair Trade Training Center, run by the Korea Fair Trade Mediation Agency. These programs were tailored based on each participant's role and experience level, ranging from basic to advanced content. Going forward, we plan to continue offering tailored training to help prevent potential ethical issues in business operations and to further strengthen our employees' compliance awareness.

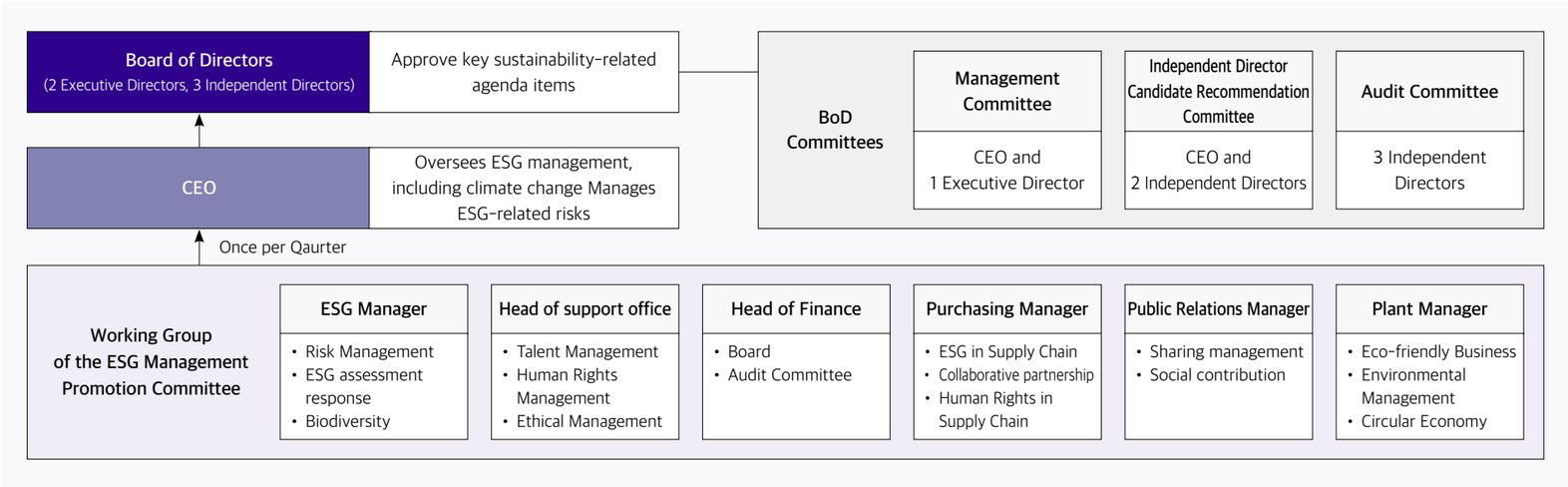
ESG Training for Partner Companies to Prevent Supply Chain Risks

In October 2024, we dispatched a professional instructor to one of our outstanding partner companies to deliver training on the evaluation indicators outlined in the ESG standard guidelines. This initiative aimed to proactively prevent potential risks in areas such as human rights, labor, safety and health, and the environment, while also fostering a sustainable and mutually beneficial partnership to enhance supply chain stability.

Sustainability Leadership

Governance and Strategy

Sustainability Governance Framework



Board Composition for Independence and Transparency

Hyosung Chemical has structured its Board of Directors with Independent directors accounting for more than half of all directors to strengthen its independence and transparency. To enable swift decision-making, the CEO doubles as the Chair of the Board. Director candidates are nominated by the Board (for executive directors) and the Independent Director Candidate Recommendation Committee(for Independent directors) and are appointed at the general shareholders' meeting. In compliance with relevant laws such as the Commercial Act, candidates are screened for eligibility, and three Independent directors—experts in accounting, economics, and law—have been appointed for their professionalism and accountability across various areas, including management, auditing, and risk management.

BoD Committees Operation

We operate an Audit Committee within the Board of Directors to oversee audits of the company's financial statements and internal accounting control system. Prior to Audit Committee meetings, members are provided with sufficient materials to thoroughly review agenda items and, when necessary, receive in-person briefings. Timely updates on other significant internal matters are also shared as needed. The Management Committee reviews and approves documented policies for comprehensive risk management, including specific areas such as foreign exchange risk, interest rate risk, credit risk, the use of derivative and non-derivative financial instruments, and investments exceeding available liquidity. In the first quarter of 2024, the Board of Directors was briefed on the selection of material topics for the ESG Sustainability Report.

ESG Management Promotion Committee

Hyosung Chemical operates its sustainability governance on a quarterly basis, centered around the CEO-led ESG Management Promotion Committee. Key matters are reported to the Board of Directors for approval. The ESG Management Promotion Committee includes the heads of working-level departments such as EHS(Environment, health and safety), planning, HR, procurement, and Promotion, who carry out specific sustainability initiatives within their respective areas.

Key ESG Management Promotion Committee Agenda Items

In 2024, the ESG Management Promotion Committee discussed nine agenda items—six for 2024 and three for 2025—to support the achievement of key sustainability strategy goals, such as greenhouse gas (GHG) emissions reduction, enhanced environmental and occupational safety and health (EHS) management at business sites, and improved ESG oversight across the supply chain. Key items included the establishment of mid- to long-term safety and health goals for 2024, the development of a carbon reduction roadmap, and the company's first-time participation in CDP's Water Security program.

Key Reporting Items by Quarter

Date	Key Agenda Items Discussed
March 27, 2024	• Establishment of mid- to long-term goals for safety and health management • Selection of key ESG issues • KCGS evaluation improvement list • Development of a carbon reduction roadmap
June 25, 2024	• Report on First-time Participation in CDP Water Security
October 2, 2024	• Report on support for DMZ ecological restoration project
January 3, 2025	• Identification of key risks for 2024 and establishment of 2025 risk management plan • 2025 ESG Management Team action plan
April 3, 2025	• Results of materiality assessment for sustainability reporting

Sustainability Leadership

Targets and Performance

ESG Training for Board of Members

Hyosung Chemical provides annual training to all members of the Board of Directors, who are equipped with risk management and ESG strategy development capabilities to enhance their expertise in sustainability management.

Training Date	Participants (Independent Directors)	Key Topic
January 2024	Ho-beom Pyeon, Chang-jae Lee, Ok-ryul Song	Importance of ESG Disclosure
February 2025	Ji-won Lim, Hyung-soon Park, Ok-ryul Song	Common Traits of Leading Global Companies in Sustainability Management

Embedding Sustainability through Internal Communication

We publish internal ESG newsletters to share updates on ESG initiatives, related news, key ESG terms, and expert columns. We also strive to embed sustainability management across the organization through various initiatives, including providing ESG training content to our partner companies.

ESG Newsletter

Training to Strengthen Sustainable Management Capabilities

To successfully implement sustainability management and achieve related goals, we offer online ESG training to all employees in addition to mandatory legal training. Furthermore, eight members of the procurement department responsible for subcontracting completed an additional course on the Fair Trade Act. In 2024, each training course was conducted for one hour, as outlined below:

Key Training Topics

Category		Course Title	Date
All Employees	ESG	Understanding Greenwashing	June 2024
		Climate Change and Biodiversity	August 2024
	Compliance	Case Study on Ethical Management	July 2024
		Case Study on Fair Trade Act	July 2024
	Human Rights	Child Labor and Forced Labor Around Us	June 2024
	Security	Industrial Technology Leakage Cases and Punishment Trends	August 2024
Purchasing Team	Supply Chain	Case Study on Fair Trade Act	November 2024

Advanced Training for Sustainability Management Expertise

We delivered practical training on climate change to members of the Carbon Reduction Task Force Team (TFT), and provided training on supply chain ESG management to the Purchasing, HR, Safety and Health, and Environmental Safety teams.

Key Training Topics

Course Title	Date	Hour
1. Practical Training on Climate Change	January 2025	16
2. Supply Chain ESG Management	February 2025	16

Board Skill Matrix

	Category	Executive Directors		Independent Directors			Ratio
		Kun-jong Lee	Cheon-seok Lee	Ji-won Lim	Hyung-soon Park	Ok-ryul Song	
Director competency	Management/Leadership	●	●	●	●	●	5/5
	Economy/Industry	●	●	●	●	-	4/5
	Merger/Capital Market	●	●	●	●	●	5/5
	Sales/Marketing	●	●	●	●	-	4/5
	R&D/Industrial technology	●	●	-	-	-	2/5
	Accounting/Finance	●	●	●	●	●	5/5
	Laws and Regulations/ Public Policy	-	-	●	-	●	2/5
	Environment and Culture/ Social Contribution	●	●	-	-	-	2/5
	Risk Management/ESG Strategy	●	●	●	●	●	5/5
	Global Business	●	●	●	●	●	5/5
General matter	Affiliated committee	Independent Director Candidate Recommendation Committee Management Committee (Representative Member)	Management Committee	Audit Committee (Representative Member)	Independent Director Candidate Recommendation Committee Audit Committee	Independent Director Candidate Recommendation Committee (Chair person) Audit Committee	1.6 committees per director
	Independence	-	-	●	●	●	-
	Appointed Date	Mar 20, 2020	Mar 17, 2022	Mar 14, 2024	Mar 14, 2024	Mar 16, 2023	-
	Gender	Male	Male	Female	Male	Male	4 Male / 1 Female

APPENDIX

Governance & Financial Performance

- Governance and financial performance data in this report include those of Hyosung Vina Chemicals Co., Ltd. and Hyosung Film (Quzhou) Co., Ltd., subsidiaries which together account for 100% of Hyosung Chemical Corporation's consolidated sale.
  - Scope details: All business and business sites of Hyosung Chemical Corporation (Seoul Headquarters , Yongyeon Plants 1, 2, and 3, Gumi Plant, Oksan Plant, Daejeon Plant, Anyang Plant, Tank Terminal), Hyosung Vina Chemicals Co., Ltd, Hyosung Film(Quzhou) Co., Ltd
  - Notes: The Daejeon Plant was not operational in 2024, and therefore its data is not included in the report. Data for Hyosung Film (Quzhou) Co., Ltd. is excluded for 2022 and 2023 as the company commenced operations in December 2023.
- For the convenience of our readers, Hyosung Vina Chemicals Co., Ltd. is abbreviated as 'HSVC', and Hyosung Film (Quzhou) Co., Ltd. as 'HSFQ'.
- Where data is not applicable or unavailable, it is marked as 'N/A'; if the data was not collected, it is marked as '-'. Additional notes for special cases are provided in footnotes under the relevant tables.

Financial Statements (Consolidated)

Item	Unit	2022	2023	2024
Current Assets	KRW million	819,924	699,214	1,061,745
Non-current Assets	KRW million	2,311,195	2,416,397	2,210,285
Total Assets	KRW million	3,131,119	3,115,611	3,272,030
Current Liabilities	KRW million	1,715,749	2,147,489	3,047,299
Non-current Liabilities	KRW million	1,300,753	906,238	292,724
Total Liabilities	KRW million	3,016,502	3,053,727	3,340,023
Total Equity	KRW million	114,617	61,884	-67,993

Comprehensive Income Statement

Item		Unit	2022	2023	2024
Category	Subcategory				
Sales[1]		KRW million	2,878,558	2,791,629	3,013,765
	Excluding Business Transfer Division	KRW million	2,679,801	2,623,269	2,838,188
	Business Transfer Division	KRW million	198,757	168,360	175,577
Operating Income		KRW million	-336,727	-188,836	-154,279
Net profit		KRW million	-408,867	-346,912	-325,724

Corporate Tax by Country

Indicators			Unit	2022	2023	2024
Category	Subcategory 1	Subcategory 2				
Republic of Korea	Sales[1]		KRW million	2,287,412	2,011,884	1,927,309
		Excluding Business Transfer Division	KRW million	2,088,655	1,843,524	1,751,632
		Business Transfer Division	KRW million	198,757	168,360	175,577
	Profit Before Tax		KRW million	-130,533	-203,642	-192,643
	Corporate Tax Expense		KRW million	0	-25,685	-21,911
	Tax Rate		%	24.2	23.1	23.1
Vietnam (HSVC)	Sales		KRW million	592,547	782,395	1,055,676
	Profit Before Tax		KRW million	-317,784	-259,446	-227,919
	Corporate Tax Expense		KRW million	-4,061	0	4,175
	Tax Rate		%	0	0	0
China (HSFQ)	Sales		KRW million	0	380	41,392
	Profit Before Tax		KRW million	1,956	998	-11,628
	Corporate Tax Expense		KRW million	0	698	-27
	Tax Rate		%	25	25	25

1. To ensure consistency with the current year's business report, which excluded the performance of the business division transferred in 2025, sales details are disclosed in detail. However, all the intensities of quantitative performance in this report were calculated using sales, including the business division transferred.
※ Source of sales: Current year business report p.28 '4. Sales and order status

Governance & Financial Performance

Board & Audit Committee Composition and Attendance

Indicators			Hyosung Chemical			HSVC			HSFQ
Category	Subcategory	Unit	2022	2023	2024	2022	2023	2024	2024
Average Board Attendance Rate		%	100	100	100	N/A	N/A	N/A	N/A
Role	Executive Directors	persons	2	2	2	N/A	N/A	N/A	N/A
	Non-executive Directors	persons	0	0	0	N/A	N/A	N/A	N/A
	Auditors	persons	2	3	3	N/A	N/A	N/A	N/A

Governance & Financial Performance

Ethics and Compliance

Indicators			Hyosung Chemical			HSVC			HSFQ
Category	Subcategory	Unit	2022	2023	2024	2022	2023	2024	2024
Employee Discrimination	Total No. of discrimination incidents	cases	0	0	0	0	0	0	0
	Reviewed incidents of discrimination	cases	0	0	0	0	0	0	0
Corruption	No. of whistleblowing reports on corruption	cases	0	0	0	0	0	0	0
	No. of disciplinary actions for corruption	persons	0	0	0	0	0	0	0
Unfair Transaction	No. of unfair transaction practices	cases	0	0	0	0	0	0	0
	Fines for unfair transaction practices	KRW million	0	0	0	0	0	0	0
Non-compliance with Laws and Regulations[1]	Cases of non-monetary sanctions	cases	0	0	0	0	0	0	0
	No. of employees with records of investment-related investigations, customer complaints, lawsuits, or legal actions	persons	0	0	0	0	0	0	0
	No. of violations of legal and voluntary regulations regarding product and service information and labeling	cases	0	0	0	0	0	0	0
	No. of violations of legal and voluntary regulations regarding health and safety impact of products and services	cases	0	0	0	0	0	0	0
	No. of violations of legal and voluntary regulations regarding marketing communication	cases	0	0	0	0	0	0	0
	Cases of fines-imposed	cases	5	2	8	9	7	4	0
	Total amount of fines[2]	KRW million	2	19	4	282	4	27	0
	Fines for violations of financial regulations (insider trading, monopoly, and anticompetitive behaviors, etc.)	KRW million	0	0	0	274	3	26	0
	Fines for violation of environmental regulations	KRW million	1	0	0.5	8	1	1	0
Anti-Corruption	No. of employees that have received notification and training on anti-corruption policies and procedures	persons	1,172	1,191	1,257	1	27	30	5
	Percentage of employees that have received notification and training on anti-corruption policies and procedures	%	92.0	94.0	99.2	0.2	6.2	6.8	2.8
	No. of operations assessed for risks related to corruption	sites	2	1	1	0	1	0	0
	Percentage of operations assessed for risks related to corruption	%	15.4	7.7	7.7	0	100	0	0

1. The amount of the fine, including the penalty, was calculated.
2. The total fine amount of Hyosung Vina Chemicals Co., Ltd (HSVC) has been corrected due to an error in the calculation of the total fine amount in the previous year's report, 2022-2023 performance.

Environmental Performance

- Environmental performance data in this report include those of Hyosung Vina Chemicals Co., Ltd. and Hyosung Film (Quzhou) Co., Ltd., subsidiaries which together account for 100% of Hyosung Chemical Corporation's consolidated sales.
  - Scope details: All business and business sites of Hyosung Chemical Corporation (Seoul Headquarters , Yongyeon Plants 1, 2, and 3, Gumi Plant, Oksan Plant, Daejeon Plant, Anyang Plant, Tank Terminal), Hyosung Vina Chemicals Co., Ltd, Hyosung Film(Quzhou) Co., Ltd
  - Notes: The Daejeon Plant was not operational in 2024, and therefore its data is not included in the report. Data for Hyosung Film (Quzhou) Co., Ltd. is excluded for 2022 and 2023 as the company commenced operations in December 2023.
- For the convenience of our readers, Hyosung Vina Chemicals Co., Ltd. is abbreviated as 'HSVC', and Hyosung Film (Quzhou) Co., Ltd. as 'HSFQ'.
- Where data is not applicable or unavailable, it is marked as 'N/A'; if the data was not collected, it is marked as '-'. Additional notes for special cases are provided in footnotes under the relevant tables.

Greenhouse Gas Emissions Overview[1,2]

Indicators			Unit	Hyosung Chemical				HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024(Plan)	2024(Performance)	2022	2023	2024	2024
Total GHG Emissions (Scope 1&2)			tCO_2eq	892,064	867,346	801,201	787,933	522,763	700,661	718,311	16,029
	Total Direct Emissions (Scope 1)		tCO_2eq	317,185	319,258	293,603	258,208	128,497	207,244	193,028	1,576
		Stationary Combustion	tCO_2eq	261,614	267,443	233,777	214,268	119,512	154,963	169,019	1,499
		Mobile Combustion	tCO_2eq	589	556	616	484	699	1,989	1,015	77
		Processing Emissions	tCO_2eq	24,126	22,762	23,899	19,659	927	1,927	2,824	0
		Waste Disposal	tCO_2eq	30,856	28,497	35,310	23,797	7,358	48,364	20,170	0
	Direct Emissions Intensity (Total Direct Emissions / Separate Sales by Entity)[3]		tCO_2eq/KRW 100 million	13.9	15.9	12.8	13.4	21.7	26.5	18.3	3.81
	Biogenic CO_2 Emissions		tCO_2eq	8	4	0	0	0	0	0	0
	Total Indirect Emissions (Scope 2)		tCO_2eq	574,879	548,088	507,599	529,726	394,267	493,417	525,283	14,453
		Electricity	tCO_2eq	574,879	548,088	507,599	529,726	394,267	493,417	525,283	13,520
		Steam	tCO_2eq	0	0	0	0	0	0	0	933
	Indirect Emissions Intensity (Total Indirect Emissions / Separate Sales by Entity)[3]		tCO_2eq/KRW 100 million	25.1	27.2	22.2	27.5	66.5	63.1	49.8	34.9
Total GHG Emissions Intensity (Total GHG Emissions / Separate Sales by Entity)[3]			tCO_2eq/KRW 100 million	39.0	43.1	35.0	40.9	88.2	89.6	68.0	38.7
Separate Sales[4]			KRW 100 million	22,874	20,119	22,875	19,273	5,925	7,824	10,557	414

1. The greenhouse gas emissions are reported and certified based on the Guidelines for Reporting and Certification of Emissions under the Emissions Trading Scheme (Ministry of Environment Notice No. 2021-278) and the Ministry of Environment's conformity assessment for the relevant year's emissions permit submission certification. Only CO2, CH4, and N2O emissions are included. The total greenhouse gas emissions listed above may differ from the emissions reported in the business reports due to rounding off at the facility level.
2. For our overseas subsidiaries, Hyosung Vina Chemicals Co., Ltd. (HSVC) and Hyosung Film (Quzhou) Co., Ltd. (HSFQ), country-specific electricity emission factors were applied. For HSFQ's steam, emission factors from the steam provider were used. Other emission factors were applied in accordance with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
3. The intensity values for Hyosung Vina Chemicals Co., Ltd (HSVC) have been corrected due to calculation errors in the 2022-2023 data reported in the previous year's report.
4. The separate sales figure for Hyosung Vina Chemicals Co., Ltd (HSVC) in the 2022 data was corrected due to a reporting error in the previous year's report.

Environmental Performance

Energy Consumption[1]

Indicators			Unit	Hyosung Chemical				HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024(Plan)	2024(Performance)	2022	2023	2024	2024
Total Energy Consumption			TJ	18,838.39	18,413.36	16,182.76	16,444.46	5,037.41	6,521.74	7,032.47	129.97
	Total Direct Energy Consumption		TJ	6,288.82	6,449.43	5,193.47	5,069.83	2,789.81	3,708.92	4,037.98	30.67
		Diesel	TJ	8.19	8.28	7.51	6.80	9.46	27.73	11.89	0.16
		Kerosene	TJ	0.02	0.02	0.03	0.01	0	0	0	0
		LNG	TJ	637.86	568.82	385.17	823.48	0	0	0	29.58
		NG	TJ	0	0	0	0	600.46	466.65	467.11	0
		Gasoline	TJ	0.75	0.60	1.16	0.68	0	0	2.57	0.93
		Propane	TJ	50.07	49.18	35.93	53.87	36.59	62.40	74.34	0
		Off-gas	TJ	5,591.13	5,821.30	4,763.53	4,184.46	2,143.29	3,152.14	3,482.07	0
		LPG	TJ	0.80	1.23	0.13	0.53	0	0	0	0
	Total Indirect Energy Consumption		TJ	12,549.56	11,963.92	10,989.29	11,374.63	2,247.60	2,812.83	2,994.49	99.30
		Electricity	TJ	12,093.80	11,528.54	10,451.35	11,069.33	2,247.60	2,812.83	2,994.49	82.25
		Steam	TJ	0	0	0	0	0	0	0	17.05
		Heat from Waste Incineration	TJ	455.76	435.38	537.94	305.30	0	0	0	0
Energy Intensity (Total Energy Consumption / Separate Sales by Entity[2]			TJ/KRW 100 million	0.82	0.92	0.71	0.85	0.85	0.83	0.67	0.31
Separate Sales by Entity[3]			KRW 100 million	22,874	20,119	22,875	19,273	5,925	7,824	10,557	414
Total Renewable Energy Consumption[4]			TJ	1.60	2.05	2.00	1.74	0	0	0	4.58
	Self-generation (Solar Energy)		TJ	1.60	2.05	2.00	1.74	0	0	0	0
	Purchased (Solar Energy)		TJ	0	0	0	0	0	0	0	4.58

1. The conversion coefficient for electricity energy consumption is 9.6 TJ/GWh for domestic use (based on the country's specific calorific value and emission coefficient for each fuel type) and 3.6 TJ/GWh for overseas use. For steam used by Hyosung Film (Quzhou) Co., Ltd (HSFQ), the calorific value from the steam supplier was applied, while other values were based on the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
2. The energy intensity data for Hyosung Vina Chemicals Co., Ltd (HSVC) in the 2023 data has been corrected due to a calculation error in the previous report.
3. The separate sales figures for Hyosung Vina Chemicals Co., Ltd (HSVC) in the 2022-2023 data have been corrected due to a reporting error in the previous report.
4. Heat from waste incineration, previously reported as part of renewable energy consumption, has been excluded this year due to the use of non-renewable waste.

Environmental Performance

Water Use by Domestic Operations

Category	Subcategory 1	Subcategory 2	Unit	2022	2023	2024(Plan)	2024(Performance)
Total Water Withdrawal			ton	7,300,524	7,244,485	6,961,023	6,820,496
	Total Municipal Water Withdrawal		ton	73,714	66,565	62,816	61,119
		Yongyeon Plant 1	ton	27,687	19,869	19,869	17,523
		Yongyeon Plant 2	ton	7,632	9,540	9,540	10,395
		Yongyeon Plant 3	ton	8,745	9,405	12,144	12,144
		Gumi Plant	ton	5,475	6,497	6,497	6,570
		Oksan Plant	ton	12,775	4,745	6,000	5,940
		Daejeon Plant	ton	11,400	7,742	N/A	N/A
		Headquarters, etc	ton	-	8,766	8,766	8,547
	Total Ground Water Withdrawal[1]		ton	77,964	82,192	31,533	31,254
		Yongyeon Plant 1	ton	0	0	0	0
		Yongyeon Plant 2	ton	31,164	31,482	31,482	31,185
		Yongyeon Plant 3	ton	0	0	0	0
		Gumi Plant	ton	0	0	0	0
		Oksan Plant	ton	0	0	0	0
		Daejeon Plant	ton	46,800	50,659	N/A	N/A
		Headquarters, etc	ton	0	51	51	69
	Total Industrial Water Withdrawal		ton	6,926,571	6,868,830	6,636,674	6,483,407
		Yongyeon Plant 1	ton	3,253,949	3,217,167	2,800,000	2,682,964
		Yongyeon Plant 2	ton	3,051,210	3,018,456	3,018,456	2,989,980
		Yongyeon Plant 3	ton	232,287	239,877	349,734	349,734
		Gumi Plant	ton	153,300	168,484	168,484	198,049
		Oksan Plant	ton	155,125	171,915	300,000	262,680
		Daejeon Plant	ton	80,700	52,931	N/A	N/A
		Headquarters, etc	ton	0	0	0	0
	Total Reused Sewage Treatment Water Withdrawal		ton	222,275	226,898	230,000	244,716
		Yongyeon Plant 1	ton	222,275	226,898	230,000	244,716
		Yongyeon Plant 2	ton	0	0	0	0
		Yongyeon Plant 3	ton	0	0	0	0
		Gumi Plant	ton	0	0	0	0
		Oksan Plant	ton	0	0	0	0
		Daejeon Plant	ton	0	0	N/A	N/A
		Headquarters, etc	ton	0	0	0	0

Category	Subcategory	Unit	2022	2023	2024(Plan)	2024(Performance)
Total Water Consumption[3] in High Water Stress Regions[2]		ton	125,560	153,665	271,000	238,590
	Yongyeon Plant 1	ton	N/A	N/A	N/A	N/A
	Yongyeon Plant 2	ton	N/A	N/A	N/A	N/A
	Yongyeon Plant 3	ton	N/A	N/A	N/A	N/A
	Gumi Plant	ton	N/A	N/A	N/A	N/A
	Oksan Plant	ton	125,560	153,665	271,000	238,590
	Daejeon Plant	ton	N/A	N/A	N/A	N/A
	Headquarters, etc	ton	N/A	N/A	N/A	N/A
Water Consumption Intensity (Total Water Consumption / Separate Sales by Entity)		ton/KRW 100 million	319.2	360.1	304.3	353.9
Separate Sales by Entity		KRW 100 million	22,874	20,119	22,875	19,273
Total Reused Water		ton	222,275	226,898	230,000	244,716
	Yongyeon Plant 1	ton	222,275	226,898	230,000	244,716
	Yongyeon Plant 2	ton	0	0	0	0
	Yongyeon Plant 3	ton	0	0	0	0
	Gumi Plant	ton	0	0	0	0
	Oksan Plant	ton	0	0	0	0
	Daejeon Plant	ton	0	0	N/A	N/A
	Headquarters, etc	ton	0	0	0	0
Ratio of Water Recycled		%	3.0	3.1	3.3	3.6

1. Groundwater withdrawal data for "Headquarters, etc." from the 2023 performance in the previous report was omitted and has now been added.
2. Water stress is an index that quantifies the percentage of water demand relative to the average annual available water resources. A higher stress index indicates more severe water scarcity.
3. Consumption is calculated as: Total Water Withdrawal - Wastewater Discharge. Only the consumption from business sites experiencing high water stress (40-80% or higher) has been aggregated.

Environmental Performance

Water Use by Subsidiaries

Indicators			HSVC			HSFQ
Category	Subcategory	Unit	2022	2023	2024	2024
Total Water Consumption		ton	3,717,101	4,430,710	4,663,257	60,420
	Municipal Water Consumption	ton	3,012,966	3,386,223	3,589,464	60,420
	Groundwater Consumption	ton	0	0	0	0
	Industrial Water Consumption	ton	0	0	0	0
	Reused Sewage Treatment Water Consumption	ton	704,135	1,044,487	1,073,793	0
Total Water Consumption in High Water Stress Regions		ton	N/A	N/A	N/A	N/A
Water Consumption Intensity (Total Water Consumption / Separate Sales by Entity)[1]		ton /KRW 100 million	627.4	566.3	441.7	146.0
Separate Sales[2]		KRW 100 million	5,925	7,824	10,557	414
Reused Water		ton	704,135	1,044,487	1,073,793	0
Ratio of Water Recycled[3]		%	18.9	23.6	23.0	0

Reclaimed Packaging Materials[4]

Indicators		Unit	Hyosung Chemical		
Category	Subcategory		2022	2023	2024
Total Amount of Packaging Materials Sold	Pad	ea	351,885	336,476	373,968
	Pallet	ea	59,047	60,666	76,435
	Core	ea	1,012	1,003	768
	Tube	ea	259,741	242,575	105,509
Total Amount of Reclaimed Packaging Materials	Pad	ea	111,274	94,970	115,236
	Pallet	ea	28,705	22,849	35,777
	Core	ea	981	731	891
	Tube	ea	18,513	20,005	19,536
Percentage of Reclaimed Packaging Material	Pad	%	31.6	28.2	30.8
	Pallet	%	48.6	37.7	46.8
	Core	%	96.9	72.9	116.0
	Tube	%	7.1	8.2	18.5

1. Water consumption intensity for Hyosung Vina Chemicals Co., Ltd (HSVC) has been corrected due to a calculation error in the 2022-2023 report.
2. Separate sales for HSVC in the 2022-2023 data have been corrected due to an input error in the previous year's report.
3. The ratio of water recycled for HSVC in the 2022-2023 data has been corrected due to a calculation error in the previous year's report.
4. Among domestic and subsidiary entities, only Film PU at the Yongyeon and Gumi plants reclaims packaging materials, while no products are reclaimed at any of the business sites.

Environmental Performance

Waste

Indicators				Unit	Hyosung Chemical				HSVC			HSFQ
Category	Subcategory 1	Subcategory 2	Detail		2022	2023	2024(Plan)	2024(Performance)	2022	2023	2024	2024
Total Waste Generated[1]				ton	30,161	29,394	30,407	28,760	1,569	1,666	1,981	-
	Total Designated(Hazardous) Waste			ton	5,574	5,309	6,595	5,095	961	891	1,291	-
		Total Designated Waste Disposed		ton	5,115	4,109	5,467	4,029	961	891	1,291	-
			Designated Waste Incinerated[2]	ton	374	357	378	343	531	859	1,224	-
			Designated Waste Landfilled	ton	3	30	19	2	0	0	0	-
			Other Designated Waste Disposed[2]	ton	4,738	3,722	5,070	3,685	430	32	67	-
		Designated Waste Recycled		ton	458	1,201	1,128	1,066	0	0	0	-
	Total Ordinary(Non-hazardous) Waste[1]			ton	24,587	24,085	23,812	23,664	608	775	690	-
		Total Ordinary Waste Disposed[3]		ton	6,385	6,015	5,911	4,617	499	563	505	-
			Ordinary Waste Incinerated[3]	ton	682	721	755	667	0	0	0	-
			Ordinary Waste Landfilled	ton	4,455	4,509	3,906	2,820	499	563	505	-
			Other Ordinary Waste Disposed	ton	1,248	785	1,250	1,130	0	0	0	-
		Ordinary Waste Recycled[4]		ton	18,202	18,071	17,901	19,047	108	212	185	-
Total Waste Disposed (Designated + Ordinary) Ratio				%	38.1	34.4	37.4	30.1	93.1	87.3	90.7	-
Total Waste Recycled (Designated + Ordinary)				ton	18,660	19,272	19,028	20,113	108	212	185	-
Total Ratio of Waste Recycled				%	61.9	65.6	62.6	69.9	6.9	12.7	9.3	-

1. Ordinary waste generated at the headquarters in 2023, which was omitted in the previous report, has now been added.
2. Designated waste volumes by disposal method for Hyosung Vina Chemicals Co., Ltd. (HSVC) in 2022 from the previous report have been corrected due to an aggregation error.
3. The volume of ordinary waste incinerated at the headquarters in 2023 was omitted in the previous report and has now been added.
4. The volume of ordinary waste recycled at the headquarters in 2023 was omitted in the previous report and has now been added.

Environmental Performance

Wastewater and Water Pollutants

Indicators		Unit	Hyosung Chemical				HSVC			HSFQ
Category	Subcategory		2022	2023	2024(Plan)	2024(Performance)	2022	2023	2024	2024
Wastewater Discharge		ton	1,727,255	1,513,721	1,783,280	1,593,458	976,231	688,587	753,291	16,681
Wastewater Discharge by Destination	Wastewater Treatment	ton	1,727,196	1,513,662	1,783,276	1,593,454	976,231	688,587	753,291	0
	Outsourced Treatment	ton	59	59	4	4	0	0	0	16,681
Biochemical Oxygen Demand (BOD)[1]		ton	6.0	4.0	8.1	7.8	17.1	13.4	10.0	0.4
Chemical Oxygen Demand (COD)		ton	16.6	0	0	0	24.4	28.6	22.4	1.4
Total Organic Carbon (TOC)[1]		ton	3.9	12.0	16.8	18.6	-	-	-	0
Suspended Solids[1]		ton	7.5	11.6	17.6	27.4	9.5	6.5	6.8	0.2
Total Nitrogen (T-N)[1]		ton	4.5	2.8	4.4	8.8	5.9	5.6	6.9	0.3
Total Phosphorus (T-P)		ton	0.2	0.3	0.4	0.4	0.8	1.1	1.5	0.0

Air Pollutants

Indicators	Unit	Hyosung Chemical				HSVC			HSFQ
		2022	2023	2024 (Plan)	2024 (Performance)	2022	2023	2024	2024
Particulate Matter (PM) Emissions[2]	ton	14.4	14.7	16.0	15.8	4.6	42.9	52.2	2.0
Nitrogen Oxides (NOx) Emissions[2]	ton	240.0	213.0	271.9	121.8	7.0	122.2	82.6	0.5
Sulfur Oxides (SOx) Emissions	ton	25.9	52.0	21.8	2.9	0.3	7.2	6.1	0.0
Volatile Organic Compounds (VOCs) Emissions	ton	0.9	2.2	2.2	0.3	-	-	-	0
Hazardous Air Pollutants (HAPs) Emissions	ton	16.8	47.1	52.1	44.1	-	-	-	0
Ozone-Depleting Substances (ODS) - HCFC (R-22) Emissions[3]	ton	0.1	0	0	0.0	-	-	-	0
Ozone-Depleting Substances (ODS) - CFC (R-11) Emissions	ton	0	0	0	0	-	-	-	0
Ozone-Depleting Substances (ODS) - HCFC (R-123) Emissions	ton	0	0	0	0	-	-	-	0

Hazardous Chemicals

Indicators	Unit	Hyosung Chemical				HSVC			HSFQ
		2022	2023	2024 (Plan)	2024 (Performance)	2022	2023	2024	2024
Hazardous Chemicals Consumption[4]	ton	333,099	281,086	284,952	269,565	863	1,263	1,494	-
Hazardous Chemicals Consumption Intensity (Hazardous Chemicals Consumption/Separate Sales per Entity)[5]	ton /KRW 100 million	14.56	13.97	12.46	13.99	0.15	0.16	0.14	-
Separate Sales[6]	KRW 100 million	22,874	20,119	22,875	19,273	5,925	7,824	10,557	414
Chemical Substance Emissions	ton	476	461	522	484	-	-	-	-

1. An error identified in the previously reported 2023 domestic data has been corrected.
2. The 2023 domestic data for Yongyeon Plant 1 has been revised due to a change in the aggregation method.
3. The 2022 domestic data previously reported has been corrected as the unit was mistakenly disclosed in kilograms instead of tons.
4. Hazardous chemicals consumption data for Hyosung Vina Chemicals Co., Ltd (HSVC) from the 2022-2023 report has been corrected due to aggregation errors.
5. Hazardous chemicals consumption intensity data for Hyosung Vina Chemicals Co., Ltd (HSVC) from the 2022-2023 report has been corrected due to calculation errors.
6. Separate sales data for Hyosung Vina Chemicals Co., Ltd (HSVC) from the 2022-2023 report has been corrected due to input errors.

Environmental Performance

Environmentally Friendly Vehicles

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
On-road Vehicles[1]	Electric Vehicles	Unit	0	2	2	0	0	0	11
	Hydrogen Fuel Cell Electric Vehicles	Unit	1	1	1	0	0	0	0
Off-road Vehicles[2]	Electric Vehicles	Unit	35	26	36	0	7	7	0
Total No. of Company Vehicles		Unit	99	86	96	23	52	47	15
Ratio of Environmentally Friendly Vehicle Ownership		%	36.4	33.7	40.6	0	13.5	14.9	73.3

Eco-friendly Products and Services Sales and Purchases[3]

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
Sales of Eco-friendly Products and Services	KRW million	188,578	190,293	210,011	0	0	0	0
Purchases of Eco-friendly Products and Services	KRW million	15,234	20,336	32,201	0	0	0	0

Product Raw Materials

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
Total Raw Materials Consumption		ton	979,665	989,452	944,780	376,656	622,249	774,139	-
	Renewable Raw Materials Consumption[4]	ton	5,172	5,974	6,116	0	0	0	-
	Non-renewable Raw Materials Consumption[5]	ton	974,493	983,478	938,664	376,656	622,249	774,139	-
Total Recycled Raw Input Materials Consumption[6]		ton	32,961	34,247	35,333	0	0	0	-
Percentage of Recycled Raw Input Materials Consumption		%	3.4	3.5	3.7	0	0	0	-

1. On-road vehicles: passenger cars, buses, trucks, special-purpose vehicles, motorcycles (excluding electric bicycles)
2. Off-road vehicles: including vehicles not regulated, such as construction machinery, agricultural machinery (e.g., forklifts, carts used at business sites)
3. Criteria for Eco-friendly Products and Services 1) Products and installation services with higher energy efficiency than existing products, such as LED lighting and high-efficiency certified equipment. 2) Products that have obtained '[Appendix 2] Major domestic and foreign environmental third-party certifications' of the Ministry of Environment's 'Eco-friendly management activity labeling and advertising guidelines' (e.g. Green Certification, USDA Biobased Product Labeling, GRS, ISCC, etc.)
4. Renewable materials are substances that are rapidly replenished through ecological or agricultural processes. Examples include bamboo- or hemp-based materials for textiles, and bio-based chips.
5. Non-renewable materials are derived from resources like coal, gas, metals, minerals, and crude oil, which are not regenerated within a short period of time.
6. Recycled materials are those that have undergone recycling processes, such as recycled chips.

Social Performance

- Social performance data in this report include those of Hyosung Vina Chemicals Co., Ltd. and Hyosung Film (Quzhou) Co., Ltd., subsidiaries which together account for 100% of Hyosung Chemical Corporation's consolidated sale.
  - Scope details: All business and business sites of Hyosung Chemical Corporation (Seoul Headquarters , Yongyeon Plants 1, 2, and 3, Gumi Plant, Oksan Plant, Daejeon Plant, Anyang Plant, Tank Terminal), Hyosung Vina Chemicals Co., Ltd, Hyosung Film(Quzhou) Co., Ltd
  - Notes: The Daejeon Plant was not operational in 2024, and therefore its data is not included in the report. Data for Hyosung Film (Quzhou) Co., Ltd. is excluded for 2022 and 2023 as the company commenced operations in December 2023.
- For the convenience of our readers, Hyosung Vina Chemicals Co., Ltd. is abbreviated as 'HSVC', and Hyosung Film (Quzhou) Co., Ltd. as 'HSFQ'.
- Where data is not applicable or unavailable, it is marked as 'N/A'; if the data was not collected, it is marked as '-'. Additional notes for special cases are provided in footnotes under the relevant tables.

Employees[1]

Indicators			Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024	2022	2023	2024	2024
No. of Employees	Total No. of Employees		Persons	1,272	1,273	1,269	429	434	440	178
Permanent	By Gender		persons	1,188	1,202	1,200	72	133	195	143
		Male	persons	1,069	1,078	1,066	51	103	144	119
		Female	persons	119	124	134	21	30	51	24
	By Age		persons	1,188	1,202	1,200	72	133	195	143
		Under 30	persons	200	205	190	19	42	60	53
		30-50	persons	748	753	761	43	80	127	86
		51 and Above	persons	240	244	249	10	11	8	4
	Employee Ratio by Age	Under 30	%	16.8	17.1	15.8	26.4	31.6	30.8	37.1
		30-50	%	63.0	62.6	63.4	59.7	60.2	65.1	60.1
		51 and Above	%	20.2	20.3	20.8	13.9	8.3	4.1	2.8
	By Employee Category		persons	1,188	1,202	1,200	72	133	195	143
		Office	persons	541	559	576	53	60	135	48
		Technical	persons	647	643	624	19	73	60	95
	By Region		persons	1,188	1,202	1,200	72	133	195	143
		Korea	persons	1,188	1,202	1,200	N/A	N/A	N/A	N/A
		China	persons	N/A	N/A	N/A	N/A	N/A	N/A	143
		Vietnam	persons	N/A	N/A	N/A	72	133	195	N/A
Temporary	By Gender		persons	84	71	69	357	301	245	35
		Male	persons	51	45	46	283	240	201	34
		Female	persons	33	26	23	74	61	44	1
	By Age		persons	84	71	69	357	301	245	35
		Under 30	persons	55	57	55	262	237	198	14
		30-50	persons	17	9	9	86	55	38	20
		51 and Above	persons	12	5	5	9	9	9	1

Indicators			Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024	2022	2023	2024	2024
Temporary	Employee Ratio by Age	Under 30	%	65.5	80.3	79.7	73.4	78.7	80.8	40.0
		30-50	%	20.2	12.7	13.0	24.1	18.3	15.5	57.1
		51 and Above	%	14.3	7.0	7.2	2.5	3.0	3.7	2.9
	By Region		persons	84	71	69	357	301	245	35
		Korea	persons	84	71	69	N/A	N/A	N/A	N/A
		China	persons	N/A	N/A	N/A	N/A	N/A	N/A	35
		Vietnam	persons	N/A	N/A	N/A	357	301	245	N/A
Board of Directors Diversity	By Gender		persons	4	5	5	N/A	N/A	N/A	N/A
		Male	persons	4	5	4	N/A	N/A	N/A	N/A
		Female	persons	0	0	1	N/A	N/A	N/A	N/A
	By Age		persons	4	5	5	N/A	N/A	N/A	N/A
		Under 30	persons	0	0	0	N/A	N/A	N/A	N/A
		30-50	persons	0	0	0	N/A	N/A	N/A	N/A
		51 and Above	persons	4	5	5	N/A	N/A	N/A	N/A
Employee Diversity	Total No. Employees		persons	56	55	52	3	3	2	8
		Employees with Disabilities	persons	27	27	26	0	0	0	0
		Veterans	persons	24	24	23	0	0	0	0
		Foreigner	persons	5	4	3	3	3	2	8
Fostering Female Talent[2]	Female Employee Ratio	Female Ratio	%	11.9	11.8	12.4	22.1	21.0	21.6	14.0
	Total No. of Manager Level (or Higher)		persons	254	247	251	80	78	76	7
		Female Manager Level (or Higher)	persons	20	19	21	10	9	13	1
		Male Manager Level (or Higher)	persons	234	228	230	70	69	63	6
	Proportion of Female at Manager Level (Manager and Above)[3]		%	7.9	7.7	8.4	12.5	11.5	17.1	14.3
Workers Who are not Employees[4]	By Gender		persons	310	309	310	0	0	0	13
		Male	persons	293	292	293	0	0	0	13
		Female	persons	17	17	17	0	0	0	0

1. As of December 31, 2024.
2. Manager level refers to positions at the PM(Project Manager)/Manager level and above.
3. The proportion of female at manager level (manager and above) for Hyosung Vina Chemicals Co., Ltd. (HSVC) for 2022 has been corrected due to a calculation error in the previous report..
4. Workers who are not employees refer to outsourced, subcontracted, or dispatched workers working in-house at the company's business sites who are not listed as direct employees in the business report.

Social Performance

Diversity Performance and Targets[1]

Indicators	Unit	Hyosung Chemical			
		2022	2023	2024	2025(Target)
Employees with Disabilities	persons	27	27	26	20
Female	persons	152	150	157	115

Local Senior Managements with the Local Nationality Working on Site

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
Total Senior Managements[2]		persons	92	92	97	17	18	18	7
No. of Local Senior Managements with the Local Nationality Working on Site		persons	92	92	97	0	0	0	3
	Korea	persons	92	92	97	N/A	N/A	N/A	N/A
	China	persons	N/A	N/A	N/A	N/A	N/A	N/A	3
	Vietnam	persons	N/A	N/A	N/A	0	0	0	N/A
Percentage of Local Senior Managements with the Local Nationality Working on Site		%	100	100	100	0	0	0	42.9

New Employees Hires

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
By Career Level		persons	202	151	138	90	79	72	48
	New Hires	persons	117	88	92	43	20	24	32
	Experienced New Hires	persons	40	32	30	47	59	48	0
	Transferees from Affiliated Companies	persons	45	31	16	0	0	0	16
By Gender		persons	202	151	138	90	79	72	48
	Male	persons	157	122	108	76	73	62	43
	Female	persons	45	29	30	14	6	10	5
New Hire Rate by Gender	Male	%	77.7	80.8	78.3	84.4	92.4	86.1	89.6
	Female	%	22.3	19.2	21.7	15.6	7.6	13.9	10.4
By Age		persons	202	151	138	90	79	72	48
	Under 30	persons	116	92	93	82	69	68	12
	30-50	persons	76	55	36	8	10	4	32
	51 and Above	persons	10	4	9	0	0	0	4
New Hire Rate by Age	Under 30	%	57.4	60.9	67.4	91.1	87.3	94.4	25.0
	30-50	%	37.6	36.4	26.1	8.9	12.7	5.6	66.7
	51 and Above	%	5.0	2.6	6.5	0	0	0	8.3
By Region		persons	202	151	138	90	79	72	48
	Korea	persons	202	151	138	N/A	N/A	N/A	N/A
	China	persons	N/A	N/A	N/A	N/A	N/A	N/A	48
	Vietnam	persons	N/A	N/A	N/A	90	79	72	N/A
New Hire Rate by Region	Korea	%	100	100	100	N/A	N/A	N/A	N/A
	China	%	N/A	N/A	N/A	N/A	N/A	N/A	100
	Vietnam	%	N/A	N/A	N/A	100	100	100	N/A

1. Data is limited to domestic entities with established diversity targets and performance.
2. Senior management refers to positions at the team leader, department head, supervisor level, or higher.

Social Performance

Employee Turnover

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
Total No. of Employees Turnover		persons	152	154	144	74	74	65	18
	Voluntary Turnover	persons	108	100	97	68	65	50	14
	Transfers to Affiliated Company	persons	15	8	18	0	1	0	0
	Involuntary Turnover[1]	persons	29	46	29	6	8	15	4
Voluntary Turnover Rate		%	8.5	7.9	7.6	15.9	15.0	11.4	7.9
Total Turnover Rate		%	11.9	12.1	11.3	17.2	17.1	14.8	10.1
Turnover By Gender		persons	152	154	144	74	74	65	18
	Male	persons	126	123	122	60	64	59	14
	Female	persons	26	31	22	14	10	6	4
Turnover Rate by Gender	Male	%	9.9	9.7	9.6	14.0	14.7	13.4	7.9
	Female	%	2.0	2.4	1.7	3.3	2.3	1.4	2.2
Turnover by Age		persons	152	154	144	74	74	65	18
	Under 30	persons	52	49	54	49	57	42	9
	30-50	persons	65	66	61	19	15	21	9
	51 and Above	persons	35	39	29	6	2	2	0
Turnover Rate by Age	Under 30	%	4.1	3.8	4.3	11.4	13.1	9.5	5.1
	30-50	%	5.1	5.2	4.8	4.4	3.5	4.8	5.1
	51 and Above	%	2.8	3.1	2.3	1.4	0.5	0.5	0
Turnover by Region		persons	152	154	144	74	74	65	18
	Korea	persons	152	154	144	N/A	N/A	N/A	N/A
	China	persons	N/A	N/A	N/A	N/A	N/A	N/A	18
	Vietnam	persons	N/A	N/A	N/A	74	74	65	N/A
Turnover Rate by Region	Korea	%	11.9	12.1	11.3	N/A	N/A	N/A	N/A
	China	%	N/A	N/A	N/A	N/A	N/A	N/A	10.1
	Vietnam	%	N/A	N/A	N/A	17.2	17.1	14.8	N/A

1. Involuntary turnover: resignation upon recommendation, dismissal, death, etc.

Social Performance

Employee Salary and Compensation

Indicators			Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024	2022	2023	2024	2024
Compensation for Entry-level Employees	Average Total Annual Compensation for Entry-level Employees		KRW million	48	46	51	17	9	9	9
Local Annual Average Legal Minimum Wage[1]	Ratio of Wages for New Hires Compared to the Local Legal Minimum Wage	Male	%	219	198	205	584	304	276	408
		Female	%	184	165	208	303	291	286	393
	Ratio of Total Compensation for Female to Male	Executives	%	N/A	N/A	110	N/A	N/A	N/A	N/A
		Manager Level or Higher	%	83.8	78.0	85.9	48.5	46.9	44.6	16.3
		Non-manager Level	%	62.8	44.3	63.5	98.8	101.1	96.7	24.2
	Average Total Compensation of All Employees		KRW million	73	72	72	18	18	16	21
Compensation of the Highest-paid Individual Compared to All Employees	Highest-paid Individual	Total Compensation	KRW million	274	251	262	229	192	167	284
		Year-on-Year Increase in Total Compensation	%	-39.8	-8.1	4.2	-21.0	-15.9	-13.3	-
	Employees (Excluding the Highest-paid Individual)	Average Total Annual Compensation	KRW million	73	72	72	28	26	25	19
		Median of Total Annual Compensation	KRW million	67	66	69	14	13	12	17
		Median Total Annual Compensation Increase Year-on-Year	%	-2.6	-1.4	4.1	3.0	-3.0	-1.0	-
	Ratio of the Total Annual Compensation for the Organization's Highest-paid Individual to the Median of Total Annual Compensation for All Employees (Excluding the Highest-paid Individual)[2]		times	4.1	3.8	3.8	16.4	14.8	13.9	16.8

Regular Performance Evaluation[3]

Indicators			Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024	2022	2023	2024	2024
Employee Performance Evaluation	No. of Employees Subject to Performance Evaluation		persons	1,188	1,202	1,200	401	411	422	46
	Performance Evaluation Rate		%	93.4	94.4	94.6	93.5	94.7	95.9	25.8
By Gender	Performance Evaluation and Career Development Review Rate By Gender	Male	%	95.4	96.0	95.9	92.5	93.9	95.9	19.0
		Female	%	78.3	82.7	85.4	96.8	97.8	95.8	100
By Employee Category	Performance Evaluation and Career Development Review Rate By Employee Category	Executive	%	100	100	100	100	100	100	100
		Manager Level or Higher (PM, Manager or Higher)	%	98.7	99.6	100	82.2	85.9	89.2	100
		Non-manager Level (Pro, Assistant Manager Level or Lower)	%	92.0	93.2	93.2	95.7	96.3	97.2	25.3

1. The local annual average legal minimum wage data is compiled for all locally hired employees, excluding expatriates.
2. The ratio of the total annual compensation for the organization's highest-paid individual to the median of total annual compensation for all employees (excluding the highest-paid Individual) at Hyosung Vina Chemicals Co., Ltd. (HSVC) for 2022 and 2023 has been corrected due to a calculation error in the previous report.
3. The 2022-2023 performance data from the previous year's report for Hyosung Vina Chemicals Co., Ltd. (HSVC) has been corrected due to an aggregation error in regular performance evaluation data.

Social Performance

Labor Union

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
No. of Employees Covered by Collective Bargaining Agreements[1]	persons	647	643	661	370	374	390	0
Ratio of Employees Covered by Collective Bargaining Agreements among Total Employees	%	50.9	50.5	52.1	86.2	86.2	88.6	0
No. of Union Workers	persons	637	636	613	370	373	390	0
Rate of Enrollment to the Union	%	98.5	98.9	92.7	100	99.7	100	0

Retirement Pension

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
Total Operation Fund for Retirement Pensions (DB + DC)	KRW million	72,104	72,123	71,451	N/A	N/A	N/A	N/A
Operation Fund for DB (Defined Benefit) Pension	KRW million	70,819	70,810	69,978	N/A	N/A	N/A	N/A
Operation Fund for DC (Defined Contribution) Pension	KRW million	1,336	1,313	1,473	N/A	N/A	N/A	N/A
Total No. of Members	persons	1,315	1,317	1,312	N/A	N/A	N/A	N/A
No. of DB Pension Members	persons	1,109	1,115	1,088	N/A	N/A	N/A	N/A
No. of DC Pension Members	persons	206	202	224	N/A	N/A	N/A	N/A

Maternity Leave and Parental Leave

Indicators			Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024	2022	2023	2024	2024
Maternity Leave	Male	No. of Employees on Maternity Leave	persons	35	41	28	15	28	31	0
		Return Rate After Maternity Leave	%	100	100	100	100	100	100	0
	Female	No. of Employees on Maternity Leave	persons	8	8	5	10	7	17	0
		Return Rate After Maternity Leave	%	100	100	100	90.0	85.7	88.2	0
Parental Leave	Male	No. of Employees Entitled to Parental Leave	persons	223	234	123	76	89	85	0
		No. of Employees on Parental Leave	persons	4	5	13	14	8	11	0
		No. of Employees Returning to Work After Parental Leave	persons	2	8	7	15	28	11	0
		No. of Employees with Over 12 Months of Service After Parental Leave[2]	persons	2	2	8	-	13	6	-
		Return Rate After Parental Leave	%	66.7	88.9	100	100	100	100	0
		Ratio of Employees Retained 12 Months After Returning to Work in the Previous Reporting Period Following a Period of Parental Leave[2]	%	100	100	100	-	86.7	21.4	-
	Female	No. of Employees Entitled to Parental Leave	persons	21	25	10	20	21	27	0
		No. of Employees on Parental Leave	persons	5	9	5	7	8	8	0
		No. of Employees Returning to Work After Parental Leave	persons	5	4	10	9	6	8	0
		No. of Employees with Over 12 Months of Service After Parental Leave	persons	2	5	4	-	6	8	-
		Return Rate After Parental Leave	%	83.3	100	100	90.0	85.7	100	0
		Ratio of Employees Retained 12 Months After Returning to Work in the Previous Reporting Period Following a Period of Parental Leave[2]	%	66.7	100	100	-	66.7	133.3	-

1. The collective bargaining agreement at Hyosung Chemical applies to functional staff.
2. The No. of employees with over 12 months of service after parental leave at Hyosung Vina Chemicals Co., Ltd. (HSVC) in the 2023 report has been corrected due to an aggregation error.

Social Performance

Employee Training

Indicators			Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory 1	Subcategory 2		2022	2023	2024	2022	2023	2024	2024
Employee Training Participation Status	No. of Training Participants[1]		Persons	16,273	15,791	14,542	1,683	2,600	1,893	572
	Total Training Expenses		KRW million	840	906	900	14	13	12	0
	Total Training Hours		hours	43,426	39,241	41,414	8,935	15,097	7,066	5,720
	Average Training Hours per Employee (Total Training Hours / No. of Employees)		hours	34	31	33	21	35	16	32
	Average Training Expenses per Employee (Total Training Expenses / No. of Employees)[2]		KRW	660,377	711,705	709,411	32,634	29,954	27,370	0
By Gender	Total Employee Training Hours	Male	hours	35,149	31,440	32,497	7,960	12,711	6,071	4,872
		Female	hours	8,278	7,802	8,917	975	2,386	996	848
	Average Training Hours per Employee	Male	hours	31	28	29	24	37	18	32
		Female	hours	55	52	57	10	26	10	34
By Employee Category	Total Employee Training Hours	Executives	hours	423	361	1,089	0	86	88	0
		Manager Level or Higher (PM, Manager or Higher)	hours	14,584	23,712	12,967	529	1,693	873	250
		Non-manager Level (Pro, Assistant Manager Level or Lower)	hours	28,420	15,169	27,358	8,406	13,318	6,105	5,470
	Average Training Hours per Employee	Executives	hours	26	25	54	0	12	22	0
		Manager Level or Higher (PM, Manager or Higher)	hours	61	103	56	7	24	12	42
		Non-manager Level (Pro, Assistant Manager Level or Lower)	hours	28	15	27	24	37	17	32
Ratio of Security Personnel Who Have Received Formal Training in Human Rights Policies or Specific Procedure[3]			%	0	0	0	0	0	0	100
By Training Course	Total No. of Participating Employees	Environmental Training	persons	1,286	1,215	1,207	88	106	95	6
		Ethics and Anti-corruption Training	persons	1,272	1,233	1,144	86	106	92	6
		Fair Trade Training	persons	1,355	1,131	1,150	86	106	92	6
		Safety and Health Training	persons	1,319	1,224	584	85	78	73	0
		Human Rights Training (Sexual Harassment Prevention / Disability Awareness / Discrimination Prevention, etc.)	persons	5,109	5,105	4,836	98	107	96	0
		Information Security Training	persons	1,449	1,787	1,746	88	108	88	0
		Sustainability Management Training	persons	808	1,242	1,136	0	29	17	0
		Retiree Training	persons	18	2	3	0	0	0	0

1. This data represents the cumulative No. of participants in the training courses.
2. The average training expenses per employee for Hyosung Chemical and HSVC in the 2022-2023 data were corrected due to a miscalculation in the previous year's report.
3. Reported ratio of security personnel who have received formal training in human rights policies or specific procedures for Hyosung Vina Chemicals Co., Ltd. (HSVC) in the 2022-2023 data was corrected due to an aggregation error in the previous year's report.

Social Performance

Suppliers[1]

Indicator	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
No. of Suppliers	No. of companies	745	759	762	259	260	319	7
Total Purchase from Suppliers	KRW million	1,771,300	1,443,346	1,401,683	483,670	597,518	779,967	40,867
Total Purchase from Local Suppliers	KRW million	1,615,500	1,282,249	1,144,830	12,873	23,817	24,834	40,678
Proportion of Purchase from Local Suppliers	%	91.2	88.8	81.7	2.7	4.0	3.2	99.5

Supplier Grievance Handling

Indicator	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
No. of Complaints Received	cases	220	233	108	13	21	14	0
No. of Complaints Resolved	cases	209	232	106	13	21	14	0
Resolution Rate	%	95.0	99.6	98.1	100	100	100	0

ESG Assessment of the Supply Chain

Indicator		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
New	No. of New Suppliers[2]	No. of companies	0	0	19	85	70	110	1
	No. of New Suppliers That Conducted ESG Assessment	No. of companies	N/A	N/A	0	0	0	0	0
	Percentage of New Suppliers That Conducted ESG Assessment	%	0	0	0	0	0	0	0
Existing	No. of Suppliers Under Focused Management	No. of companies	-	42	59	0	0	0	2
	No. of Suppliers That Conducted ESG Assessment	No. of companies	17	47	59	0	0	0	0
	No. of Suppliers with Actual or Potential Negative ESG Impacts	No. of companies	0	0	0	0	0	0	0
	Percentage of Suppliers That Agreed Improvement Based on the Results of ESG Assessment	%	0	0	0	0	0	0	0
	Percentage of Suppliers Whose Contracts Were Terminated Based on the Results of ESG Assessment	%	0	0	0	0	0	0	0

1. A calculation error in HSVC's 2022-2023 supplier data reported last year has been corrected in this report.
2. The No. of new suppliers for HSVC in the 2022-2023 data previously reported contained an error, which has been corrected in this report.

Social Performance

Occupational Health and Safety Management System

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
Total No. of Employees	persons	1,272	1,273	1,269	429	434	440	178
No. of Workers Who are not Employees	persons	269	330	277	0	0	0	8
Subtotal (=①)	persons	1,541	1,603	1,546	429	434	440	186
No. of Workers Managed by the System among ①	persons	1,541	1,603	1,546	429	434	440	186
No. of Workers Managed by an Internally Audited System among ①	persons	1,272	1,273	1,269	429	434	440	186
No. of Workers Managed by an Externally Audited or Certified System among ①	persons	1,272	1,273	1,269	0	0	0	0

1. Rate of Work-related Injuries and Ill Health = (Total No. of individuals affected by work-related injuries and ill health / Total No. of workers) × 100
2. Work-related Fatality Rate per Ten Thousand Employees = (No. of work-related fatalities / Total No. of workers) × 10,000
3. Frequency Rate (also known as Lost Time Injury Frequency Rate in some countries) = (No. of cases of work-related injuries and ill health / Total work hours) × 1,000,000
4. Total Recordable Incident Rate (TRIR) = (Total No. of recordable incidents / Total work hours) × 200,000
5. Lost Time Injury Frequency Rate (LTIFR) =(No. of cases of Lost Time Injuries / Total work hours) × 1,000,000
   The LTIFR for Hyosung Chemical in the 2022-2023 data was corrected due to a miscalculation in the previous year's report
6. Lost Time Injury Severity Rate (LTISR) = (No. of lost workdays / Total work hours) × 1,000,000

Occupational Injuries and Ill-health

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
Employees	No. of Work-related Injuries and Ill Health	persons	4	6	8	0	0	0	2
	Rate of Work-related Injuries and Ill Health[1]	%	0.31	0.47	0.63	0	0	0	1.12
	No. of Fatalities as a Result of Work-related Injuries	persons	0	0	0	0	0	0	0
	Work-related Fatality Rate per Ten Thousand Employees[2]	%	0	0	0	0	0	0	0
	Total Work Hours	hours	3,190,176	3,192,684	3,182,861	1,056,720	1,086,720	1,098,720	446,424
	No. of Cases of Work-related Injuries and Ill Health	cases	4	6	7	0	0	0	1
	Frequency Rate[3]	%	1.25	1.88	2.20	0	0	0	2.24
	No. of Lost Time Injuries (LTI) - Incidents Requiring More Than 1 Day Off	cases	4	6	7	0	0	0	2
	Total Recordable Incident Rate (TRIR)[4]	%	0.25	0.38	0.44	0	0	0	0.45
	Lost Time Injury Frequency Rate (LTIFR)[5]	%	1.25	1.88	2.20	0	0	0	4.48
	Lost Workdays	days	70	122	80	0	0	0	78
	Lost Time Injury Severity Rate (LTISR)[6]	%	21.9	38.2	25.1	0	0	0	175
Partner Companies	No. of Work-related Injuries and Ill Health	persons	5	5	3	0	0	0	0
	Rate of Work-related Injuries and Ill Health[1]	%	1.86	1.52	1.08	0	0	0	0
	No. of Fatalities as a Result of Work-related Injuries	persons	0	0	0	0	0	0	0
	Work-related Fatality Rate per Ten Thousand Employees[2]	%	0	0	0	0	0	0	0
	Total Work Hours	hours	674,652	827,640	693,880	0	0	0	20,064
	No. of Cases of Work-related Injuries and Ill Health	cases	5	5	3	0	0	0	0
	Frequency Rate[3]	%	7.41	6.04	4.32	0	0	0	0
	No. of Lost Time Injuries (LTI) - Incidents Requiring More Than 1 Day Off	cases	5	5	2	0	0	0	0
	Total Recordable Incident Rate (TRIR)[4]	%	1.48	1.21	0.86	0	0	0	0
	Lost Time Injury Frequency Rate (LTIFR)[5]	%	7.41	6.04	2.88	0	0	0	0
	Lost Workdays	days	21	74	20	0	0	0	0
	Lost Time Injury Severity Rate (LTISR)[6]	%	31.1	89.4	28.8	0	0	0	0

Social Performance

Social Contribution[1]

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
Social Contribution Investment	KRW million	492	619	377	0	5	11	0
No. of Social Contribution Programs	cases	41	49	40	0	1	2	0
No. of Participants among Employees	persons	533	633	773	0	365	370	0
Total Volunteer Hours	hours	183	226	390	0	0	0	0
Amount of Social Value Generated[2]	KRW million	-	749	1,430	N/A	-	-	N/A

Infringement of Local Community Rights

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
Total No. of Incidents of Violations Involving the Rights of Indigenous People	cases	0	0	0	0	0	0	0

Products and Services Subject to Safety and Health Evaluations[3]

Indicators	Unit	Hyosung Chemical			HSVC			HSFQ
		2022	2023	2024	2022	2023	2024	2024
Percentage of Major Products and Services That have Undergone Evaluations for Health and Safety Impacts	%	100	100	100	100	100	100	100

Customer Privacy Protection

Indicators		Unit	Hyosung Chemical			HSVC			HSFQ
Category	Subcategory		2022	2023	2024	2022	2023	2024	2024
Breaches of Customer Privacy	Complaints Received from Outside Parties and Substantiated by the Organization	cases	0	0	0	0	0	0	0
	Complaints from Regulatory Bodies	cases	0	0	0	0	0	0	0
Total No. of Identified Leaks, Thefts, or Losses of Customer Data		cases	0	0	0	0	0	0	0

1. HSVC's 2023 social contribution data was reported incorrectly and has been corrected in this year's report.
2. The amount of Social Value Generated has been conducted only for Hyosung Chemical since 2023.
3. All products manufactured by Hyosung Chemical are assessed for hazards by certified institutions.

Other Performance

Certifications

Category	Company Name	Business Site	PU/Business Division	Certification	Validity Period
Quality Management System	Hyosung Chemical	Yongyeon	PP/DH	ISO 9001	22.10.15 ~ 25.10.18
		Yongyeon	POK	ISO 9001	24.09.14 ~ 27.09.13
				IATF 16949	24.09.14 ~ 27.09.13
		Yongyeon, Gumi	Film	ISO 9001	22.07.23 ~ 25.08.13
		Yongyeon, Oksan	Optical Film	ISO 9001	24.06.16 ~ 27.06.15
		Yongyeon, Oksan	Neochem	ISO 9001	22.07.27 ~ 25.07.26
	Hyosung Vina Chemicals Co., Ltd	Vietnam	PP/DH	ISO 9001	24.07.13 ~ 27.07.12
	Hyosung Film(Quzhou) Co., Ltd	China	Film	ISO 9001	24.05.17 ~ 27.05.16
Safety and Health Management System	Hyosung Chemical	Yongyeon	PP/DH	KOSHA MS	24.12.19 ~ 27.12.18
		Yongyeon	POK	KOSHA MS	25.01.13 ~ 28.01.12
		Gumi	Film	ISO 45001	25.03.17 ~ 28.03.16
		Yongyeon, Oksan	Neochem	ISO 45001	22.07.16 ~ 25.07.15
	Hyosung Film(Quzhou) Co., Ltd	China	Film	ISO 45001	24.05.17 ~ 27.05.16
Environmental Management System	Hyosung Chemical	Yongyeon	PP/DH	ISO 14001	22.10.15 ~ 25.10.18
		Yongyeon	POK	ISO 14001	24.08.27 ~ 27.08.26
		Yongyeon, Gumi	Film	ISO 14001	22.07.23 ~ 25.08.13
		Yongyeon, Oksan	Optical Film	ISO 14001	24.06.16 ~ 27.06.15
		Yongyeon, Oksan	Neohem	ISO 14001	22.07.27 ~ 25.07.26
	Hyosung Vina Chemicals Co., Ltd	Vietnam	PP/DH	ISO 14001	24.07.13 ~ 27.07.12
	Hyosung Film(Quzhou) Co., Ltd	China	Film	ISO 14001	24.05.17 ~ 27.05.16
Food Safety Management System	Hyosung Chemical	Gumi	Film	FSSC 22000	23.03.04 ~ 26.03.03
Family-Friendly Management	Hyosung Chemical	Company-wide	-	Family-Friendly Certification	23.12.01 ~ 25.11.30

Membership in Initiatives and Associations

Category	Company Name	Initiative/Association Name
Environmental Initiative	Hyosung Chemical	Korea TCFD Alliance
Association	Hyosung Chemical	Korea Chamber of Commerce and Industry
		Korea International Trade Association
		Korea Listed Companies Association
		Federation of Korean Industries
		Korea Enterprises Federation
		Korea Petrochemical Industry Association
		Korean Institute of Chemical Engineers
		Korea Display Industry Association
		Korea Packaging Association
		Korea Personal Improvement Association
		Korea Exchange

GRI Standards Index

Statement of use	Hyosung Chemical reports the information for the period from January 1, 2024 to December 31, 2024, in accordance with the GRI Standards 2021.
GRI 1 used	GRI 1: Foundation 2021
Applicable GRI Sector Standards	As of the publication date of this report, no applicable GRI Sector Standards are available.

GRI	Disclosure	Reporting Page & Location	Remarks	Omission
General Disclosures				
GRI 2: General Disclosure 2021	2-1 Organizational Details	6, Business Report p.3~4 1. Company Overview		
	2-2 Entities Included in the Organization's Sustainability Reporting	2, 61, 64, 71		
	2-3 Reporting Period, Frequency, and Contact Point	2		
	2-4 Restatements of Information	2, 63~79		
	2-5 External Assurance	84		
	2-6 Activities, Value Chain, and Other Business Relationships	6~7		
	2-7 Employees	70, Business Report p.331-332 1. Status of Executives and Employees		
	2-8 Workers who are not employees	70, Business Report p.331-332 1. Status of Executives and Employees		
	2-9 Governance Structure and Composition	58~59		
	2-10 Nomination and Selection of the Highest Governance Body	58		
	2-11 Chair of the Highest Governance Body	58		
	2-12 Role of the Highest Governance Body in Overseeing the Management of Impacts	58~59		
	2-13 Delegation of Responsibility for Managing Impacts	58~59		
	2-14 Role of the Highest Governance Body in Sustainability Reporting	58~59		
	2-15 Conflicts of Interest	58		
	2-16 Communication of Critical Concerns	58		
	2-17 Collective Knowledge of the Highest Governance Body	59		
	2-18 Evaluation of the Performance of the Highest Governance Body	-	Board performance evaluation not conducted	Information unavailable
	2-19 Remuneration Policies	Business Report p.332-333 2. Remuneration of Executives		
	2-20 Process to Determine Remuneration	Business Report p.332-333 2. Remuneration of Executives		
	2-21 Annual Total Compensation Ratio	74		
	2-22 Statement on Sustainable Development Strategy	5		
	2-23 Policy Commitments	23, 33, 40, 42, 55, Website		
	2-24 Embedding Policy Commitments	23, 33, 40, 42, 55, Website		
	2-25 Processes to Remediate Negative Impacts	41, 55		
	2-26 Mechanisms for Seeking Advice and Raising Concerns	55~56		
	2-27 Compliance with Laws and Regulations	63		
	2-28 Membership in Associations	80		
	2-29 Approach to Stakeholder Engagement	8		
	2-30 Collective Bargaining Agreements	75		

GRI Standards Index

GRI	Disclosure	Reporting Page & Location	Remarks
Material Topic & Topic Standards			
GRI 3: Material Topics 2021	3-1 Process to Determine Material Topics	9	
	3-2 List of Material Topics	10	
Material Topic 1	**Product Hazard Management**		
GRI 3: Material Topics 2021	3-3 Management of Material Topics	9~10	
GRI 416 Customer Health and Safety	416-1 Assessment of the Health and Safety Impacts of Product and Service Categories	13, 79	
	416-2 Incidents of Non-compliance Concerning the Health and Safety Impacts of Products and Services	63	
GRI 417 Marketing and Labeling	417-2 Incidents of Non-compliance Concerning Product and Service Information and Labeling	63	
Material Topic 2	**Response to Environmental Regulation**		
GRI 3: Material Topics 2021	3-3 Management of Material Topics	9~10	
SASB RT-CH-530a.1	Discussion of corporate positions related to government regulations or policy proposals that address environmental and social factors affecting the industry	17	
Material Topic 3	**Greenhouse Gas Reduction**		
GRI 3: Material Topics 2021	3-3 Management of Material Topics	9~10	
GRI 305 Emissions	305-1 Direct (Scope 1) GHG Emissions	64	
	305-2 Energy Indirect (Scope 2) GHG Emissions	64	
	305-4 GHG Emissions Intensity	64	
	305-5 Reduction of GHG Emissions	22	
	305-6 Emissions of Ozone-Depleting Substances (ODS)	69	
	305-7 Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and Other Significant Air Emissions	69	
Material Topic 4	**Enhancement of Workplace Safety and Health**		
GRI 3: Material Topics 2021	3-3 Management of Material Topics	9~10	
GRI 403 Occupational Health and Safety	403-1 Occupational Health and Safety Management System	23, 25	
	403-2 Hazard Identification, Risk Assessment, and Incident Investigation	25	
	403-3 Occupational Health Services	25~27	
	403-4 Worker Participation, Consultation, and Communication on Occupational Health and Safety	26~27	
	403-5 Worker Training on Occupational Health and Safety	26~27	
	403-6 Promotion of Worker Health	45	
	403-7 Prevention and Mitigation of Occupational Health and Safety Impacts Directly Linked by Business Relationships	23~27	
	403-8 Workers Covered by an Occupational Health and Safety Management System	23~24, 27	
	403-9 Work-Related Injuries	78	
	403-10 Work-Related Ill Health	78	

SASB Index

Sector	Chemicals			
Category	**Code**	**Indicator**	**Unit**	**Reporting Page or Content**
Sustainability Disclosure Topics & Accounting Metrics				
Greenhouse Gas Emissions	RT-CH-110a.1	Gross global Scope 1 emissions	tCO_2-eq	p.64
		Percentage covered under emissions limiting regulations	%	100
	RT-CH-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	-	p.20~22
Air Quality	RT-CH-120a.1	NOx (excluding N_2O) emissions	tons	p.69
		SOx emissions	tons	p.69
		VOC (Volatile Organic Compounds) emissions	tons	p.69
		HAPs (Hazardous Air Pollutants) emissions	tons	p.69
Energy Management	RT-CH-130a.1	Total energy consumed	TJ	p.65
		Percentage grid electricity	%	100
		Percentage renewable	%	Hyosung Chemical Co., Ltd: 0.01 / HSVC: 0 / HSFQ: 3.52
		Total self-generated energy	TJ	p.65
Water Management	RT-CH-140a.1	Total water withdrawn in regions with High or Extremely High Baseline Water Stress	tons	p.66
		Percentage of total water withdrawn in regions with High or Extremely High Baseline Water Stress	%	Hyosung Chemical Co., Ltd: 3.94 / HSVC: 0 / HSFQ: 0
		Total water consumed in regions with High or Extremely High Baseline Water Stress	tons	p.66
		Percentage of total water consumed in regions with High or Extremely High Baseline Water Stress	%	Hyosung Chemical Co., Ltd: 4.56 / HSVC: 0 / HSFQ: 0
	RT-CH-140a.2	Number of incidents of non-compliance associated with water quality permits, standards and regulations	count	1
	RT-CH-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	-	p.16~19
Hazardous Waste Management	RT-CH-150a.1	Amount of hazardous waste generated	tons	p.68
		Percentage of hazardous waste recycled	%	p.68
Community Relations	RT-CH-210a.1	Discussion of engagement processes to manage risks and opportunities associated with community interests	-	p.46~50
Workforce Health & Safety	RT-CH-320a.1	Total recordable incident rate (TRIR) for direct employees and contract workers	%	p.78
		Fatality rate for direct employees and contract workers	%	p.78
	RT-CH-320a.2	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	-	p.23~27
Product Design for Use-phase Efficiency	RT-CH-410a.1	Revenue from products designed for use-phase resource efficiency	KRW	Not applicable
Safety & Environmental Stewardship of Chemicals	RT-CH-410b.1	Percentage of products that contain Globally Harmonised System of Classification and Labelling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances	%	Insufficient information
		Percentage of such products that have undergone a hazard assessment	%	p. 79
	RT-CH-410b.2	Discussion of strategy to manage chemicals of concern	-	p.16~19
		Discussion of strategy to develop alternatives with reduced human or environmental impact	-	Insufficient information
Genetically Modified Organisms	RT-CH-410c.1	Percentage of products by revenue that contain genetically modified organisms (GMOs)	%	Not applicable
Management of the Legal & Regulatory Environment	RT-CH-530a.1	Discussion of corporate positions related to government regulations or policy proposals that address environmental and social factors affecting the industry	-	p.17
Operational Safety, Emergency Preparedness & Response	RT-CH-540a.1	Process Safety Incidents Count (PSIC)	count	Insufficient information
		Process Safety Total Incident Rate (PSTIR)	%	Insufficient information
		Process Safety Incident Severity Rate (PSISR)	%	Insufficient information
	RT-CH-540a.2	Number of transport incidents	count	Insufficient information
Activity Metrics				
-	RT-CH-000.A	Production by reportable segment	tons	Not disclosed

Third-Party Assurance Statement

The Stakeholders of Hyosung Chemical Corporation

Overview

BSI (British Standards Institution) Group Korea (hereinafter referred to as the "Assurer") was requested to verify the 2024 Hyosung Chemical Sustainability Report (hereinafter referred to as the "Report"). The Assurer is independent of the Hyosung Chemical 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 Hyosung Chemical 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 Hyosung Chemical and the assurance was carried out under the assumption that presented the information and data were complete and accurate.

Hyosung Chemical 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 Hyosung Chemical only.

The Assurer is responsible for providing Hyosung Chemical 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 Hyosung Chemical. The Assurer shall not bear any other responsibility, including legal responsibility, to any third party other than Hyosung Chemical 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 Hyosung Chemical includes the following:

- Reporting contents during the period from January 1st to December 31st 2024 included in the report, some data included the May 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 Appendix.
- 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)

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 Hyosung Chemical.

[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]

305-1~2, 305-4~7, 403-1~10, 416-1~2, 417-2

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 Hyosung Chemical 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.

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 Hyosung Chemical. 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 in-depth 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 Hyosung Chemical's description of their approach to AA1000 Assurance Standard and their selfdeclaration 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

Hyosung Chemical defined customers, employees, business partners, shareholders/investors and local community as a Key Stakeholder Groups. In order to collect opinions by each stakeholder group in the context of sustainability, operated the stakeholder engagement process. Hyosung Chemical conducted a review of the stakeholder engagement process at the Steering Committee in order to reflect the major issues derived through the stakeholder engagement process in sustainability strategy and goals. Hyosung Chemical disclosed the results related to the process in the Report.

Materiality: Identification and reporting of material sustainability topics

Hyosung Chemical 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 evaluation, Hyosung Chemical conducted the analysis of global sustainability reporting or assessment standards, and conducted the analysis to derive the impact and financial materiality. Hyosung Chemical derived 4 material topics through the relevant process, and disclosed GRI topic standards disclosures related to material topics in the Report.

Responsiveness: Responding to material sustainability topics and related impacts

Hyosung Chemical operated a management process for material topics in the context of sustainability derived from the materiality assessment. Hyosung Chemical established mid- to long-term sustainability plans and goals in according to the management methodology established to effectively reflect the expectations of key stakeholders. Hyosung Chemical disclosed the process including policy, indicator, activity and response performance on material topics in the Report and Web homepages.

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

Hyosung Chemical 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. Hyosung Chemical 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;

- It may be helpful to lead the sustainability management system by advancing the management system of environmental key performance indicators, such as upgrading the LCA methodology of key production items, taking into account the key business characteristics affecting the various industries within the value chain.
- It may be helpful to advance the sustainability management system by establishing the management system for environmental and social performance indicators of overseas subsidiaries subject to consolidation criteria and securing the reliability of the performance indicators through internal control process.

GRI-reporting

Hyosung Chemical 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 Hyosung Chemical. The sector standard was not applied.

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

Jungwoo Lee, Lead Assurer, LCSAP

Seonghwan Lim, Managing Director of BSI Korea

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