Global Practice for Sustainability

2022 Hyosung Sustainability Report

HYOSUNG

About this report

After the first publication in 2012, Hyosung has been publishing a Sustainability Report every year since 2018 to communicate actively with our stakeholders. The '2022 Hyosung Sustainability Report' is the seventh sustainability report that we have published. Through this report, we would like to share and transparently disclose our sustainable management activities and achievements across the economic, social, and environmental domains. We also seek feedback from our stakeholders to incorporate into our operations.

Additional Information

This report is published in an interactive PDF format that includes links to related pages or websites.

Glossary of Major Terms

PG Performance Group
PU Performance Unit

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Reporting Principles

The 2022 Hyosung Sustainability Report was written with reference to the reporting method of the GRI Standards 2021, the sustainability reporting standard of the Global Reporting Initiative (GRI). In addition, to respond to the interests and demands of various stakeholders, external sustainability management initiatives and indicators such as SASB, TCFD, EcoVadis, ISO 26000, and UN SDGs were reflected in the selection of key issues.

Reporting Period and Scope

This report covers our activities and performance from January 1, 2022 to December 31, 2022. To provide readers with a better understanding of trends, it includes quantitative data from the past three years. In terms of qualitative activities and achievements, the report may include data up to May 2022. The financial data in this report is consistent with the consolidation standards under the Korean International Financial Reporting Standards (K-IFRS).
On June 1, 2018, Hyosung was spun-off into the holding company and four operating companies. Hyosung Corporation, the holding company, is in charge of group-wide investment and the management of operating companies – Hyosung TNC Corp., Hyosung Heavy Industries Corp., Hyosung Advanced Materials Corp., and Hyosung Chemical Corp. The business areas of these operating companies cover textile and trading, heavy industries and construction, industrial materials, and chemicals, respectively.
The scope of this report includes Hyosung and its four operating companies, as well as some qualitative and quantitative data from subsidiaries that account for more than 90% of consolidated sales. To avoid confusion, separate explanations are provided for matters that require attention regarding the reporting scope. For the convenience of readers, we have abbreviated company names. Some of the business outcomes and activities described in this report may not apply to certain operating companies. If corrections are required for data presented in our previous reports, the data has been recalculated as of 2022, and the reasons for and results of the corrections are indicated separately at the bottom of the relevant content.

Reporting Cycle

Annually (Last report published: July 2022)

Data Assurance

To ensure the credibility and fairness of this report, it has been verified by the Korea Management Registrar Inc. (KMR) in accordance with the four principles of AA1000AS (v3) and AA1000AP (2018). The results of the verification can be found on page 114 of this report.

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Interactive User Guide
This report is published in an interactive PDF format that includes links to related pages or websites.

CEO Message

“Hyosung is committed to shaping a better future for humanity through our advanced technologies and management capabilities.”

I would like to express my sincere gratitude to all of our stakeholders, including shareholders, customers, partner companies, local communities, and employees, for their unwavering support and trust in us.
As the world faces the challenges of deteriorating climate change and escalating global disputes, the political landscape has become increasingly uncertain, slowing down the global economy. Amid these daunting challenges, Hyosung is committed to becoming an enabler of a sustainable society, turning crisis into opportunity. ESG management, with its focus on sustainability, has become an integral part of business operations, leading to a paradigm shift in corporate management. In this fast-evolving era, we are dedicated to being a trustworthy company that fulfills our duties and responsibilities in ESG management.

ESG (Environmental, Social, and Governance) has become a new core driver of growth for us, providing a framework to guide our responsibilities towards the environment and society. To this end, we have established an ESG management system and embedded it into all aspects of our group-level management. In April 2021, we launched the ESG Management Committee, marking our full commitment to sustainable management as the foundation for the next 100 years. In response to global climate change, our holding company and four key operating companies endorsed the TCFD in 2022 and established a working-level council to integrate ESG perspectives into our business operations.
The council reviews ESG performance on a regular basis. Furthermore, the efforts are in full swing to improve our societal aspect. These include efforts to strengthen the human rights of our stakeholders, conducting human rights impact assessments from 2021, and enacting and revising our ESG policies, including those related to human rights management, in 2023. We are also expanding the scope of our management to include our suppliers and helping them build the capacity needed for ESG management, thereby enhancing our global ESG competitiveness. Additionally, we are committed to listening to our customers, developing green products and technologies, and offering a wide range of solutions tailored to their specific needs. By doing so, we aim to bring happiness to our customers beyond mere satisfaction.
Going forward, Hyosung is committed to leading the way towards a sustainable future, continuously transforming and innovating ourselves. We appreciate your ongoing encouragement and support on our journey towards a better future.

Chairman & CEO

Hyun-Joon Cho

Hyosung Corporation

Hyosung, Creating Customer Value

Hyosung's change is a process of constant challenge and innovation toward new technologies that increase customer value. Hyosung's history, throughout which we have fearlessly pioneered a better path for tomorrow, continues along the same trajectory today. Hyosung aims to build a better life for mankind based on high-end technologies and management capabilities along with the HYOSUNG WAY, a value system dedicated to making dreams come true for Hyosung people all around the world. We will strive to become a trusted company by fulfilling our responsibilities and obligations.

General Status

Company name	Hyosung Corporation
Date of establishment	November 3, 1966
CEO	Hyun-Joon Cho, Kyoo-Young Kim
Headquarter	119 Mapodaero, Mapo-gu, Seoul, Republic of Korea (Gongdeok-dong)
Key business areas	Management and investment of shares of subsidiary, research services, group CI management, interior, etc.
Key countries where we operate	28 countries, including Korea, China, and Vietnam

No. of employees → 655

* Key countries include combined figures from Hyosung Corporation and its four operating companies – Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials, and Hyosung Chemical – as of the end of December 2022

Financial Performance

Sales → KRW 3.72 trillion

Operating profit → KRW 64.9 billion

* On a consolidated basis

2023 Group Management Principles

- Customer value creation through customer obsession
- Brand value enhancement based on best quality and customer trust
- A winning company that practices accountable management
- Management system advancement via digital transformation
- ESG management that creates a sustainability future

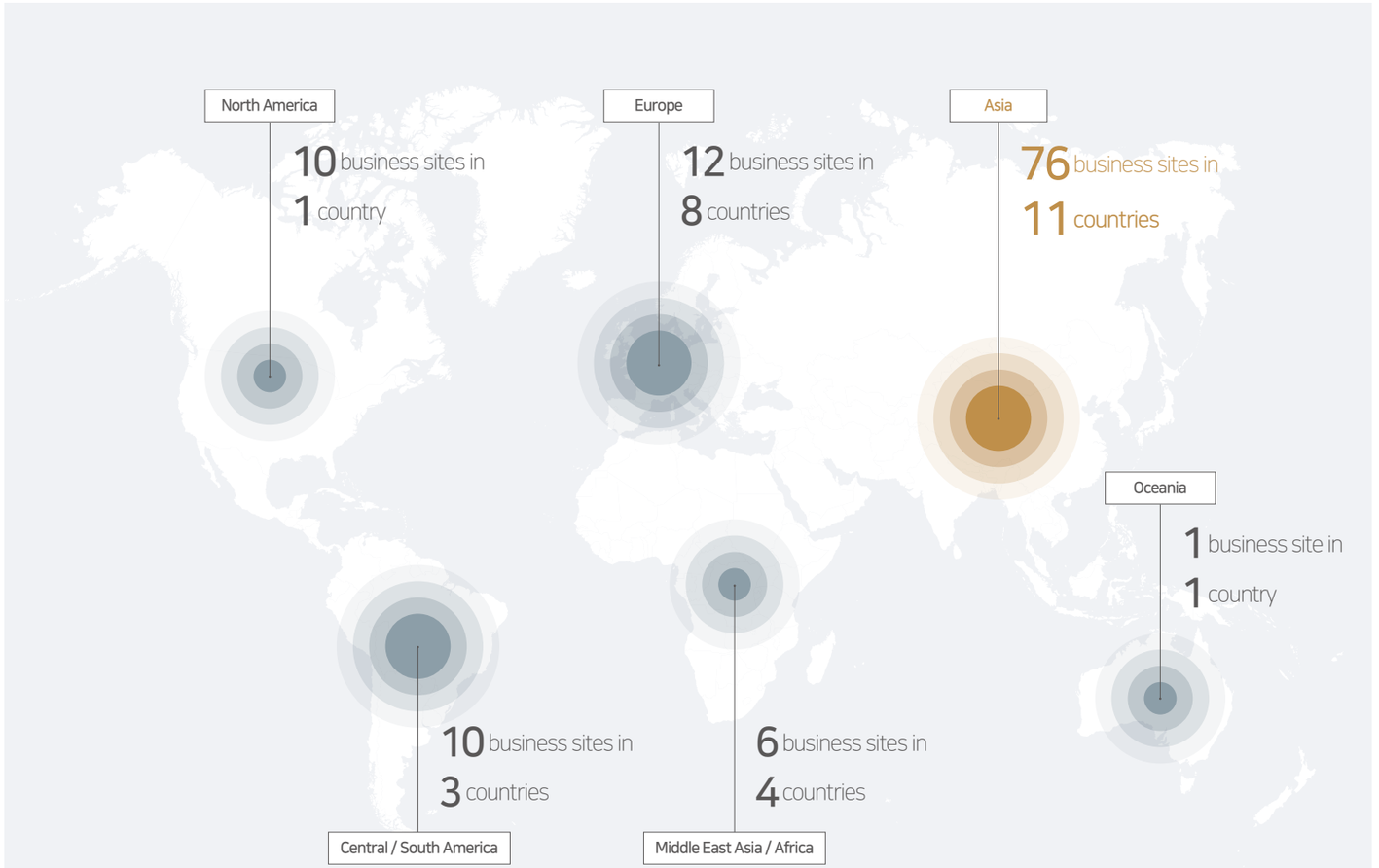
ESG Management Performance

KCGS rating	CDP Climate Change Score	Certified as a family-friendly company	CSR in the community
B+	B		

Hyosung Corporation

Global Network

To achieve successful overseas expansion and growth, Hyosung has been expanding its production sites worldwide so that it can respond to demand in overseas markets in a timely and stable manner. By deeply understanding the characteristics of different markets, we aim to produce and provide reliable and sought-after products for the entire global market. Our far-reaching global production and sales network spans 115 business sites in 28 countries, enabling us to provide unique products and services. We have entered large-scale, high-potential markets such as Vietnam, India, China, Brazil, and Türkiye(Turkey), and have made significant investments in equipment and facilities with localization strategies. This has solidified and expanded our position in the global arena. In 2022, we made large-scale investments in establishing corporations and constructing plants in China, Vietnam, India, and Türkiye(Turkey). We also focused on developing and mass-producing core products for the global market and strategically developing state-of-the-art businesses such as carbon fiber. Hyosung will continue to establish a strategic global network for continuous overseas business development and the strengthening of global competitiveness.



Production Network

Plants	Production entities
18	34

R&D and Marketing Network

R&D centers	Trading entities / branch	Trading offices / sales offices
4	33	30

Asia

- Korea
- China
- Japan
- Vietnam
- India
- Bangladesh
- Indonesia
- Malaysia
- Singapore
- Thailand
- Taiwan

Europe

- UK
- Germany
- Italy
- Luxemburg
- Romania
- Russia
- Spain
- Türkiye(Turkey)

North America

- US

Central / South America

- Mexico
- Brazil
- Panama

Middle East Asia / Africa

- South Africa
- Saudi Arabia
- Qatar
- United Arab Emirates

Oceania

- Australia

Hyosung TNC

Driver of a Better World as Global Leading Player in the Textile Industry

Hyosung TNC's key businesses are trading and textiles, with roots in the textile industry for over 50 years. The company has supplied top-quality products that have earned the trust of customers worldwide, providing unique value. In the textile business, Hyosung TNC has developed its own spandex technology and continuously innovated. The company has established a production network across Korea, China, Vietnam, Türkiye(Turkey), Brazil, and India, and has carried out global marketing campaigns. These efforts have put Hyosung TNC on track to become the world's leading producer of spandex. In addition to its textile and trading businesses, Hyosung TNC has focused on developing low environmental impact products in its three chemical fibers: spandex, polyester, and nylon. This has helped to minimize the company's impact on the environment and contribute to a more sustainable textile industry. In its Trading Division, Hyosung TNC provides top-notch services based on market data and experiences accumulated from its extensive network of 30 overseas branches. The company operates in various industries, including logistics and distribution, with a focus on steel and chemicals. In response to growing demand for green businesses, efforts are in full swing to reinforce its wind power steel business and expand its biofuel trading.

* Ranked 1st in spandex production in the global market since 2012 (source: Global Spandex Market Report 2020)

General Status

Company name	Hyosung TNC Corporation
Date of establishment	June 4, 2018
CEO	Chi-Hyung Kim
HQ location	119 Mapo-daero, Mapo-gu, Seoul, Republic of Korea (Gongdeok-dong)
Key business areas	Textiles, trade, etc.

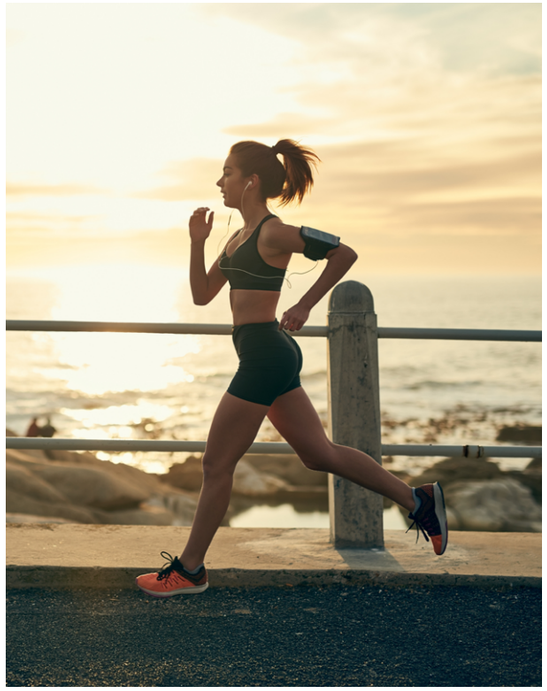
No. of employees → 1,435

Financial Performance

Sales → KRW 8.88 trillion

Operating profit → KRW 123.6 billion

* On a consolidated basis



ESG Management Performance

한국ESG기준원	CDP	MSCI	SUSTAINALYTICS	
A	B	BBB	Low Risk	
KCGS ESG Rating	CDP Climate Change Score	ESG Rating	ESG Risk Rating	Family-Friendly Company Certification CSR in the community

Business Divisions

Textile Division			Trade Division and Others		
Spandex PU	Nylon Polyester Yarn PU	Fabric Dyeing	Steel and Metal Product PU I, II	Chemical Product PU	Sebitseom Business Division
• Global No.1 production capacity • Global No.1 spandex brand, 'Creora' • Selected as a 'World Best Product' by the Korean government • Launched regen Bio-Based Spandex	• No.1 nylon yarn in Korea • Developed microfiber for the first time in the world • Developed the Korea's first PET-recycled yarn, 'regen' • Selected as a 'World Best Product' (m2, Aerocool, Askin)	• Supply various textile materials, including high-performance clothing, protective clothing, and cleaners • Finestar®, a cleaning product made from microfiber • Nylon two-way spandex – 700,000 yards per month • Dyeing capacity of 2.5 million yards per month	• Lead the trade of steel products through the reinforced partnerships with customers, exporters, and importers around the world	• Play a leading role as a chemical company in providing best-in-class services that satisfy customers	• Sebitseom, a water culture complex on the Han River

Hyosung TNC

Spandex PU

CREORA Spandex, Global Leader in Spandex Market Share

Hyosung TNC's advanced manufacturing technologies, R&D capabilities, and global marketing campaigns have established its spandex brand, 'CREORA Spandex,' as the global leader in terms of production capacity. The company has expanded its global production system to include 9 production hubs in 5 countries, including China, Türkiye(Turkey), Brazil, India, and Vietnam. Hyosung TNC offers a wide range of unique products and services that cater to the specific needs of its customers.

CREORA Spandex

Low Environmental impact Spandex

In response to the growing demand for eco-friendly materials, Hyosung TNC has developed and marketed regen Bio-Based Spandex and regen Spandex, which are made from by-products. These two products have undergone independent 3rd-party Life Cycle Assessments (LCA) and have been verified for their ability to mitigate carbon emissions.

Low Environmental impact product, regen Bio-Based Spandex

Nylon / Polyester PU

Leading Global Nylon and Polyester Yarn Maker

Hyosung TNC has developed extensive manufacturing expertise through its 50 years of experience and has implemented a flawless quality management system based on its smart factory. This enables the company to produce a wide range of nylon and polyester yarn with diverse functions palatable to the needs of customers around the world.

Polyester yarn

regen Polyester, Pet-recycled Yarn

Hyosung TNC is committed to minimizing its environmental impact and promoting sustainable lifestyles through its products. These include high-performance and recycled nylon products, such as 'regen Nylon,' which is used for luxury lingerie and sportswear items, and 'regen Polyester,' an polyester yarn made from post-consumer PET bottles.

Low Environmental impact product, regen Polyester

Fabric Dyeing

Develop Fabric Made from Yarn Provided by Hyosung

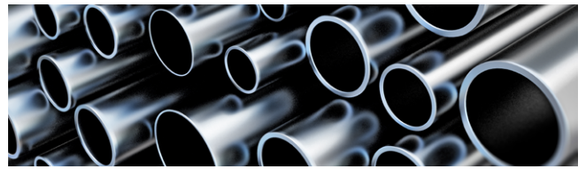
Hyosung TNC has developed a range of fabrics using yarns created by Hyosung. The company supplies functional fabrics that can be used for a variety of purposes, including general clothing, high-performance wear, protective clothing, and IT materials.

Hyosung TNC's fabric

Steel and Metal Product PU I, II, Chemical Product PU, and Sebitseom Business Division

Global Trading of Steel and Chemical Products, and Sebitseom Project

Hyosung TNC is involved in the export and import of steel products, raw materials, and steel processing facilities in the steel sector. In the chemical sector, the company exports and imports petrochemicals, precision chemical products, and raw materials. Additionally, Hyosung TNC operates Sebitseom, the world's first floating building complex, located in Banpo Hangang Park. This building serves as a cultural complex that offers a variety of activities and experiences for visitors to enjoy.



Steel materials

Hyosung Heavy Industries

Leading Eco-friendly Growth through Future Power Grid System and Green Construction

Hyosung Heavy Industries has the world's best technological capabilities in the field of heavy electric machinery, which is the core of industrial energy. The company is particularly recognized for its exceptional product quality in the field of power facilities, including transformers and switchgears, as well as in the rotating machinery sector, such as motors and gears. Additionally, Hyosung Heavy Industries is shaping and driving a low-carbon and green future as a supplier of new and renewable power generation systems, such as hydrogen fueling stations and technologies essential to future power grid systems, including energy storage systems (ESS), static synchronous compensators (STATCOM), and DC transmission systems (HVDC / MVDC / LVDC). Based on our many years of experience and trust, we are actively participating in various construction projects, including housing developments, redevelopment and rebuilding projects, business and commercial facilities, civil engineering and the environment, SOCs, and data centers. Through continuous R&D activities and investments, Hyosung Heavy Industries is practicing green management to create a world where humans and nature can coexist and thrive.

General Status

Company name	Hyosung Heavy Industries Corporation
Date of establishment	June 4, 2018
CEO	Dong-Gi Yang / Takeshi Yokota
HQ location	119 Mapo-daero, Mapo-gu, Seoul, Republic of Korea (Gongdeok-dong)
Key business areas	Power & Industrial Systems , construction, etc.

No. of employees → 3,131

Financial Performance

Sales → KRW 3.51 trillion

Operating profit → KRW 143.2 billion

* On a consolidated basis

ESG Management Performance

KCGS ESG Rating	CDP Climate Change Score	Shared Growth Index Evaluation	Certified as a family-friendly company	CSR in the community
A	A-	Excellent		

Business Divisions

Power & Industrial Systems Division			Construction Division
Power Systems PU	**Industrial Machinery PU**	**Wind Energy Business Division**	**Construction PU**
• Established a global power infrastructure based on production hubs located in various countries, including China, India, and the US	• No. 1 motor manufacturer in Korea in 2022 • Operating a system engineering business through a wide line-up of industrial products	• Developed Korea's first 750kW / 2MW / 5.5MW wind power system • Offer total solutions for wind power, such as wind power core components, wind turbines, EPC, O&M, etc.	• Introduced a villa-type residential building for the first time in Korea • Participate in various construction projects, such as apartments and office buildings

Hyosung Heavy Industries

Power Systems PU

Developing Low Environmental Impact Electric Equipment

Hyosung Heavy Industries specializes in the production of electric power devices, such as transformers and switchgears, which play a vital role in the power transmission and distribution network. It is committed to developing and providing low environmental impact products that use low environmental impact material as a substitute for the insulation materials used in electric equipment.

Low environmental impact oil-insulated transformers
Replacing mineral oil with insulating ester oil (synthetic oil, vegetable oil)
Low environmental impact Gas Insulated Switchgear
Replacing SF_6 gas with CO_2/ fluoronitrile mixed gas

Market Expansion of Electric Equipment

Leveraging its long-standing know-how in the domestic market, Hyosung Heavy Industries is making inroads into global overseas markets such as in Europe, America, and the Middle East, which require advanced technology and rigorous quality assurance.

Europe	
UK	Supplied 400kV low environmental impact transformers (in 2023), continued to receive orders for low environmental impact transformers, such as 400kV, 275kV, and 33kV ones (in 2023)
Asia	
Singapore	Supplied 300kV underground substation (highest voltage and largest scale in Asia except China)
Australia	Supplied 330kV phase shifting transformers (PST)
North America	
Received an order for 150MVAR STATCOM	
Korea	
Supplied MV/LVDC (Medium/Low Voltage Direct Current) systems	
Supplied variable reactors such as 345kV variable reactors for KEPCO	
Received an order for 170kV eco-friendly Gas Insulated Switchgear from KEPCO (in 2023)	
Received an order for 500MVAR STATCOM at Shin-taebaek substation	

Static Synchronous Compensation (STATCOM) by Hyosung Heavy Industries

Expanded Supply of Energy Storage System (ESS)

An Energy Storage System (ESS) is a device that stores electric power during periods of low demand and releases it when needed. Hyosung Heavy Industries provides ESS solutions for various applications. In 2022, the company entered the European market by delivering a 50 MW-class large capacity ESS in collaboration with Downing, the UK's leading power investment developer, to Southampton, UK. Moreover, the company is expanding its supply to other regions of the world, such as the US and South Africa.

Hyosung Heavy Industries' Energy Storage System (ESS)

Industrial Machinery PU

Expanding Hydrogen Fueling Stations and Developing Supply Technology

As the hydrogen economy emerges, Hyosung Heavy Industries is supplying gas hydrogen fueling systems in line with the expansion of hydrogen fuel cell vehicles and commercial hydrogen vehicles. Furthermore, it has won a public contest to build and operate six liquid hydrogen fueling stations. The company aims to pursue additional business opportunities by signing agreements with local governments and local transportation companies for liquid hydrogen infrastructure development. The company also intends to produce green hydrogen from renewable energy sources in Jeollanam-do region. To this end, it will construct two liquefied hydrogen plants with an annual production capacity of 10,000 tons each and install liquid hydrogen fueling stations in nine major areas of Jeollanam-do for green hydrogen storage and utilization.

Aerial View of a Liquid Hydrogen Station Installed by Hyosung Heavy Industries

Customization and Green Products

Hyosung Heavy Industries is a leading manufacturer of rotating machinery, such as motors, generators, and switchgears, as well as industrial machinery, such as chemical equipment and gas charging stations. The company has also developed a Shaft Generator Motor system, an eco-friendly technology-equipped hybrid propelling device in partnership with Daewoo Shipbuilding & Marine Engineering, for the first time in Korea and is expanding orders. As the eco-friendly, high-efficiency ship market expands, the company intends to obtain national project orders for 2MW permanent magnet propelling motors and small capacity permanent magnet Shaft Generator Motor systems and gearboxes for fishing boats. The company will also lay the foundation to make inroads into the future electric propelling market.

Construction PU

Stable and Profitable Project Orders

Hyosung Heavy Industries leverages its financial stability and brand value to focus on highly profitable housing / construction / redevelopment private sector projects. It also enhances its product standards by incorporating customer feedback through active VOC activities, such as exterior design and floor plan development. Moreover, it has expanded its presence in the public sector by participating as a preferred bidder for national key industries, such as the GTX-C business, in 2021.

Strengthening New Growth Engines

Hyosung Heavy Industries used to participate as a construction company for simple subcontracting projects, but from 2023, it aims to launch new projects by acquiring the ability to promote its own development projects. It also plans to enter the housing business and logistics center business in Vietnam, where Hyosung have already established a market presence.

Jinsa-ri Hyosung Harrington Place

Hyosung Advanced Materials

Making Customers' Safety and Happiness the First Priority by Delivering the Best Advanced Materials

Hyosung Advanced Materials produces high-strength industrial yarn, fabric, and steel wires that have various applications in industries such as automotive, civil engineering / construction, agriculture, and military products. Hyosung Advanced Materials is a global leader in the production of automobile seatbelt yarn and airbag fabrics in addition to tire cords. In order to sustain and enhance its competitiveness, the company is committed to the development and commercialization of new materials that promote sustainable growth.

General Information

Company name	Hyosung Advanced Materials Corporation
Date of establishment	June 4, 2018
CEO	Yongsoo Cho
HQ location	119 Mapo-daero, Mapo-gu, Seoul, Republic of Korea (Gongdeok-dong)
Key business areas	High-strength industrial yarn and fabrics, steel wire materials, etc.

No. of employees
Korea 951
Overseas 10,944

Financial Performance

Sales → KRW 3.84 trillion

Operating profit → KRW 315.1 billion

* On a consolidated basis

ESG Management Performance

한국ESG기준원	ecovadis	CDP	MSCI	SUSTAINALYTICS
A	2022 ecovadis GOLD	B	BBB	Low Risk
KCGS ESG Rating	EcoVadis rating	CDP Climate Change Score	MSCI rating	15.1

Certified as a family-friendly company

CSR in the Community

Business Divisions

Tire & Industrial Reinforcements PU

- Production of reinforcing materials for tires, including tire cords, steel cords, and bead wires
- No. 1 global market share for polyester tire cords
- Supplying 51% of car tires in the world as of the end of 2022

Technical Yarn PU

- Production of industrial high-strength yarn used extensively in construction, civil engineering, automotive, transportation, and industrial sites
- No.1 global market share for seat belt yarn as of the end of 2022

Interior PU

- Production of carpet yarn, and automotive and commercial carpets
- Asia's only carpet manufacturer equipped with its own production facilities for the entire manufacturing process, from raw materials to finished products
- No.1 market share in Korea for roll / tile carpets as of the end of 2022

Carbon Aramid PU

- Production of high-strength aramid fiber (ALKEX®), which was developed in-house with our own technology and commercialized in 2009
- Production of high-strength polyelastic carbon fiber (TANSOME®), which was developed with our own technology for the first time in Korea

Global Safety Textiles (GST)

- Production of airbag fabrics, airbag cushions, and One-Piece Woven (OPW)
- World's largest airbag fabric manufacturer, equipped with all processes required to produce air bag fabrics and cushions
- Close partnership with leading global Tier 1 companies

Hyosung Advanced Materials

Tire Reinforcements PU

Korea's First, World's No. 1 in Tire Reinforcements

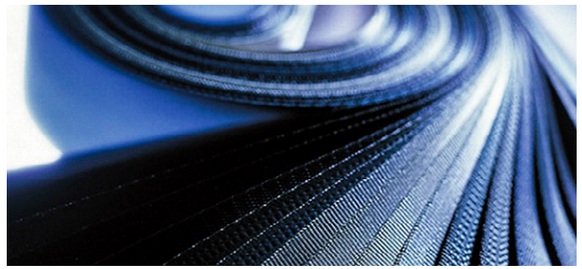
Hyosung Advanced Materials pioneered the production of nylon tire cords in Korea in 1968, followed by successfully producing polyester tire cords, steel cords, and bead wires. The company developed a system for integrated production and supply of tire reinforcements, becoming a global company. Especially, polyester tire cords are highly regarded for their optimized quality and technological excellence that enhance customer value, which maintains the No.1 in market share. Hyosung Advanced Materials has devised and executed a roadmap for shifting to eco-friendly materials in accordance with the market and customer needs.

Tire cords

Technical Yarn PU

Versatile Industrial Yarn Production

Hyosung Advanced Materials' industrial nylon 66 and polyester yarns are used for seat belts, airbags, and sewing threads. The company produces industrial yarns in China and Vietnam for various purposes such as construction and civil engineering, focusing on seat belt yarn for automobiles, which is the world's No.1. It expects to achieve continuous growth through consistent technological innovation and investment.



Seatbelt yarn

Carbon Aramid PU

High-performance New Material, TANSOME®

Hyosung Advanced Materials' carbon fiber TANSOME® helps mitigate carbon emissions by improving fuel efficiency due to reduced weight of vehicles. Thanks to its high-strength and stability, TANSOME is used in various industries. Especially, as it is applied to CNG and hydrogen high-pressure cylinders in the green energy industry, demand for it is expected to steadily increase. Hyosung Advanced Materials has increased its annual production capacity to 9,000 tons through three successive expansions from 2020 to April 2023, sustaining its growth.

Carbon fiber, TANSOME®

Interior PU

Swan Carpet, Equipped with Complete Production Facilities from Yarn to Finished Products

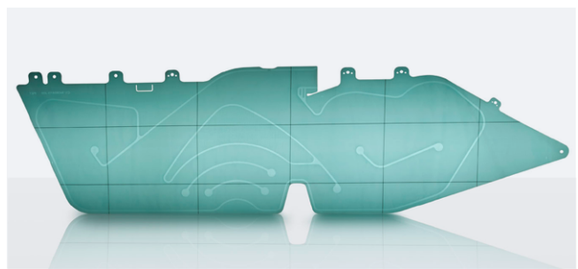
Hyosung Advanced Materials is the only carpet specialist in Asia that has its own production facilities encompassing from yarn to finished products. Its commercial carpets have the best reputation in Korea and its automotive carpets have a strong presence in the global market. Leveraging its technological expertise of mass-producing polyester tufted carpets for the first time in the world, Hyosung Advanced Materials is continuing its successful journey by penetrating the US and Chinese automobile markets.

Automotive carpets

Global Safety Textiles

World's Largest Airbag Fabric Manufacturer

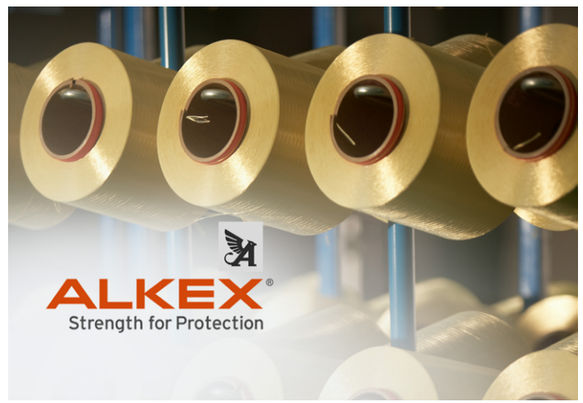
Hyosung Advanced Materials maintains close cooperation with the world's major automobile manufacturers and produces fabrics for airbags, cushions, and One Piece Woven (OPW). As of the end of 2022, the company had the largest market share in the global airbag fabric market. It has the entire process required for producing airbag fabric and cushions, which enables it to supply a wide range of products that can meet the needs of each client. With technology accumulated over a long period of time, it accurately identifies customer needs and provides airbags with the best quality and technology.



One Piece Woven (OPW)

Super Fiber, ALKEX®

Hyosung Advanced Materials successfully commercialized aramid fiber, ALKEX®, which was developed with its own technology in 2003. Since then, the company has extended its application to bulletproof, automobile rubber reinforcement, and industrial use, offering various differentiated products. Hyosung Advanced Materials is continuously striving to increase the value in use of ALKEX by providing solutions to meet the needs of various customers.



Aramid fiber, ALKEX®

Hyosung Chemical

Delivering Convenience in Daily Lives through Hyosung Chemical's Technologies

Hyosung Chemical offers a variety of products, including polypropylene (PP), high-purity terephthalic acid (TPA), industrial / packaging / optical PET film and nylon film, and NF3 and TAC film used in the advanced semiconductor and display industries. Polyketone, which was successfully commercialized for the first time in the world, is a new eco-friendly ENPLA material, and is attracting attention as a key material that will lead the global components / parts industry.

General Information

Company name	Hyosung Chemical Corporation
Date of establishment	June 4, 2018
CEO	Kun-Jong Lee
HQ location	235, Banpo-daero, Seocho-gu, Seoul, Republic of Korea (Banpo-dong)
Key business areas	Chemicals, etc.

No. of employees → 1,272

Financial Performance

Sales → KRW 2.87 trillion

Operating profit → KRW (336.7) billion

* On a consolidated basis

ESG Management Performance

A	B			
KCGS ESG Rating	CDP Climate Change Score	Certified as a family-friendly company	CSR in the Community	Member of the Korean Red Cross Honors Club

Business Divisions

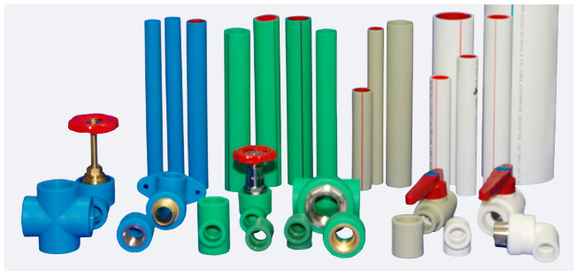
Chemical Division				Film Division	
PP/DH PU	TPA PU	Neochem PU	POK Business Division	Film PU	Optical Film PU
• Globally competitive polypropylene, TOPILENE • Currently in operation with the annual capacity of 0.6 million tons since Hyosung Vina Chemicals was established	• TPA (Tere-Phthalic Acid) used as a main raw material for polyester fiber / film, tire cords, and PET bottles	• Developed NF3 used in high-tech industries, such as semiconductors, displays, solar cells, and developed D2 capitalizing on its own proprietary technology • Possessing various specialty gas portfolios (NF_3, 20%F_2/N_2, D_2, Cl_2, HCl, N_2O, etc.)	• POKETONE™, a polyketone brand based on a new, eco-friendly ENPLA material • Harmless to human body , exhibiting abrasion resistance, chemical resistance, fuel resistance, and gas barrier properties	• PET / nylon film brand, Filmore® widely used for packaging, and industrial and optical materials	• Producing TAC acryl films that protect the PVA film used in TV, monitors, and smartphones • No. 3 in the global market* for TAC (TAC: Tri-Acetyl Cellulose) * Source: Japanese firm, Yano Economic Research Institute's 2023 Annual Report on the Polarizer and Subfilm Market

Hyosung Chemical

PP/DH PU

Product Line-up Focusing on Specialized Products and Market Expansion

Hyosung Chemical operates its polypropylene product line with a focus on unique and specialized products based on self-produced propylene, and strives to increase customer value by supplying products for a variety of applications, including pipes and medical packaging materials. The company continues to identify new market demands for PPR pipes and is developing new markets and clients through web seminars and local seminars in India.

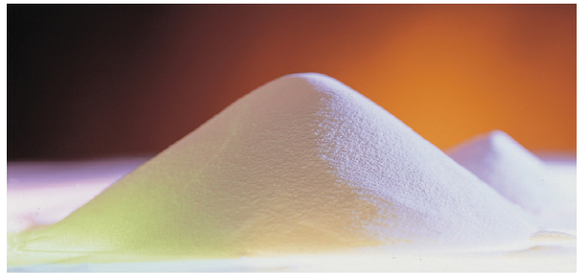


PPR pipe

TPA PU

Production of PTA, High-performance Polyester Textile Raw Material

Purified Terephthalic Acid (PTA) is used as the main raw material in high-performance polyester textiles. Its demand is increasing not only in the field of textiles, but also in applications such as packaging films, PET bottles, packaging materials for beer and milk, tire cords, paint, and glue. Hyosung Chemical is also striving to conserve the environment by developing clean process technologies, operating high-end pollution protection facilities, and carrying out activities to reduce environmental pollutants.



TPA

Film PU

Development of Films for Various Uses

Using Polyethylene Terephthalate (PET) and NYLON (PolyAmide6) materials, Hyosung Chemical manufactures high quality products optimized for each application, ranging from packaging and pharmaceutical films that are widely used in daily lives to industrial optical films used in mobile products, windows, TVs, and tablets.

Applications: 1. Food packaging 2. Pharmaceuticals 3. Windows 4. Optics

Neochem PU

Development of Special Industrial Gas in Response to Customers' Needs

Hyosung Chemical produces NF_3, as well as 20% F_2/N_2, which are special gases used in the manufacturing process of semiconductors and displays. The company is expanding its market presence through the commercialization of deuterium (D_2) gas and other high-purity gas products (Cl_2, HCl, N_2O), developed using its proprietary technology. It is committed to continuously diversifying its product portfolio.

Nitrogen trifluoride (NF_3)

POK Business Division

Production of the New Material ENPLA POKETONE

POKETONE is a material that is harmless to the human body and has no harmful substances. It has acquired FDA certification and green certification, boasting excellent performance in terms of chemical resistance, impact resistance, and abrasion resistance. It is widely used in the making of food-contacting conveyors, packaging materials for cosmetic products, and toys for babies. Further, its application is being expanded to automotive connectors, electric/electronic gears, and crude oil mining pipes.

POKETONE

Optical Film PU

Development of TAC Film for Polarizer and Application in Next-generation Display Products

The Optical Film PU is the only manufacturer in Korea to produce TAC (Tri-Acetyl Cellulose) film that protects the PVA polarizing film inside LCD polarizers, which are fitted into TVs, monitors, and laptops. The products, which adhere to high quality standards, are utilized in coating and OLED applications. In an active response to the rapidly evolving display market, the company has promptly entered and expanded into the vehicle display sector, a new market.

TAC Film

ESG Management Strategy

『 Reply to Every Generation's Future, RE:GEN 』

Our ESG Brand, RE:GEN

Hyosung considers ESG to be the foremost criterion for the Group's management and the future success of our operating companies. In 2022, we launched our new ESG brand, "RE:GEN-our commitment for the future of every generation", with the goal of encouraging greater participation and promoting the spread of ESG. RE:GEN represents our unwavering determination to address the global challenges facing the current generation and to develop ESG technologies and solutions that will ensure a safe and prosperous world for future generations to enjoy.

Our commitment to ESG extends beyond mere declarations and good faith practices. We are dedicated to making tangible efforts to expand the consensus on authenticity and to build an industrial ecosystem that fosters a virtuous cycle centered on ESG. By leveraging our accumulated business and technological competencies, we strive to make a meaningful impact. Our ESG brand, RE:GEN, embodies our reply to the sustainable future of every generation, both today and tomorrow.

RE:GEN's ESG Identity

'RE:GEN' represents our firm will in developing ESG technologies and solutions that will ensure a safer and more prosperous world for both the current generation and future generations to enjoy.

- **Team Up** (for circular economy) ← Collaboration of all supply chain stakeholders from raw material suppliers to end users → **Circular Economy**
- **Act Together** (toward Net-Zero) ← Value chain innovation throughout production and consumption from resource saving to energy efficiency → **Carbon Neutrality**
- **Best Efforts** (to realize the next renewable energy) ← Efforts to develop hydrogen and renewable energy sources as alternatives to fossil fuels → **New Energy**
- **Design Smart** (to reduce waste & risks) ← Building a smart energy network from product materials to part operation systems → **Energy Redesign**

RE:GEN
Reply to Every Generation's Future

Five Themes of RE:GEN

RE:GEN RECYCLE
Plastic is endangering not only the terrestrial ecosystem, but also the marine ecosystem today. Hyosung and our operating companies are striving to achieve Zero-Waste by building a circular economy that recycles plastic waste discarded on land and in the sea.

RE:GEN UPCYCLE
Creating new functions and adding values to meet the industrial demands of more diverse fields is another pillar of Hyosung's circular economy. The effort goes beyond recycling discarded plastics. We do not limit ourselves to general recycling, which will inevitably face limited demand, but we extend the life cycle of plastics by adding new functions.

RE:GEN ZERO
All of Hyosung's operating companies minimize the carbon generated in the production process and the manufactured products, while curbing the carbon emissions that can be produced in the course of business activities. Finally, our operating companies have adopted a common technical agenda targeting Net-Zero.

RE:GEN NEW ENERGY
Civilization can no longer thrive if there are no energy sources for human economic activities. Therefore, our aim is to establish a value chain that comprises the whole spectrum of materials, components, operation technologies, and distribution systems for the commercialization and optimization of hydrogen and renewable energy, as alternatives to fossil energy.

RE:GEN SAVE
Avoiding all hazards before they occur is the best option. Moreover, we should conserve the resources we use. All of Hyosung's operating companies adhere to a principle of minimizing hazardous factors as well as the consumption of energy and resources throughout the entire process of production and operation.

ESG Management Strategy

『 Reply to Every Generation's Future, RE:GEN 』

RE:GEN's ESG Ecosystem Created Together

Based on the ESG brand RE:GEN, Hyosung is formulating and developing plans to disseminate the will of each operating company and external partners. With an aim to make it as a practical ESG brand, we will enhance marketing and communication activities so that more products can incorporate ESG values, embedding them in the daily lives of more customers and end users.
Supporting the purpose of the Group's ESG brand, RE:GEN, Hyosung's major operating companies established each company's ESG brand vision and goal, the essence, which is customized to each company's business characteristics based on RE:GEN. Each ESG brand is also aligned with the brand vision of each operating company so that ESG is at the heart of the business. By doing this, the business activities of operating companies can incorporate ESG activities. Hyosung avoids a superficial approach to ESG, and through branding, we are making efforts to disseminate RE:GEN throughout society more widely with partners who share the same vision. This is a framework in which all operating companies implement in-depth ESG in their business by each theme. Through this, Hyosung's ESG brand 'RE:GEN' aims to become a new growth model for humanity by advancing technology development and product expansion to build a more eco-friendly and sustainable world, and simultaneously facilitating the spread of goodwill both internally and externally. This will soon become a shortcut to the realization of the 'ESG ecosystem.'

RE:GEN Brands by Operating Company

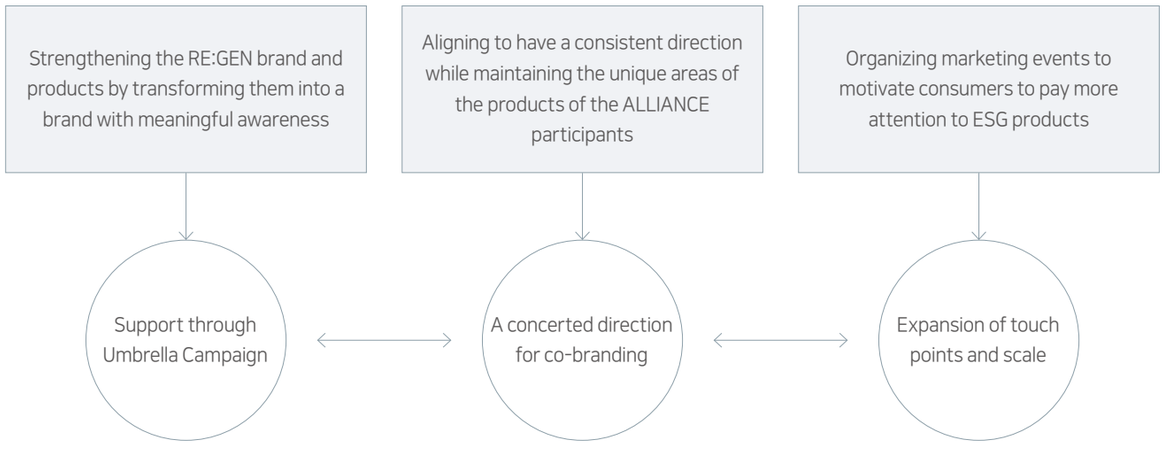
	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	Hyosung TNS
Major operating company	RE:GEN ECO-LIFESTYLE	RE:GEN NEW ENERGY	RE:GEN FUTURE MATERIALS	RE:GEN NEXT CHEMISTRY	RE:GEN SMART IT
Corporate brand slogan	Innovation for Better Lifestyle & Tomorrow	Total Energy Solution Leader for Tomorrow	Discover New Safety & New Comfort through Future Materials	The Next Chemistry	Global Human Experience Maker
ESG brand of each company	**RE:GEN ECO LIFESTYLE**	**RE:GEN NEW ENERGY**	**RE:GEN FUTURE MATERIALS**	**RE:GEN NEXT CHEMISTRY**	**RE:GEN SMART IT**

ESG Management Strategy

『 Reply to Every Generation's Future, RE:GEN 』

RE:GEN ALLIANCE "Companion for All Generations"

RE:GEN ALLIANCE is a collaborative initiative that aims to promote the social adoption of ESG principles, enhance the ESG performance of various sectors, and create mutually beneficial business outcomes with eco-friendly SMEs who share Hyosung's vision and values.
RE:GEN ALLIANCE supports the growth of its participating companies by endorsing them as a trustworthy brand. The participating companies aspire to make ESG a criterion for future consumption by offering their products and solutions that embody ESG values as alternatives for end users. Hyosung aims to invest in RE:GEN as a pragmatic platform for the early establishment of the Alliance and expansion of the customer base by increasing the credibility, sincerity, and attractiveness of RE:GEN. Participating companies play a role in disseminating more social values. Consequently, it is anticipated that the scale of the Alliance will further enlarge through mutual cooperation, and social performance based on ESG will augment throughout the value chain.
By 2023, we aim to establish an alliance with about 15 SMEs that produce outstanding eco-friendly products, such as HARLIE K and 119REO, and continue to enlarge it. Through RE:GEN ALLIANCE, we will endeavor to disseminate more ESG values built on the value of 'Companion for All Generations,' working to extend the ESG ecosystem to all corners of society.



RE:GEN GUARDIAN "Companion for All Species"

Hyosung recognizes the significance of conserving the Earth's ecosystem. Therefore, we have initiated more specific and intensive projects for restoring and protecting biodiversity and ecosystems, such as 'marine forest,' since 2022. We are aware that biodiversity can be jeopardized by the escalation of human activities, and that this can pose a risk to the survival of humanity as well.
The motivation for creating RE:GEN GUARDIAN is that these activities transcend a simple biodiversity program, and aspire to the level of 'restoring and protecting the rights of all species and the ecosystems' as the group's philosophy, and to establish them as ongoing Group activities. Hyosung considers RE:GEN GUARDIAN as a symbol of the value of 'Companion for All Species' and endeavors to restore even a small part of the global environment, covering the sea, land, rivers, and air quality, to a better condition. We embrace all generations of humanity in these efforts.

Current Initiatives for Safeguarding the Ecosystem
Hyosung and its major subsidiaries' current initiatives for ecosystem preservation, including biodiversity conservation

Company-wide activities
'Online education on climate change and biodiversity'
'One Company, One River cleanup activity'

Advanced materials
'Jeonju pogostemon conservation project'
'Adopt-A-Beach (Yongyu Beach) protection activities'

Advanced materials + Chemicals
'Plogging alongside Mapo Han River'

Chemicals
'Behavioral enrichment'

Enhanced and Focused Activities for Biodiversity Conservation, Such as Seagrass Marine Forest Preservation
The comprehensive biodiversity and ecosystem restoration and preservation project, starting from Seagrass forest management in 2022

Hyosung Corporation + Hyosung TNC + Hyosung Heavy Industries
Seagrass marine forest management project: Habitat protection for marine protected organisms
November 2022

Company-wide activities
Seagrass marine forest restoration project: Restoration for marine protected organisms
2023

Hyosung Heavy Industries
Wetland conservation activities: Wetland cleanup activities and creation of rest areas
2023

ESG Highlights

E Environmental

Support for TCFD Declaration
- Hyosung and its operating companies announced their support for TCFD in 2022
- Hyosung Advanced Materials published its first climate change response report

Expansion of Biodiversity Conservation Activities
- Preservation activities for 'Seagrass' marine forest, a marine protected plant
- Restoration project of 'Jeonju pogostemon,' an endangered species
- Behavioral enrichment activities

Global Pioneering of regen Bio-Based Spandex Commercialization and Mass-production
- Hyosung TNC became the first company in the world to commercialize and mass-produce regen Bio-Based Spandex, which is made by processing natural raw materials extracted from corn
- Obtained SGS ECO PRODUCT certification

Carbon Management Sector Honors at CDP Awards
- Major operating companies of Hyosung received the awards for 3 consecutive years
  - Hyosung Heavy Industries awarded in 2022
  - Hyosung TNC awarded in 2021
  - Hyosung Corporation, Hyosung Advanced Materials awarded in 2020

Expansion of ISO 14001, ISO 50001 and Eco-friendly Certifications
- Hyosung TNC obtained Ocean Bound Plastic and OEKO-TEX STANDARD 100 certification
- Hyosung Advanced Materials acquired ISO 14001 certification for 100% of its global business sites and expanded the acquisition of ISO 50001 certification
- Hyosung Advanced Materials obtained ISCC PLUS certification for the first time in the tire cord industry
- Hyosung Chemical acquired GRS and RCS certifications

S Social

Contribution to Shared Growth Fund
- Supported SMEs(Small&Medium-sized Enterprises) and rural communities with KRW 10 billion investment in the Shared Growth Fund of KOFCA (Korea Foundation for Cooperation of Large&Small Business, Rural Affairs)

Enhancing Safety at Business Sites and Suppliers
- Identified and implemented measures to improve all business sites through external safety consulting
- Hyosung Heavy Industries provided its suppliers with free consulting for the development of safety and health management system

Contribution to Local Communities
- Recognized as 'CSR in the community' for four consecutive years
- Hyosung Advanced Materials received a commendation from the Korean Ministry of Health and Welfare
- Supported local communities with products that incorporate Hyosung's eco-friendly technology (POKETONE tray, carbon fiber dryer, etc.)

Startup Open Innovation
- Hyosung TNC supported eco-friendly textile and smart textile startups with joint development of new products, equity investment, and others

Operation of Employee Mental Health Care Program
- Provided mental counseling, remote health and cultural support programs, and other services to enhance employee morale and alleviate stress due to heavy workload

G Governance

Enactment and Revision of ESG Management Policies Including Company-wide Code of Ethics
- Enacted and revised policies related to employee behavior standards, including the Code of Ethics, human rights management, and anti-corruption policies

Implementation of Anti-corruption and Ethical Management
- Hyosung joined the 'B.E.S.T. Forum CEO Pledging Ceremony' for four consecutive years
- Hyosung Advanced Materials and Hyosung Chemical took part in the BIS Anti-Corruption Pledge Ceremony in 2022

Board Diversity and Expertise
- Appointed female external directors since 2017
- Consisted of experts in management, law, accounting / tax, environment, energy, culture, society, etc.

Enhancing Shareholder Communication
- Disclosed performances and held the Non-Deal Road Show (NDR) for institutional investors in Korea and Asia on a regular basis

Operation of the ESG Management Promotion Committee under the BoD
- Set ESG-related objectives and reinforced the ESG system, including risk management

FOCUS ISSUES

Climate Change Response

UN SDGS LINKAGE

Why so important?

Climate change is a pressing global issue that requires a collective response from all humanity as the world is witnessing the rapid and devastating impacts of climate change. The Korean government has recently enacted the 'Framework Act on Carbon Neutrality and Green Growth for Coping with Climate Crisis,' which seeks to increase the capacity of society and the environment to adapt to climate change and to facilitate a transition to a carbon-neutral economy. As the government policies on climate change exert more influence, it is essential to devise and implement a thorough response strategy.

Our Approach

As a global company that operates in industries that have a significant impact on climate change, such as textiles, chemicals, industrial materials, and heavy industry, Hyosung is committed to various initiatives throughout its management to reduce its GHG emissions. In this regard, all operating companies have adopted the carbon management system in accordance with the TCFD recommendations, participated in CDP, and disclosed their carbon information since 2021.

Our Achievement

Hyosung	GHG emissions reductions compared to 2018 level 9.2%
Hyosung TNC	GHG emissions reductions compared to 2018 level 26.8%
Hyosung Heavy Industries	GHG emissions reductions compared to 2018 level 30.2%
Hyosung Advanced Materials	Establishment of Scope 1, 2, 3 inventory for all global business sites
Hyosung Chemical	Reduction of 25,592 tons of GHG emissions annually by using waste incineration heat energy compared to the emissions levels using LNG

Governance for Climate Action

Hyosung Corporation has established the ESG Management Committee within the board of directors (BoD) to address climate change at the corporate level. The operating companies handle climate change issues through the ESG Management Promotion Committee and the R&D Committee, which are the highest decision-making bodies under the CEO. They report major agenda items to the BoD on a regular basis.

Company	Hyosung Corporation, Hyosung TNC, Hyosung Heavy Industries, Hyosung Chemical			Hyosung Advanced Materials			
Decision-making body	BoD (ESG Management Committee) Management and supervision of ESG management such as climate change ESG-related risk management			BoD			
	ESG Management Promotion Committee	R&D Committee		Sustainability Steering Committee	R&D Committee		
Working-level organizations and their roles	ESG Management Department	Green Management Team	Utility and Production Departments	Green Management Committee	Risk Management Committee	SCM Committee	Stakeholder Committee
	Strategy establishment and performance disclosure	Strategy promotion and execution management	Identification and execution of energy and GHG emissions reduction projects	Monitoring of execution progress regarding climate change strategies	Management of climate change risks and opportunities	Monitoring of supplier GHG emissions management and support	TCFD reporting and stakeholder communication

Key Agenda Items Discussed at ESG Management Promotion Committee in 2022

Category	Key Agenda Items
Hyosung Corporation	Sales of Certified Emission Reductions (CERs), development of a system for calculating product footprint, and resolution in favor of declaration of endorsement of TCFD and expansion of sustainability reporting scope (ESG data including GHG emissions emitted by its subsidiaries
Hyosung TNC	·System for calculating product footprint ·Consulting aimed at helping its suppliers sharpen their capabilities to manage energy consumption and GHG emissions ·Report on its GHG emissions reduction progress made at its domestic business sites, disclosure of its overseas business sites' environmental data, and expansion of its in-house campaign for regen, etc
Hyosung Heavy Industries	Declaration of its support for TCFD, GHG emissions data, environmental investment plan and performance, and report on activities to promote biodiversity
Hyosung Advanced Materials	Report on risks posed by climate change, and resolution for plans to set and submit SBT to the SBTi
Hyosung Chemical	Operation of a TFT for GHG emissions reduction and identification of measures to GHG emissions reduction, participation in CDP and declaration of its support for TCFD, responses to demand from its customers for carbon data disclosure, and consulting aimed at helping its suppliers sharpen their capabilities to manage energy consumption and GHG emissions

Board Functions

Our Board of Directors (BoD) and ESG Management Committee are responsible for deliberating on ESG-related policies, establishing related goals, managing risks, and developing investment and action plans. Our board includes outside directors from diverse backgrounds and with expertise in various fields, allowing for in-depth discussions and management of climate issues. For example, a former Minister of Environment served as a member of Hyosung Corporation's ESG Management Committee as a climate change and energy expert until March 2023. In April 2023, a former Minister of Trade, Industry, and Energy joined us as an outside director.

Top Management

The ESG Management Promotion Committee, under the supervision of the CEO, oversees not only the environmental, safety, and health aspects, but also the social and governance aspects of the company. It operates on a quarterly basis and selects major agenda items to be submitted or reported to the BoD. The R&D Committee is joined by the CEO and the management, and it operates on a semiannual basis to establish R&D strategies that reflect the opinions of climate change-related departments, such as sales, marketing, development, and research.

Working Organizations

The dedicated organization consists of the ESG Management Department under the CEO and the Green Management Team under the Strategy Division, and is responsible for establishing climate change strategies, managing implementation, and disclosing performance. Onsite utility and production departments are charged with reducing energy usage and GHG emissions.

Operating Companies

Hyosung has established dedicated organizations for ESG management and climate change in each operating company to address the global challenge of climate change.
Hyosung TNC, Hyosung Heavy Industries, and Hyosung Chemical have formed the ESG Management Promotion Committee under the leadership of the CEO, and they submit or report major agenda items from the committees to the BoD.
Hyosung Advanced Materials operates both the Sustainability Steering Committee and subcommittees for each sector to deliberate on climate change issues, and they present and report major agenda items to the BoD.

Climate Change Response

Climate Change Response Strategy

Climate change has a significant impact on the industry, causing substantial social and economic costs, such as raw material and supply chain risks, which translate into corporate financial risks. Against this backdrop, Hyosung has established a strategic system that enables proactive responses to climate change risks by identifying and evaluating risk and opportunity factors based on the climate risk classification system included in the TCFD recommendations. We have assessed the transition risks, physical risks, and opportunity factors that companies face due to climate change, and we have determined the financial impact of each factor on our business activities.

Transition Risks

Transition risks are the risks that arise from the shift to a low-carbon society, such as policy and regulation, market, technology, and reputation risks. We have estimated the financial impact that companies have to bear as a result of these risks, such as the costs incurred to achieve the low-carbon transition, the uncertainty in the market, and the expectations of stakeholders to response climate change.

Physical Risks

Physical risks are the risks that stem from the physical impacts of climate change. They are categorized into acute risks, such as heat waves, floods, and forest fires, and chronic risks, such as rising average temperatures and sea level rise. These risks pose a high threat of direct damage to business sites, such as the loss of production facilities and the disruption of operations, due to the increase in extreme weather events and long-term changes in climate patterns.

Opportunity Factors

Climate change presents not only risks, but also opportunities for creating new businesses and markets across industries. To seize these opportunities, we analyze the financial impact of each opportunity factor by classifying them into energy sources, products and services, and markets according to the TCFD recommendations and incorporate them into our response strategies.

Analysis of Climate Change Risks

Category		Definition	Period*	Financial impact
Transition risks	Policy / regulation	• Stricter carbon regulations such as the Emission Trading Scheme and the EU carbon border tax	Mid- to long-term	• Increased compliance costs due to climate change policies, such as GHG emissions regulations, technology regulations, and carbon taxes • Hyosung Corporation and operating companies are subject to the domestic emission trading scheme. The cost of purchasing emission credits shall rise due to the reduction of GHG emissions allocations and the increase in the proportion of paid allocation. • Reduced industrial competitiveness and sales due to regulations on high-carbon emission industries • Weakened price competitiveness due to product cost increase resulting from regulatory compliance
	Market	• Customer's demand for carbon reduction and eco-friendly product certification • Increasing requirement for RE100 participation • Uncertainty due to changes in supply chain and market environment • Changes in consumers' preferences for eco-friendly products	Mid- to long-term	• Increased risk of being excluded from bidding qualification pre-qualification (PQ) • Decreased sales due to loss of order opportunities • Reduced demand for high-carbon products • Cost increase due to REC purchase and electricity cost rise • Cost increase due to supply chain changes
	Technology	• Transition to eco-friendly and low-carbon technologies / products	Mid- to long-term	• Increased technology investment costs for GHG emissions reduction facilities and energy-efficient equipment • Increased investment in low-carbon technology R&D and process improvement • Cost increase due to the adoption of low-carbon bio-based raw materials
	Reputation	• Stakeholders' request for climate change action and information disclosure	Mid-term	• Incurred investment cost and financial interest expenses in the case of non-compliance
Physical risks	Acute	• Increased and intensified extreme weather events, such as typhoons and floods	Short-term	• Damage and disruption of production facilities • Potential damage due to loss of finished products
	Chronic	• Long-term changes in climate patterns, such as sea level rise and average temperature increase	Long-term	• Increased heating and cooling costs for product quality control • Disruption of operations due to flooding of business sites • Relocation costs of business sites

Analysis of Climate Change Opportunities

Category	Definition	Period*	Financial impact
Energy source	• Growth of the hydrogen market due to the implementation of the national policy on hydrogen economy • Growth of eco-friendly energy demand due to declarations such as RE100 and carbon neutrality	Mid- to long-term	• Increased sales by developing new hydrogen business through intra-Group synergy • Reduced investment or financing costs due to policy subsidies / incentives
Product / service	• Growth of the recycled eco-friendly product market due to the promotion of the circular economy, such as recycling • Growing market demand for carbon-reduced bio-based plastic materials	Short-term to long-term	• Increased sales by developing recycled low-carbon products with a competitive edge • Energy cost reduction by enhancing manufacturing process energy efficiency to lower carbon footprint
	• Growth of new markets, such as carbon sequestration	Long-term	• Market entry and sales increase due to business portfolio diversification
Market	• Generation of additional revenue by participating in the emission trading system	Short-term	• Aligned with Korea's emissions trading, profits come from selling excess carbon credits equivalent to GHG emissions reductions

* Short-term (1-3 years), mid-term (3-5 years), long-term (5-10 years)

Climate Change Response

Climate Change Response Strategy

Hyosung has adopted 'Green Vision 2030' as a systematic framework to address the risks and opportunities arising from climate change, and has developed a 'mid- to long-term roadmap for climate change response' in 2022. Through Green Vision 2030, we have established four objectives; reducing GHG emissions, developing and expanding green technologies and markets, fostering an eco-friendly corporate culture, and enhancing the trust of our stakeholders. Based on these objectives, we have formulated and implemented company-wide strategies for climate change response.
To accomplish the strategies and objectives, Hyosung aims to systematically execute specific tasks such as establishing a GHG emissions inventory, conducting climate scenario analysis, and identifying reduction measures based on the company-wide mid- to long-term roadmap for climate change response. In 2022, we have created a GHG emissions inventory focusing on manufacturing subsidiaries and the parent company, and we aim to extend it to major subsidiaries by 2025 to improve the company-wide GHG emissions inventory.

Participation in Initiatives to Respond to Climate Change

To address climate change and collaborate with the global climate crisis, all four major operating companies, namely Hyosung Corporation, Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials, and Hyosung Chemical, have declared to support the Task Force on Climate-related Financial Disclosures (TCFD). Furthermore, they participate in the Carbon Disclosure Project (CDP) to disclose carbon information. Hyosung Corporation and Hyosung Advanced Materials received the Carbon Management Sector Honors at the CDP Awards in 2020, Hyosung TNC received Special Award in 2021, and Hyosung Heavy Industries received Sector Honors in 2022 with an A- grade or higher score.

Disclosure of climate-related financial information

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

- Hyosung declared its support in 2022
- Hyosung Advanced Materials published its first TCFD report in 2022

Evaluation of climate change response activities

CDP DRIVING SUSTAINABLE ECONOMIES

- Carbon Management Sector Honors at CDP Awards
  - Hyosung Heavy Industries (Sector Honors) in 2022
  - Hyosung TNC (Special Award) in 2021
  - Hyosung Corporation (Sector Honors) in 2020
  - Hyosung Advanced Materials (Honors Club, Sector Honors) in 2020

Green Management Vision 2030

An eco-friendly company that enhances and enriches quality of life for humanity

More than 14.5% of emissions reduction by 2030 compared to the level of 2018	Market discovery and business expansion through green technology development	Facilitating eco-friendly corporate culture by establishing green infrastructure	Increasing stakeholder trust through transparent information disclosure
GHG emissions reduction through external reduction projects, such as SDM*, in alignment with the new climate system	Pursuing low-carbon green growth through the expansion of renewable energy businesses such as hydrogen, photovoltaic, and wind power	Minimizing the impacts of environmental pollution by improving water quality and the air pollutant management system	Establishing a green management system through the expansion of green and eco-friendly certifications
GHG emissions reduction by promoting energy saving activities at business sites and by expanding the introduction of renewable energy	Expanding eco-friendly technological capabilities such as vegetable oil-based transformers, Novec Mixture Gas Insulated Switchgear , and plastic polyketones without harmful substances	Reducing water consumption through water recycling and reducing waste emissions through resource recycling	Building stakeholder trust through participation in CDP**, environmental information disclosure systems, and publishing sustainability reports
Efficient GHG emissions management through the operation of an internal carbon asset management system and a calculation system for product carbon footprints	Promoting circular economy products such as waste plastic bottles, recycled yarn from waste fishing nets, and recycled car mats	Continuous cooperation and mutual growth through energy-saving diagnoses and facility support for partners	Voluntary participation in international initiatives on climate change
Risk hedging and opportunity discovery through the establishment of a climate risk and opportunity identification process	Developing new markets through technologies that increase energy efficiency, such as HVDC, STACOM, and carbon fiber (TANSOME®)	Establishing eco-friendly infrastructure by increasing purchases of eco-friendly and green technology products	Clear communication with local residents and engagement in local nature preservation activities, such as the 'one company-one river / park / mountain' campaign

* SDM: Sustainable Development Mechanism under the Paris Agreement
** CDP: Carbon Disclosure Project

Mid- to long-term Roadmap for Climate Change Response

Category		2018	2022	2023	2024	2025	2026~2029	2030
Goal (parent company)	Hyosung Corporation	Base year	Gradual reduction at 1.0 to 4.0% per year					23.6% reduction
	Operating companies		Reduction of 1.2% per year (to be raised)					14.5% reduction
Detailed execution plan	Building GHG emissions inventory – Scope 1&2		Production entities	Major subsidiaries	All subsidiaries			
	Building GHG emissions inventory – Scope 3		Parent company		Production entities	Major subsidiaries		
	Building GHG emissions inventory – Management of emissions calculation		Parent company	Subsidiaries				
	Evaluating risks and opportunities – Climate scenarios used		NDC	Applying SSP 1-2.6 and SSP 5-8.5				
	Evaluating risks and opportunities – Physical risk		Parent company		Production entities	Major subsidiaries		
	Evaluating risks and opportunities – Transition risk		Parent company		Production entities	Major subsidiaries		
	Actions for mitigation – Fuel change, replacement to high-efficiency facilities, process improvement				Participation in carbon capture demonstration project			
	Actions for mitigation – New and renewable energy generation or purchase							
	Actions for mitigation – Conversion of raw materials							

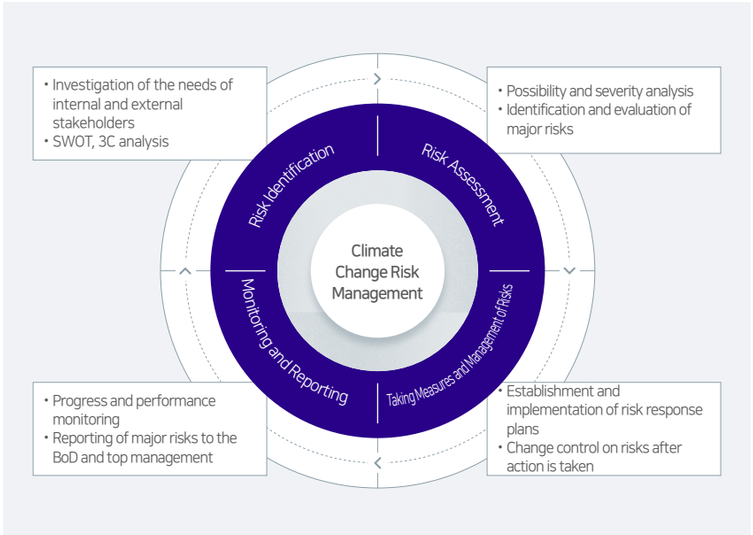
* The above reduction targets are based on the corporate standards of each operating company.
** The above roadmap is subject to partial changes depending on the business situation of each operating company.

Climate Change Response

Climate Change Risk Management

Hyosung has devised and implemented a risk management process that can recognize and systematically address the risks and opportunities arising from climate change.
We review the risk management status annually to identify new risks and enhance the specificity of countermeasures. Major risks are reported to the ESG Management Promotion Committee to be assessed annually on the attainment of the countermeasure targets. In 2022, we detected major policy changes following the announcement of the draft of the Council of the European Union (March) and provisional agreement (December) of the EU Carbon Border Adjustment Mechanism (CBAM). We reported our analysis on business opportunities and risks as well as countermeasures in response to the changes to the management.
Going forward, Hyosung will persist in enhancing its risk management system to mitigate the adverse impact of climate change.

Climate Change Risk Management Process



Key Countermeasures against Climate Change

Category		Period*	Countermeasures
Transition risks	Policy / regulation	Mid- to long-term	• Monitor domestic and international climate change policy / regulation trends and devise countermeasures • Develop and implement action plans in accordance with the national 2030 NDC reduction target • Establish a mid- to long-term reduction roadmap to achieve 2050 Net Zero
	Market	Mid- to long-term	• Conduct R&D on green products • Obtain eco-friendly product certifications • Build a database of customer VOCs and proactively incorporate them • Increase renewable energy procurement through green premium rate system and purchase Renewable Energy Certificates (RECs) • Diversify supply chain and continuously explore low-carbon raw material supply chain
	Technology	Mid- to long-term	• Secure technology that can minimize GHG emissions based on recycling and bio-materials • Advance the development of low-carbon products by measuring the carbon emissions of products throughout the life cycle
	Reputation	Mid-term	• Formulate an eco-friendly response strategy • Engage in various ESG assessments and disclose climate change response strategies • Actively participate in information disclosure such as TCFD or SBTi
Physical risks	Acute	Short-term	• Invest in complementary measures to cope with abnormal weather such as torrential rain (e.g., inundation barriers at workplaces, etc.) • Conduct regular safety inspections within the workplace and establish a manual to prevent accidents • Purchase disaster insurance • Stock up on supplies in advance
	Chronic	Long-term	• Install high-efficiency air conditioning and heating facilities • Relocate business site to safer areas
Opportunity	Energy source	Mid- to long-term	• Meet the growing demand for eco-friendly energy through technology independence and business portfolio expansion, such as hydrogen production and storage • Develop a mid- to long-term renewable energy use plan and conduct economic analysis for each renewable energy procurement option • Obtain incentives through participation in government support projects such as the national carbon neutral support project
	Product / service	Short-term to mid-term	• Develop products using recycled and bio-based raw materials step by step • Gain a competitive edge through Life Cycle Assessment (LCA) and product carbon footprint reduction • Increase eco-friendly-certified products and support for certification of raw and subsidiary materials suppliers
		Long-term	• Formulate and execute future new business plans to participate in projects, such as carbon capture and carbon sink
	Market	Short-term	• Continuously conduct GHG emissions reduction activities

* Short-term (1-3 years), mid-term (3-5 years), long-term (5-10 years)

Climate Change Response

Climate Change Response

Activities to Respond to Climate Change

Hyosung is identifying and implementing measures to reduce GHG emissions through regular inspections at business sites in order to mitigate the climate impact caused by GHG emissions and comply with the government's policy on carbon neutrality and green growth. We are persistently advancing high-efficiency equipment replacement, process improvement, and introduction of low environmental impact equipment.

Introduction of High-efficiency and Low carbon energy Facilities

Hyosung Corporation's Anyang Plant upgraded old facilities to high-efficiency compressed air ones, lowered operating pressure, and adopted high-speed tufting machines in 2022, aiming to further reduce GHG emissions in 2023 by regulating pump inverters.

In 2022, Hyosung TNC enhanced unit efficiency by replacing the existing equipment that reduced 7K compressed air to 1K with a turbo blower dedicated to supplying 1K at its Gumi Plant. Its Ulsan Plant decreased power consumption by improving the efficiency of the heat exchanger boiler circulation pump.

Hyosung Heavy Industries' Changwon Plant cut down on power consumption by installing high-efficiency air conditioners within the plant in 2022. Moreover, an integrated management system is implemented for air conditioners installed in new buildings to avoid wasted energy such as emergency power saving.

In 2022, Hyosung Advanced Materials conducted power saving activities by reusing steam condensate heat sources in the recovery process and upgrading dryer facilities at the Ulsan Plant, and by lowering the amount of fresh air in the oxidation furnace at the Jeonju Plant. In 2023, the company plans to undertake activities such as reducing steam and electricity consumption through process improvement, integrated operation of waste heat recovery from incinerators, and purchasing external steam.

Hyosung Chemical devised a plan for mitigating emissions by 25 cases (reduction of 9,000 tons) in 2022 through quarterly carbon emission reduction TFT activities. In particular, the company is advancing energy efficiency improvement through investment in process facilities, and have implemented reduction projects such as enhancing the PP3 raw material recovery process and increasing the efficiency of operation of ECF auxiliary facilities.

Building Smart Factories

Hyosung has made smart factory construction one of the Group's management policies and is continuously improving the system. Smart factory connects all production-related resources in real time to the workplace and analyzes the collected data to create an optimized production environment. By building smart factories, the production yield can be enhanced by deriving the optimal operating conditions, and the GHG emissions can be reduced by lowering energy consumption.

Following the establishment of a smart factory in 2020, Hyosung Chemical achieved a total savings of KRW 14.9 billion by enhancing 23 cases, including production yield improvement and energy saving, during 2021 and 2022. In addition, Hyosung Chemical plans to save KRW 8.3 billion by improving 20 cases in 2023.

Expanding Renewable Energy and Carbon Capture

Expansion of Renewable Energy Use

Hyosung TNC

Hyosung TNC utilizes and consumes biogas by supplying the biogas generated from anaerobic digestion at the wastewater treatment plant to the boiler in order to increase the use of renewable energy within the plant. The company plans to use electricity produced in an eco-friendly way as soon as internal conditions for the use of new and renewable energy are established in the future.

Construction of Buildings Applying New and Renewable Energy

Hyosung Heavy Industries

Hyosung Heavy Industries incorporates solar power generation facilities and fuel cell facilities when constructing buildings. The power obtained from the solar power generation facility is used for common parts of the building, such as elevators and parking lot lights, and the power obtained from the fuel cell facility is used for common parts and community facilities. In 2022, the company applied the facility in 'Harrington Tower Gwangan The Ocean.'

Increasing the Adoption of Solar Power Generation Facilities

Hyosung Advanced Materials

Hyosung Advanced Materials installed photovoltaic power generation facilities in its Songpa S Tower in Korea and its sites in Jiaxing, Qingdao, and Changshu as part of its efforts to supply new and renewable energy. The Jiaxing corporation in China has been investing in increasing its solar power capacity since 2022 and is seeking to enhance its renewable energy portfolio.

Creation of Hydrogen Ecosystem and Carbon Capture Projects

Hyosung Chemical

Hyosung Chemical is working to create a domestic hydrogen ecosystem in cooperation with the Linde Group, a world-class gas company. A new liquefied hydrogen plant with an annual production capacity of 13,000 tons will be built within Hyosung Chemical's Yongyeon Plant by 2023 together with Hyosung Heavy Industries and Linde Group. A pilot facility with CO2 cooling separation technology, which uses liquid nitrogen to separate CO_2 from flue gas, will also be installed at the Yongyeon Plant. The feasibility of carbon capture performance will be verified by initiating a test run from May 2023. The company plans to review the feasibility of the wet amine CO_2 capture process technology on a scale of 100,000 tons per year in the mid- to long-term.

Raising Awareness of Climate Change

Educating Employees on Climate Change

With the aim to help our employees better understand climate change, we provide annual education through our in-house online learning site. In 2022, we used a video made by the Biodiversity Foundation on the theme of 'climate change and biodiversity' to educate our employees. In February 2023, an external expert gave a lecture on 'corporate strategies in the face of the climate crisis and the net-zero era.' For new hires, we offer a course called 'companies and ESG management' to train them on climate change and carbon neutrality. We also offer various educational courses tailored to each department's needs, such as policies related to the emission trading system and CBAM, and LCA calculation.

Raising Awareness of Climate Change among Stakeholders

Hyosung has been actively promoting eco-friendly awareness through various contests and projects. Starting in 2014, we launched a contest for start-up ideas in the field of carbon fiber. This was followed by a series of contests, including one for college students to share their eco-friendly ideas from 2017 to 2019, an in-house contest for ideas on reducing GHG emissions and energy consumption in 2021, and an open innovation project in 2022. We are committed to continuing our efforts to engage multiple stakeholders in green management initiatives.

Environmental Management Campaign at Construction Sites

Hyosung Heavy Industries

Hyosung Heavy Industries has consistently implemented Environmental Management Campaign to reduce GHG emissions at each construction site, such as banning vehicle idling, switching off lights during lunch breaks, and powering down unused PCs and monitors. It aims to enhance its participation rate by creating and disseminating posters in the near future. Furthermore, field officials at each site undergo environmental training organized by the head office, engage in clean-up campaigns on site, and participate proactively in environmental conservation activities.

Specialized Education on GHG Emissions

Hyosung Chemical

To enhance the effectiveness of GHG emissions reduction at business sites, the person in charge of the site is provided with education on the methodologies and technologies for mitigating GHG emissions. To sharpen the practical skills of the person in charge, Hyosung Chemical offers internal training on topics such as reduction plan guidelines and procedures. Hyosung Chemical also enlists external consulting firms to deliver professional training on specialized topics, such as reduction cases from other companies, reduction methodologies, and feasibility assessments for internal reduction plans.

Climate Change Response

Climate Change Indicators and Goals

As a global company that operates in businesses affecting climate change, such as textiles, chemicals, industrial materials, and heavy industries, Hyosung aims to minimize its impact on climate change by setting and monitoring GHG emissions reduction targets for each business unit. To align with the industrial sector goals of the Nationally Determined Contributions (NDC) announced in 2021, we established the GHG emissions quantitative target of 'Green Management Vision 2030' as a 14.5% reduction (1.2% annual reduction) compared to the level of 2018 emissions. Moreover, in April 2023, Hyosung Corporation further raised our target to 23.6% reduction by 2030 compared to the 2018 level. Taking into account the characteristics of each industry sector and SBTi membership, and other factors, we are considering gradually raising our goals to even more ambitious reduction targets for each operating company. On top of that, in the long term, we plan to implement reductions in accordance with the government's 2050 carbon neutral policy.

Aiming to achieve the reduction target, Hyosung has annually devised and executed a facility investment plan for energy reduction. It formulates a mid- to long-term reduction plan in all relevant departments, such as planning, research, production, and power generation, followed by reporting it to the ESG Management Promotion Committee and the Board of Directors (BoD) on a regular basis.

For reductions that are challenging to achieve solely through internal energy saving efforts, we make efforts in a long-term perspective through building photovoltaic power generation facilities and purchasing domestic third-party PPA and REC produced with new and renewable energy. In addition, we will further pursue the direction to gradually increase the proportion of the application of new and renewable energy.

Internal Carbon Pricing

Hyosung has introduced and implemented the internal carbon pricing, which is a hypothetical cost of emitting GHG emissions, in order to manage climate change risks and seek opportunities by using it in strategic decision-making such as business direction and investment. The guidelines on carbon emission calculation and economic evaluation were distributed throughout the company, along with GHG emission calculators. Consequently, the company uses carbon prices by GHG emissions in economic feasibility analysis when applying excess and short of emission allowances according to the emission trading system, establishing energy consumption plans at business sites, and making facility investments.

Climate Change-related Employee KPI and Incentives

Hyosung has set energy reduction Key Performance Indicators (KPIs) for climate change-related production executives or plant managers and GHG emissions reduction KPIs for green management team members, and provides incentives based on their evaluation results. In order to embed ESG management in corporate culture, the ESG management KPI was decided for employees by the ESG Management Promotion Committee and the Board of Directors in 2021, and it has been implemented since 2022. Climate change indicators are evaluated for all executives (including C-Level) and teams related to energy and GHG emissions reduction, such as the ESG Management Team, Green Management Team, Production Team, and Power Team.

Carbon Emissions by Year and 2030 Target

* GHG emissions were calculated based on the certified amount of carbon credit submitted. Yet, Hyosung Heavy Industries has been certified including emissions from construction sites since 2020, and the emissions in 2018, the base year, were voluntarily calculated and verified by a third party to correct emissions in order to apply the same organizational boundaries.
** The total GHG emissions of Scope 1 and Scope 2 reported in this document may differ from the total GHG emissions in the business report, which are calculated by rounding off the emissions by business unit to the nearest integer.
*** The methodology for reporting total GHG emissions has changed from this year. Previously, total GHG emissions were reported as GHG emissions in business reports, but now they are reported as the sum of Scope 1 and Scope 2 GHG emissions. Therefore, the past emissions have been revised accordingly.

Green Business and New Growth Engine

UN SDGS LINKAGE

Why so important?

The global community is facing the urgent challenges of climate crisis and resource depletion, and is taking proactive measures to shift to a circular economy and a low-carbon society. To facilitate this transition, the international community is rapidly developing a legal framework to support early adoption. Furthermore, consumers are showing a growing interest and demand for low environmental impact products. Companies are not only complying with the environmental regulations, but also creating new green business models to enhance their reputation and brand value.

Our Approach

Hyosung is committed to reducing the environmental impact of its products and processes. We are pursuing technology development based on five themes: the vitalization of a circular economy based on the representative strengths of each business sector, the reduction of carbon emissions throughout the life cycle, the development of low environmental impact technologies, and the expansion of hydrogen and renewable energy sources. Through this, Hyosung will achieve sustainable growth by enhancing its environmental values.

Our Achievement

Hyosung Corporation	Development of low environmental impact catalyst for polyester fiber ·Received King Sejong's Award (patent technology award) from the Korean Intellectual Property Office
Hyosung TNC	Strengthening of green products in its portfolio ·Released 'regen Ocean,' using a waste fishing net material ·Released bio-based spandex
Accumulated no. of registered patents	3,387
Hyosung Heavy Industries	Growing orders for low environmental impact products - Received an order from BESS, a South African state-run power company - Received an order for KEPCO Bubuk S/S ESS
Hyosung Chemical	PCR PP, PCR Film Acquired the Global Recycled Standard (GRS) certification

Direction of Green Businesses

Hyosung is committed to providing a range of low environmental impact products and services that align with the five themes of RE:GEN, our environmental strategy system. Our aim is to contribute to the circular economy, global carbon reduction, renewable energy supply, and prevention of resource abuse. To achieve this, we are increasing our investment in research and development of green technologies and products, which will enable us to secure new growth engines for the future and achieve sustainable growth. Hyosung is aware of the increasing global demand for low environmental impact products and services, and strives to minimize environmental pollution throughout the product life cycle, from production to consumption and disposal. We also aim to offer products and services that reduce the use of natural resources and hazardous substances. Hyosung will continue to lead the way in tackling climate change and creating an low environmental impact business system by investing generously in low environmental impact products and technologies.

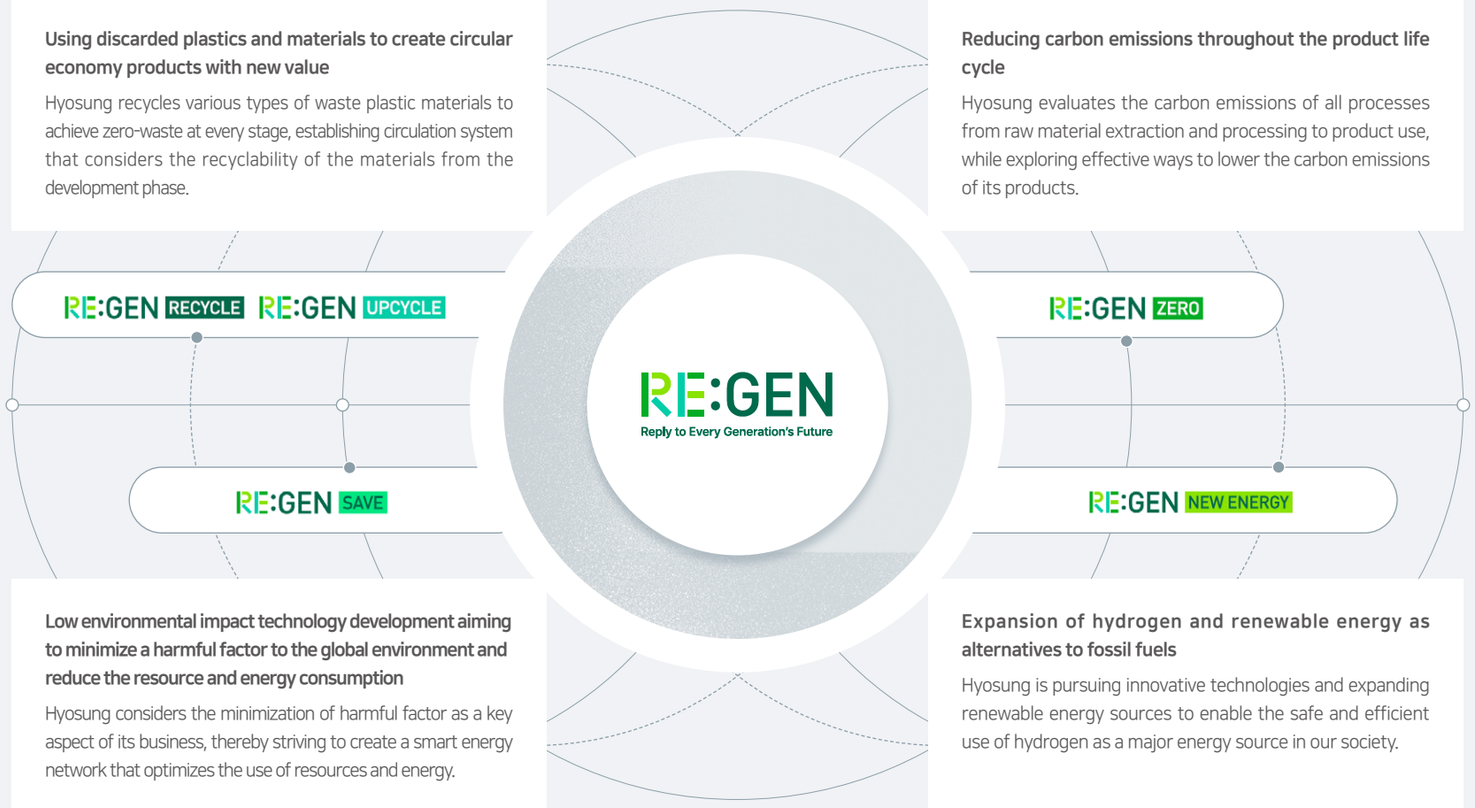
RE:GEN - Reply to Every Generation's Future

Using discarded plastics and materials to create circular economy products with new value

Hyosung recycles various types of waste plastic materials to achieve zero-waste at every stage, establishing circulation system that considers the recyclability of the materials from the development phase.

Reducing carbon emissions throughout the product life cycle

Hyosung evaluates the carbon emissions of all processes from raw material extraction and processing to product use, while exploring effective ways to lower the carbon emissions of its products.



Low environmental impact technology development aiming to minimize a harmful factor to the global environment and reduce the resource and energy consumption

Hyosung considers the minimization of harmful factor as a key aspect of its business, thereby striving to create a smart energy network that optimizes the use of resources and energy.

Expansion of hydrogen and renewable energy as alternatives to fossil fuels

Hyosung is pursuing innovative technologies and expanding renewable energy sources to enable the safe and efficient use of hydrogen as a major energy source in our society.

Promoting Green Business, Securing a New Growth Engine

Low Environmental Impact Products and Services

RE:GEN RECYCLE RE:GEN UPCYCLE RE:GEN ZERO

Hyosung TNC

‘regen Ocean Nylon’, Recycled Fiber Made from Discarded Fishing Nets

Fishing gear, such as nets and fishing lines, accounts for approximately 46% of marine waste. Hyosung TNC is addressing this issue by collecting discarded fishing nets and using its technology to recycle them into nylon, creating a resource circulation model. The company works with local governments to collect abandoned fishing nets and remove impurities, improving their quality and transforming them into recycled regen Ocean Nylon yarn. In the coming years, Hyosung TNC aims to more than double its market share in the recycled nylon market by 2025.

Circulation Process for regen Ocean Nylon

Collect discarded fishing nets → Discarded fishing nets are crushed and undergo a cleaning process → Undergo a depolymerization process (chemical recycling) → Reborn into recycled caprolactam → Repolymerize into nylon chips → Manufacture ‘regen Ocean Nylon’

‘regen Nylon’, Recycled Fiber Made from Reclaimed Waste

Hyosung TNC produces ‘regen Nylon’, a recycled fiber made from discarded nylon waste during the manufacturing process. The company uses its own technology to dispose of and recycle waste generated from the nylon-making process, Hyosung TNC has developed also developed a high-tenacity version of its regen Nylon called regen Robin Nylon developed for Outdoor brands seeking durable, eco-friendly bags and backpacks. This approach allows the company to repurpose waste materials into new products, reducing its reliance on petroleum resources and mitigating its carbon emissions. Hyosung TNC supplies various regen Nylon fibers to global fashion brands, helping them to participate in Circularity economic system.

Garment made from ‘regen Nylon’

Hyosung TNC

‘regen Polyester’, Recycled Fiber Made from Discarded PET Bottles

Plastic waste is a major environmental issue that has garnered global attention. In response, Hyosung TNC has developed a recycled fiber called 'regen Polyester' that extracts and recycles useful ingredients from discarded PET bottles for the first time in Korea. This development of recycled fiber significantly reduces the amount of waste that goes into landfills and cuts CO_2 emissions by about 60% compared to traditional polyester fiber.

‘regen Polyester’ Manufacturing Process

Separating disposal of PET bottles → Cleaning and crushing discarded PET bottles → Remanufacture into flakes → Process into recycled chips → Spin into regen Polyester fiber → Manufacture fashion products → Hyosung TNC's circular system

Obtaining GRS (Global Recycled Standard) Certification

Global Recycled Standard

The Global Recycled Standard (GRS) is a set of international criteria used to certify that recycled materials are used in the production of fiber materials or clothing. Products made from more than 20% recycled materials are eligible for GRS assessment. This assessment inspects all stages of production, from raw material sourcing to finished product manufacturing and sales, ensuring the continuity of management. Hyosung Corporation, Hyosung TNC, Hyosung Advanced Materials, and Hyosung Chemical have all received GRS certification for their main products.

Hyosung Chemical

Expanding the Range of Products with Recycling Certifications

Hyosung Chemical has received GRS certification for its products, including pellets that contain 100%, 70%, and 50% PCR (Post Consumer Recycled) polypropylene, as well as films made from PCR polyester materials. Additionally, its TAC films, which contain 40% and 30% recycled materials, have received RCS (Recycled Claim Standard) certification. This verifies that at least 5% of the product is made from recycled materials.

RECYCLED BLENDED claim standard

Hyosung Advanced Materials

Developing Recyclable Auto Parts in Line with Global Eco-friendly Policy

Tire cord made from recycled PET yarn

Hyosung Advanced Materials is working on the development of All-PET carpet for vehicles to meet the demand for environmentally friendly vehicles in the global automobile market. Unlike conventional products, all materials used in this product are polyester, and its fabric can be recycled into polyester chips after use. Currently, discussions are underway with Hyundai Motor Company and Kia to add this product as a registered material and develop nylon products. Additionally, our recycled nylon car mats made from materials extracted from waste fishing nets have been applied to the Genesis RS4 model, and our recycled polyester product made from waste PET bottles has been used for the MV model, a mid-sized EV.

Broadening the Range of Products Made from Recycled Polyester

Car mat made from recycled BCF

Hyosung Advanced Materials has developed a high-strength polyester yarn using materials derived from waste PET bottles. The company has also created a car mat made from recycled Bulked Continuous Filament (BCF), which is currently undergoing an approval process by customer companies. In addition, the company has expanded its portfolio of green products made from waste fishing nets or waste generated during the spinning or manufacturing process of recycled chip makers. Hyosung Advanced Materials plans to assess the mass production of recycled polyester and tire cords in 2024, with the goal of increasing the ratio of recycled polyester to 7% of its total products by 2030.

Promoting Green Business, Securing a New Growth Engine

Low Environmental Impact Products and Services

RE:GEN ZERO

Hyosung TNC

'regen Bio-Based Spandex', No.1 Global Bio-Based Spandex Brand

Fossil fuel-based spandex has been identified as a material that emits the largest amount of GHG emissions according to a carbon footprint assessment. To address this issue, Hyosung TNC was the first to successfully develop and globally commercialize bio-based spandex made with plant-based materials (corn extracts). regen Bio-Based Spandex offers the same performance characteristics as our conventional CREORA spandex. This fiber makes it widely attractive for brands looking for materials made with other natural fibers and bio-based synthetics for all apparel and accessory needs. In addition, Hyosung TNC is developing bio-degradable fiber-making technologies to diversify its bio-based fiber product portfolio.

Obtained SGS ECO-Product Mark

With the objective to mitigate the environmental impact of its spandex products throughout their lifecycle, Hyosung TNC has obtained the SGS ECO-Product mark, a global certification for green products.

Hyosung Heavy Industries

Obtaining Green Building Certifications and Establishing Green Landscaping

Hyosung Heavy Industries is committed to obtaining certifications for eco-friendly buildings and implementing green landscaping at construction sites, aiming to reduce energy consumption and environ-mental pollution throughout the entire process, from design and construction to maintenance and management. In 2022, two of buildings which the company completed received Excellent and Normal grades from G-SEED, respectively. The company plans to obtain six more green building certifications. Additionally, Hyosung Heavy Industries has actively introduced biotopes, a type of green landscaping, mainly in large-scale construction sites. Biotopes were applied at three sites in 2022. The company will continue to focus on low-carbon and green construction to meet customers' demand for eco-friendliness. Efforts to discover green construction methods and building materials will continue in order to minimize its environmental footprint.

Aquatic biotope in Taereung Harrington Place

*Biotope: It refers to a space that provides an ecosystem where wild animals and plants can coexist. It is a type of artificial habitat created for living organisms in urban areas.

Hyosung Advanced Materials

Low-carbon 'Lyocell Tire Cord'

Hyosung Advanced Materials is working on the development and production of a 'lyocell tire cord' made from cellulose extracted from wood. This new material aims to replace the rayon tire cord currently used as a reinforcement material for high-speed tires that need high-durability. The lyocell tire cord produces 30% less GHG emissions than rayon or nylon tire cords and releases fewer toxic substances (such as CS_2 and H_2S) during manufacturing, helping to prevent air and water pollution.

Lyocell tire cord

Launching Products Made from the Green Material Bio-PET*

To meet the growing demand for green materials, Hyosung Advanced Materials has developed a bio-PET for industrial use, made from bio-ethylene glycol extracted from plant-based materials. This product is being used in eco-friendly vehicles of Hyundai Motor Company, including the EV model IONIQ and the hydrogen car NEXO. The company also produces tire cords and car mats made from bio-PET yarn.

Plant-based material → Bio-ethylene glycol → Bio-PET yarn

* Bio-PET: This green material is made from bio-ethylene glycol, which is derived from sugarcane and corn instead of petroleum-based ethylene glycol. The material is produced through a catalytic reaction and fermentation process.

ISCC PLUS Certification Obtained

Hyosung Advanced Materials has become the first tire cord provider to receive the ISCC PLUS certification. This international certification recognizes the company's use of environmentally friendly materials, such as bio- or recycled polyester, in its tire cord manufacturing process.

Hyosung Heavy Industries

Gas Insulated Switchgear Using a Substitute for Substances that Cause Global Warming

SF_6 gas is a GHG commonly used in Gas Insulated Switchgear. In response, Hyosung Heavy Industries has applied dry air, which has a global warming potential (GWP) of zero, and achieved an optimal insulation design. This has resulted in the creation of DAIS (Dry Air Insulated Switchgear) with exceptional functionality. Since 2013, this has positioned the company as a leading player in the domestic market. Additionally, the company has developed ultra-high-voltage GIS (Gas Insulated Switchgear) using green alternative gas, which is a green solution that emits 99% less GHG emissions.

Hyosung Advanced Materials

TANSOME®, A Key Component in Reducing Automobile Weight

TANSOME® is an ultra-lightweight and high-strength material that is more than four times lighter and ten times stronger than steel. These properties make it ideal for use as a core component in the manufacture of lightweight vehicles, which improves fuel efficiency and reduces carbon emissions. The product is also known for its exceptional stability and functionality, making it suitable for a wide range of applications. In particular, it is now being used in the green energy sector, such as in high-pressure containers for fuel, an essential component for hydrogen use. The growing global demand for carbon neutrality is driving the growth of the energy sector, including hydrogen containers and wind power, as well as the light automobile sector. These sectors will drive the growth of TANSOME®.

Promoting Green Business, Securing a New Growth Engine

Low Environmental Impact Products and Services

RE:GEN ZERO RE:GEN SAVE RE:GEN NEW ENERGY

Hyosung Chemical

HYOSUNG POKETONE, A Low-Carbon, Eco-Friendly Polyketone Material

POKETONE™ is an eco-friendly engineering plastic that was first developed by Hyosung Chemical in 2013 using their proprietary technology. This product has a carbon footprint of 3.08 kg- CO_2eq per 1kg, which is lower than other similar products. This advantage has been verified through a Life Cycle Assessment (LCA). Additionally, POKETONE™ has been certified by multiple local and international certification bodies, including the United States Food and Drug Administration (FDA), for its non-toxicity and stability. In 2016, the product received a green certification from the Ministry of Environment.

Only engineering plastic where the backbone chain of the polymer is made entirely from carbon

↓

Highly crystalline and densely packed crystal structure

↓

Outstanding impact resistance, abrasion resistance, chemical resistance, fuel resistance, and gas barrier properties

Hyosung Chemical is focusing on the development of green products and technologies using POKETONE while expanding its use in a wide range of sectors such as engineering products including construction materials, automobiles, consumer goods, and leisure items. The company has set a goal of achieving KRW 130 billion in sales by 2025 and is working to develop products that can be applied in various industrial sectors.

Bio-based 'TAC Film'

In 2022, Hyosung Chemical's TAC film was certified in the 'Films: Semi-Durable (minimum biomass content: 45%)' category of the BioPreferred® program, which is led by the United States Department of Agriculture (USDA). In the coming years, the company will broaden the scope of eco-friendly materials.

USDA CERTIFIED BIOBASED PRODUCT PRODUCT 47%

Hyosung Advanced Materials

Green Dip Solution Conducive to Reducing Toxic Chemical Use

The final stage of the tire cord manufacturing process involves applying a chemical dip solution, made from a mixture of multiple chemical substances, to the semi-finished product and drying it with high heat. Hyosung Advanced Materials has developed an eco-friendly dip solution with the goal of making its manufacturing process more environmentally friendly. The company aims to reduce its use of hazardous chemicals during the process and has developed a dip solution that helps extend tire lifespan and reduce waste tire generation, without using formalin. Hyosung Advanced Materials plans to obtain certification for the commercialization of this eco-friendly dip solution.

Hyosung Chemical

Development and Commercialization of Green Water Treatment System

Hyosung Chemical is actively addressing the issue of water scarcity caused by climate change through the development and commercialization of a membrane water treatment system and related technologies. A membrane allows necessary substances to pass through while filtering out unnecessary ones. Hyosung Chemical's membrane water treatment system uses hollow fibers with a size of 0.03㎛. In 2012, the company developed 'submerged water treatment technologies' and obtained certifications for new environmental technologies for its products, including 'pressurized membrane filtration water treatment technologies' and a 'two-stage submerged water purification system'. Currently, the company holds two certifications. In 2022, Hyosung Chemical won contracts for three water purification projects and plans to provide clean and clear water using its new technologies.

Membranes for water purification

Hyosung Heavy Industries

Energy Storage Systems(ESS), The Core of New and Renewable Energy

An Energy Storage System (ESS) is an energy-saving device designed to store electricity when demand is low and release it when needed. As the use of renewable energy sources for power generation has increased both domestically and internationally, which has brought ESS in the spotlight as key equipment for the next-generation power and energy industry. Hyosung Heavy Industries is a leader in the global ESS industry, offering a full range of total solutions that encompass customized consulting, system buildup, and follow-up management.

Hydrogen Fueling Stations for the Next-generation of Zero-emission Hydrogen Vehicles

Hyosung Heavy Industries is the leading builder of hydrogen fueling stations in Korea. Since 2009, the company has constructed 25 gaseous hydrogen fueling stations throughout the country, with an additional 16 stations currently under construction. To increase the efficiency of hydrogen storage and delivery, Hyosung Heavy Industries has formed a joint venture with Linde to establish a liquid hydrogen plant and fueling stations. HYOSUNG HYDROGEN(JV) has been selected to establish and operate a total of 6 liquid hydrogen fueling stations and has invested KRW 80 billion in building liquid hydrogen fueling stations for commercial vehicles. In the years ahead, the company plans to expand its business to include green hydrogen production in Korea, leveraging its extensive expertise in wind and solar power generation and energy storage systems.

Hydrogen fueling station for buses in Jangdeung, Gwangju

In-house Development and Supply of Wind Power Generation Systems

Hyosung Heavy Industries has developed wind power generation systems with capacities of 750kW and 2MW, as well as a 5MW offshore wind power generation system, for the first time in Korea. To keep up with the growth of the domestic offshore wind power market, the company is currently working on establishing a joint venture that will operate a wind power generation system manufacturing business by 2023. This will enable the company to produce and supply ultra-large scale offshore wind power generation systems tailored to Korean conditions, such as low wind speeds and typhoons from 2024. In the years to come, Hyosung Heavy Industries will provide competitive products through securing ultra-large offshore wind turbines technologies, parts localization, and plant maintenance technologies that help customers achieve net-zero emissions.

Promoting Green Business, Securing a New Growth Engine

Green Business R&D Activities

Hyosung TNC

Securing Technologies of Manufacturing Recycled Polyester Chips

The NYPET Fiber Research Team has developed a technology to manufacture mechanically recycled polyester chips from discarded PET bottles. The process involves collecting, separating, cleaning, and crushing domestic PET bottles to recycle them into flakes. These flakes are then mixed with TiO_2, delustrant, before being pressed into chips. This technology allows for the production of post-consumer recycled polyester chips made entirely from domestic PET bottles. This recycled polyester fiber has increasingly expanded sales for uniforms in domestic government offices and workwear in semiconductor manufacturing, and it helps to reduce the dependency on imported waste bottles and mitigated CO_2 emissions, contributing to an improved environment.

Developing Pilot Technologies of Chemical Recycled Nylon

The NYPET Polymerization Research has developed a process to extract Nylon 6 caprolactam through a chemical recycling method. The resulting caprolactam is then polymerized and spun into nylon 6, which can be repurposed into clothing, bags and etc. At the Ulsan Plant, the company established a pilot facility to confirm the feasibility of mass production. This led to the construction of a new facility capable of producing 300 tons per month, which began operation in 2022. A carbon footprint calculation evaluation confirmed that post-consumer nylon reduces GHG emissions by 73% compared to conventional nylon.

Hyosung Heavy Industries

Developing and Demonstrating Technology for Bio Hydrogen Convergence Charging Station Fueled by Biogas

The Korean government is accelerating the supply of hydrogen fuel cells for vehicles, which is boosting the demand for the establishment of distributed hydrogen supply systems nationwide. In Chungju City, a pilot project is being run to operate a carbon-free hydrogen fueling station that uses biogases as raw materials instead of byproduct hydrogen derived from fossil fuels. Hyosung Heavy Industries has joined this project and worked with the Institute of Advanced Engineering to develop technology for designing the hydrogen fueling station. The station is supplied with biogases generated from the Chungju Food Bio Energy Center through a pipe to produce green hydrogen. This is the first achievement of its kind in Korea. The station, with a capacity to produce 500kg per day, was completed in 2022 and is expected to go through a demonstration process before beginning commercial operation.

Chungju Bio Hydrogen Convergence Charging Station

Investments in low environmental impact R&D Activities

Hyosung has scaled up its investment in R&D for green technologies in order to contribute to achieving net-zero emissions and minimizing environmental impacts through green and low-carbon innovative technologies. In 2022, we spent a total of KRW 14.7 billion on green R&D efforts, and investments have continued to be made. Going forward, Hyosung is committed to developing green technologies, exploring new green business opportunities, and diversifying its business portfolio.

Company name	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical
Low environmental impact R&D Sectors	Develop biodegradable polyester yarn, recycled polyester, and nylon materials	Develop green materials and products (plant-based ones, etc.), and new and renewable energy products, and join projects on the establishment of hydrogen fueling stations	Develop technologies to apply sustainable materials (bio and recycled ones), and conduct R&D on fuel tanks for hydrogen vehicles / high-pressure containers / insulators for renewable energy	Develop parts for recycled polyester films and eco-friendly polyketone (carbon monoxide materials)

* Hyosung R&DB Labs and the Power & Industrial Systems R&D Center under Hyosung Corporation undertake tasks such as R&D, patent registration, and filing based on a consignment service contract with the operating companiesregistration, and filing based on a consignment service contract with the operating companies

CASE

'Antimony (Sb)-Free,' An low environmental impact Catalyst Awarded King Sejong Prize at the Patent Technology Awards

Lead researcher, Performance Manager(PM) Cheon-Ki Kim, Hyosung R&DB Labs

In 2022, Hyosung R&DB Labs won the grand prize, the King Sejong Award, at the Korea Patent Technology Awards in recognition of its world-first development of an low environmental impact catalyst called 'Antimony (Sb)-Free' required for polyester fiber-making.

'Antimony (Sb)-Free' refers to an environmentally friendly catalyst that replaces 'antimony' used in the production of polyester products. Antimony (Sb) is among eight hazardous heavy metals, and many local and overseas companies have attempted to develop a substitute for it, but have failed to commercialize it.

Antimony (Sb)-Free is a catalyst made from tin (Sn), which is not a toxic heavy metal that can harm human health and the planet. Hyosung began developing this catalyst in 2017 and completed mass production of the product in three years, in 2020. Using this catalyst has the advantage of reducing the amount of catalyst used by 1/10 compared to traditional methods, as well as curtailing plastic waste generated during the manufacturing process by more than 50%. Additionally, it contributes to improving the manufacturing process and product quality.

Hyosung R&DB Labs has implemented a policy to use Antimony (Sb)-Free in all polyester fiber-making processes starting from 2023. In response to the demand for green fiber from key customers, trial production has already begun. Additionally, the product is undergoing a patent registration process in the US, China, Europe, and India to expand its application in global markets. In the years ahead, it will be extended to polyester-based products made by Hyosung operating companies, including polyester tire cords that occupy the largest share (45%) in the global market, as well as other fibers for films and automobiles.

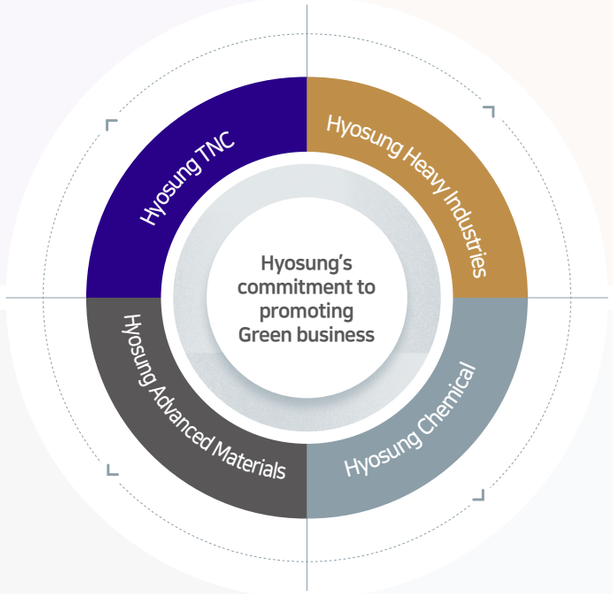
Promoting Green Business, Securing a New Growth Engine

Green Business Diversification

Investment and Collaboration for a Greener Fiber Value Chain

With the objective of making the entire lifecycle of the fiber more environmentally friendly, Hyosung TNC has invested and collaborated across its upstream and downstream value chain.
As the part of the effort, the investment has been made in plant-based bio materials for commercialization to go greener in terms of using raw materials for spandex, nylon, and polyester products. Additionally, the team is collaborating with local startups that have technologies related to low environmental impact materials and products. Examples of these collaborations include working with PLEATSMAMA, a domestic fashion item maker that features our low environmental impact fiber, and with local startup Netspa, a high-quality chip maker for clothes that utilizes discarded fishing nets. The company has also invested in these startups.

PLEATS MAMA NETSPA



Shaft Generator Motor, An Energy Solution for Vessels

Tighter global environmental regulations have boosted demand for Shaft Generator Motor(SGM), which are a solution for eco-friendly vessels and energy-saving. Hyosung Heavy Industries has developed Korea's first eco-friendly technology-equipped Shaft Generator Motor system with a capacity of 2MW, a green hybrid propelling device, in collaboration with Daewoo Shipbuilding & Marine Engineering, and has won more contracts. The company is also making every effort to lead the future electric propelling market, including winning a contract for a national project on the development of eco-friendly vessel propelling motors in 2022. In addition, the company has developed a 5MW permanent magnet SGM for large-scale containers, reflecting VOCs from shipowners. This product is 2% more efficient than induction motors and is compact in size. Hyosung Heavy Industries will continue to actively meet the needs of customers for high-efficiency and green products.

Roadmap for Transition to Sustainable Materials for Tire Cords

Hyosung Advanced Materials' tire reinforcement materials business division has been working to switch to sustainable materials. Starting in 2020, the company selected mixed plastic waste, including PET bottles, and pressed them into flakes in collaboration with its key suppliers. These flakes are then used to manufacture recycled polyester and tire cords. The recycled polyester tire cord, made from waste plastic and process waste, is a next-generation green product that contributes to reducing waste that ends up in landfills. With the goal of transitioning to 100% sustainable materials by 2050, the company will continue to maintain close cooperative relationships with customers and suppliers, and redouble its efforts to exchange data and jointly develop technologies, thereby leading the application of new materials.

Promoting Post Consumer Recycled Business Using Recycled Plastic Waste

The EU has made it mandatory to increase the rate of recycling plastic packaging mateirals to 30% by 2030. Many players in various industries have stepped up their proactive responses to these stringent regulations.
Hyosung Chemical has also made multifaceted efforts to secure various post-consumer recycled (PCR) feedstocks, develop technologies, and build a value chain for product manufacturing and sales. As part of its green business, the company plans to form a cooperative body between the public and private sectors in collaboration with the Korea Marine Environment Corporation and marine waste disposal agencies, in order to create a green marine ecosystem by recycling marine plastic waste.

RECYCLED PP	Virgin-like quality and performance	Excellent Processability	Features excellent transparency	Stability of physical properties

Health and Safety at Business Sites

UN SDGS LINKAGE

Why so important?

In complex industrial settings where diverse workers are employed, special attention must be given to safety and health. It is essential to identify the factors that threaten workers and continuously strive to create a safe and healthy workplace. This is because providing a safe and healthy environment for workers also enhances the sustainability of the company.

Our Approach

Under our safety and health management policy, Hyosung encourages the participation and efforts of all employees to achieve the goal of 'zero serious accidents and industrial accidents'. Moreover, specific action plans are established and regularly evaluated to ensure compliance with our safety and health management policy. By reflecting and enhancing these evaluation results, we aim to secure a safe working environment for everyone.

Our Achievement

Hyosung Corporation
Rate of improvement for safety inspection non-conformities
→ 100%

Hyosung TNC
Occupational health and safety management systems (ISO 45001)
→ Plant Gumi : Maintain Certificate
Plant Ulsan : Newly acquired

Hyosung Heavy Industries
No. of serious accidents and injuries
→ 0 incidents

Hyosung Advanced Materials
Global workplace ISO 45001 certification rate
→ 80% → 91%

Hyosung Chemical
No. of serious accidents and injuries
→ 0 incidents

Empowering Our Safety and Health System

Strategy to Promote Safety and Health

Hyosung is striving to realize a pleasant and safe accident-free workplace with the objective of 'Zero Major Disasters and Major Industrial Accidents'. To achieve this vision, we have established a safety and health management policy, which is followed by all employees, and we communicate it to both internal and external stakeholders. Additionally, we formulate detailed action plans for each workplace, focusing on raising safety and health awareness, improving the work environment, soliciting feedback, and managing stakeholders' safety concerns. These action plans are monitored quarterly to verify their implementation. Especially, we consider safety and health for diverse stakeholders, such as employees, customers, suppliers, subcontractors, and the local community, as the top priority in our corporate activities. We actively promote various safety and health activities tailored to each operating company, such as the mentoring program for supplier's safety and health, symbiotic cooperation programs, support for establishing supplier's safety and health management systems, and the introduction of risk assessment certification.

Vision	A pleasant and safe accident-free workplace
Goal	ZERO serious accidents and industrial accidents

Strategies and tasks

Awareness improvement	System enhancement	Business sites environment improvement	Soliciting feedback	Stakeholder safety management
• Cultivating safety and health awareness • Conducting hands-on safety and health education programs	• Obtaining and maintaining ISO 45001 certification • Embedding a 'Safety First' culture into every corner • Implementing health maintenance and improvement programs	• Addressing and improving non-conformities through safety inspections • Conducting risk assessments and detailed safety diagnoses • Creating a pleasant working environment	• Strengthening activities with cooperative bodies of suppliers • Conducting surveys to gather feedback • Listening to and improving upon safety proposals within the company	• Supporting suppliers in identifying and improving risk factors • Providing safety and health education and assessing management levels for suppliers

Strengthening the Safety and Health Management System

Hyosung is committed to achieving the elimination of safety accidents through the establishment of systems and regulations that focus on strengthening risk response and proactive prevention. In 2022, we conducted consulting with external professional organizations to enhance accident prevention and strengthen the safety and health management system. We examined a total of 196 to 228 items, depending on the characteristics of each operating company's industry. As a result, we have met all the essential requirements and largely fulfilled the important and recommended items as well. With the goal of achieving an accident-free business sites, we will continue to enhance response activities to protect the lives and promote the health of employees and supplier staff.

Company name		Responses		
Hyosung Corporation		Monthly performance reporting meetings chaired by the CEO to secure safety and health Reporting of verification results and improvement activities	Identifying improvement areas and taking actions through consulting with external professional organizations	Goal management and compliance check for accident prevention Check the adequacy of internal regulations and verification of compliance with internal regulations at plants and research institutes
Hyosung TNC		Monitoring safety activities through monthly meetings chaired by the CEO Discussing and deciding on safety and health issues on a quarterly basis	Consulting with external professional organizations and checking compliance with regulations	Starting self-assessment to person in charge of safety and health affairs (half year basis)
Hyosung Heavy Industries	Power & Industrial Systems PG	CEO inspects the workplace and sites where products are installed four times a year	Enhancing safety at hazardous sites prone to accidents such as falls, dropping, suffocation, and electric shock	Recruitment of four dedicated patrol officers
	Construction PU	CEO makes bi-annual site inspections for all sites CSO joins quarterly labor-management councils and employee feedback sessions	Conducting performance evaluations of on-site employees' safety and health duties	Supporting partner companies in establishing safety and health management systems and implementing risk assessment certification (SCC)
Hyosung Advanced Materials		Monthly SHE committee meetings chaired by the CEO for safety and health activities at each workplace Reporting and discussing major issues and achievements	Monthly special inspections and guidance conducted by the headquarters' Health and Safety Team for each workplace	Selecting and operating a fire consulting agency for fire prevention at workplaces
Hyosung Chemical		EHS committee meetings every month for the implementation of safety accident prevention activities, reporting goals, and achievements	Expanding the safety mileage evaluation items to assess the level of safety accident prevention activities	Strengthening employees' responsibility for safety and health by reflecting safety and health KPIs in the personnel system

Health and Safety at Business Sites

Key Activities for Safety and Health Awareness Improvement

Hyosung is actively promoting various activities to foster workers' safety and health awareness and spread a safety and health culture. These activities include hands-on and experiential safety and health education, as well as regular sharing of safety and health issues across the organization.

Safety Health Newsletters Issued, Safety Proposal Campaign Conducted

Hyosung Corporation

Hyosung Corporation actively works to improve Environmental Health and Safety (EHS) awareness by publishing newsletters to regularly share relevant issues. Through these newsletters, the company disseminates information about safety and health compliance requirements and provides pamphlets with evacuation procedures for emergencies. We encourage worker participation and foster a safety culture through an internal safety proposal campaign. During this campaign, we received 197 proposals, which were subsequently evaluated and rewarded. Furthermore, the proposed improvements were implemented to enhance safety and health practices within the company.

Safety Promotion Activities and Occupational Health and Safety Drill

Hyosung TNC

Hyosung TNC encourages employees to demonstrate safety consciousness through actions and practices, and to achieve this, it conducts various safety promotion activities. These activities include creating safety pledges, organizing safety and health competitions, and running safety campaigns. In 2023, it plans to continue spreading a safety culture and enhancing safety awareness through activities such as a safety resolution conference, IDEA competition, and a reward system for obtaining safety-related qualifications. Beyond the statutory training, Hyosung TNC also conducts various safety and health training programs for employees. These include emergency training for initial response to critical situations, training for an in-house fire brigade, chemical and hazardous material safety management training, and CPR training for managers. It also actively engages in joint training with relevant agencies like fire departments to prevent major accidents such as fires and chemical leaks and improve its initial response capabilities.


Safety campaign


Joint training with fire stations


Safety training for forklift operators

Safety Education with CSO

Hyosung Heavy Industries


CSO-led education to nurture safety experts

Power & Industrial Systems PG conducts safety education under the supervision of the Chief Safety Officer (CSO) to nurture safety experts. It offers training in six subjects, including risk assessment expertise, accident investigation and emergency response. In 2022, a total of 152 individuals participated in these training programs. Additionally, the Construction PU conducts regular on-site safety education, led by the Construction CSO and the Construction Health and Safety Team leader. The focus of these education efforts includes responsibilities of management supervisors and dissemination of best practices to enhance safety and health standards across construction sites nationwide.

Promoting Safety Culture through Training

Hyosung Advanced Materials

Hyosung Advanced Materials' Ulsan Plant is dedicated to promoting a safety-first culture. In March 2021, it established 10 safety absolute rules and conducted spot inspections to ensure compliance and evaluate adherence to these rules. In the first half of 2022, it organized a safety campaign to enhance safety awareness among employees. Additionally, each month, safety and health education sessions are conducted for all employees at the Ulsan Plant, as well as for partner companies and relevant parties, focusing on a selected safety theme for that particular month.

Education on Fire Prevention

Hyosung Chemical

Hyosung Chemical has been enhancing its response to fire accidents since 2022 by contracting fire advisory services. These services include fire education, participation and guidance in fire drills, emergency response and first aid instruction, and consultations on laws and technology related to fire prevention and management. Moreover, it has engaged external professional organizations to conduct diagnostic evaluations in fire, hazardous materials, electrical, and gas-related fields. It also carries out inspections of ducts and uses thermal imaging to examine distribution panels, as well as performs special safety inspections on fire-prone facilities. Through these initiatives, it identifies and addresses fire hazards to prevent potential fire accidents effectively.


Fire drill


CPR training

Key Activities for Safety and Health System Improvement

Hyosung is actively enhancing its risk response capability to prevent accidents in the workplace by implementing various system improvements. We have obtained and maintained safety and health management system certifications and implemented health promotion programs.

Incorporating Safety and Health KPIs into the Personnel System

To strengthen employees' responsibility for safety and health and forge a safety culture in the business sites, starting from 2023, Hyosung has been linking the performance evaluation results of safety and health management responsibilities, including safety and health management officers, to the personnel system for performance management.

Occupational Health and Safety Management System Certification

In pursuit of preventing industrial accidents and complying with safety and health regulations, Hyosung operates a safety and health management system. Each department reflects risk factors identified through risk assessments, environmental impact assessments, and safety inspections in safety and health objectives and implementation plans, and continuously improves them. To maintain ISO 45001 and KOSHA-MS certifications, we undergo annual evaluations by external organizations, and we are expanding certification to not only domestic business sites but also global ones.

Company name		Occupational Health and Safety Management System certifications
Hyosung Corporation		• Anyang Plant: Maintaining ISO 45001 certification
Hyosung TNC		• Gumi Plant (nylon-polyester business site and spandex business site): Maintaining ISO 45001 certification • Ulsan Plant (nylon-polyester business site): Obtained ISO 45001 certification in 2022
Hyosung Heavy Industries	Power & Industrial Systems PG	• Domestic plants: Maintaining ISO 45001 and KOSHA-MS certifications • Overseas plants (India, China): Maintaining ISO 45001 certification
	Construction PU	• Obtained ISO 45001 certification in 2022
Hyosung Advanced Materials		• Rate of global ISO 45001-certified plants 91% • Obtained ISO 45001 certification for Jeonju Plant in January 2023
Hyosung Chemical		• Maintaining ISO 45001 and KOSHA-MS certifications

Health and Safety at Business Sites

Key Activities for Safety and Health System Improvement

Health Promotion Systems

Hyosung operates various health promotion systems for its employees and supplier workers. Each business unit has its health promotion program in place. Every year, comprehensive health check-ups are conducted for all employees, and we run a health management office managed by industrial nurses to oversee employee health and provide follow-up care. To enhance employee fitness, we also implement programs for musculoskeletal disorders, hearing conservation, and cerebrovascular diseases prevention. We have established a health fund consisting of programs targeting obesity, smoking cessation, and musculoskeletal disorders, ensuring the safety and health of both employees and supplier workers.

Programs	Key activities
Health promotion programs	• Cardiovascular disease prevention program • Health fund for obesity, smoking cessation, and musculoskeletal disorder related issues
Worker health check-ups	• Operation of health management office • Special / temporary / anytime health check-ups
Work environment management	• Musculoskeletal disorder management program • Confined space work management program • Hearing conservation program
Infection prevention	• Development and dissemination of infection control guidelines for infectious diseases • Real-time COVID-19 situation updates through social media • Non-contact body temperature measurement for employees and visitors • Utilization of remote work systems

* Specific details of these programs may vary by each operating company.

Workers' Safety First Work Right System

Hyosung has been implementing the Workers' Safety First Work Right System (workers' work suspension right) since August 2020 to prevent accidents in high-risk workplaces and during high-risk tasks. All employees, including those from suppliers, working in high-risk workplaces can use the work right in accordance with the established workers' safety first work right system criteria to ensure safety during their tasks. The results of the system implementation are regularly reviewed and improved to solidify the Safety First culture at the worksites. In particular, Hyosung Heavy Industries has executed a total of 1,789 workers' work suspension right, including both managers and workers, at construction sites and other high-risk workplaces. This system puts worker safety first on the job sites, emphasizing the importance of ensuring a safe work environment for all employees.

Smart Safety System

Hyosung Heavy Industries

Construction PU has introduced the Hyosung Smart Safety System (HSS System) as part of its efforts to establish a smart safety management infrastructure. The HSS System standardizes the workflow at construction sites and enables real-time monitoring of all safety activities on the field. The HSS System allows for comprehensive safety activity management, including pre-hazard analysis, concentrated management of hazardous tasks, exercising work stoppage rights, and gathering workers' opinion. Additionally, it provides easy measurement and management of safety activity outcomes for each site, partner company, and individual.

Establishing and Operating Safety Golden Rules

Hyosung Heavy Industries

Power & Industrial Systems PG has established and operates the '10 Safety Golden Rules' to prevent potential safety accidents on the field. It includes rules such as the prohibition of entry under heavy loads, the prohibition of safety device disengagement, and the measurement of oxygen concentration in confined spaces. By continuously practicing and enforcing these rules, it contributes to creating a pleasant and safe accident-free workplace.

Key Activities for Improving Business sites Environment

Hyosung focuses on improving the work environment to ensure that workers can operate in a safer and more comfortable environment. We conduct various inspection activities, including safety inspections, equipment inspections, and facility inspections, to identify and address the areas of improvement continuously.

Safety Inspection and Improvement Activities

Hyosung Corporation

At the business site in Anyang, Hyosung Corporation strengthens safety inspections through routine inspections, theme-based inspections, micro-inspections, joint labor-management health and safety inspections, and subcontractor health and safety inspections. We also perform special fire prevention inspections to identify inadequate elements and take corrective measures.

Inspection type	Frequency	Inspection content	No. of identified risks	Correction rate
Daily inspection	Daily	Checking compliance status through checklists	344	100%
Theme-based inspection	Monthly	Managing pre-inspection items and conducting full-scale inspection during patrol	530	100%
Micro inspection	Monthly	Autonomous inspections by production and indirect departments	63	100%
Joint labor-management inspection	Quarterly	Inspection of demands from existing unions and workers' representatives and check on corrective measures	54	100%
Subcontractor inspection	Monthly	Safety management evaluation for each subcontractor	65	100%

Enhanced Health and Safety Inspection Activities

Hyosung Advanced Materials

Hyosung Advanced Materials consistently identifies potential risks and promotes accident prevention activities. It utilizes diverse methods and perspectives to inspect the health and safety status, striving to maintain a continuous improvement in health and safety within the workplace.

Inspection type	Frequency	Inspection content	No. of identified risks	Correction rate
Risk assessment consulting	-	Identifying and improving safety accident risks	47	99%
Compliance inspection of relevant laws and regulations	Biannually	Checking compliance with relevant laws and regulations at the workplace	256	95%
Firefighting equipment inspection	Biennially	Inspection of systems and equipment by professional institutions	323	85%
Top Patrol, daily inspection	Monthly	Workplace-led environmental safety inspection	1,214	100%

Health and Safety at Business Sites

Key Activities for Improving Workplace Health and Safety

Safety Inspection Activities

Hyosung TNC

Hyosung TNC convenes safety and health meetings led by the CEO, along with quarterly site inspections joined by partner companies. Daily facility inspections are also conducted. Additionally, each team leader conducts monthly inspections of the process safety and health. In 2022, a total of 1,382 discrepancies were identified, of which 1,298 were rectified, achieving a 94% improvement rate.

Improvement of Safety Equipment and Devices

Hyosung TNC

Hyosung TNC focuses on identifying and addressing safety risks in on-site operations. Through risk assessments and employee suggestion systems, it identifies potential safety hazards during work and continuously improves on-site safety facilities to ensure fundamental safety.

Smart airbag for injury prevention in case of fall

Forklift driving-linked safety belt device

Enhanced Fire Safety Activities

Hyosung TNC

Hyosung TNC is implementing and reinforcing fire safety measures to prevent potential hazards and protect the lives of employees and company property from fire-related risks.

Fire safety activities	Key activities
Firefighting facility enhancement	Installing fire surveillance CCTVs, strengthening the fire alarm system with improved connectivity, enhancing fire resistance performance of air conditioning ducts, upgrading the automatic fire detection equipment for better functionality, etc.
Fire safety expert diagnostics	Conducting comprehensive inspections and evaluations of fire operation and functions by specialized companies and implementing improvements based on the recommendations provided after the inspections *Achieving a 94% completion with 424 out of 452 recommendations for improvement in 2022
Utilizing fire prevention experts	Engaging fire prevention experts to provide legal advice, safety education, and fire drills (Gumi Plant, Ulsan Plant), Conducting fire safety inspections and consultations with external expert organizations (Daegu Plant)

Customized Safety and Health Inspection by Level

Hyosung Heavy Industries

The Power and Industrial Systems PG has established and implemented a customized safety and health inspection system based on different levels of management to identify and improve potential hazards in the workplace. The C-level safety and health inspection and improvement activities attended by the CEO and the Chief Safety Officer (CSO), focus on high-risk external installation sites and hazardous processes. Departmental self-inspections are carried out on a weekly basis, where each department selects inspection themes and performs routine checks independently to identify and address potential risks. The inspection results are then managed and approved by responsible executives. Moreover, it has a specialized safety patrol conducted by safety managers, who are assigned to specific areas in each plant. This patrol uses accident data analysis to target specific times and days with frequent incidents, leading to more focused inspections to prevent accidents. Through this tailored inspection approach, it successfully identified and improved a total of 2,999 hazards in 2022.

Inspection type	Frequency	Inspection content	No. of identified risks	Correction rate
C-level safety and health inspection	Biannually	Inspecting high-risk sites and processes	206	100%
Departmental self-inspection	Weekly	Selecting inspection themes for internal checks	1,647	100%
Specialized safety patrol	Twice a day	Inspecting accident-prone factors and timeframes	1,146	100%

Overseas Business Site Safety Management

Hyosung Heavy Industries

Hyosung Heavy Industries conducts safety inspections and improvements not only at domestic business sites but also at overseas business sites. Safety investigations were conducted for the GIS plant in India and the motor plant in Vietnam, and overseas safety managers underwent OJT by inviting them to domestic business sites. It also provided support for AED installations. Furthermore, dedicated organizations and a hot-line were established to disseminate and address similar accident cases for continuous improvement.

On-site Safety Inspections and Safety Audits Led by CEO

Hyosung Heavy Industries

Construction PU conducts on-site safety inspections driven by the CEO twice a month to achieve the goal of 'zero serious accidents' and safety health management. The results of these inspections are shared with the entire workforce through safety newsletters to raise safety awareness among all employees. After the site inspections, scores are aggregated quarterly, and safety audits are conducted for the bottom 30% sites. The results of these audits are reported to the CEO, and corrective measures are instructed for each site. The outcomes are then announced company-wide to encourage enhanced safety management at all sites.

Safety inspection at a construction site by CEO

CASE

Expansion of Smart Safety Management System

To prevent workplace accidents, Hyosung continuously introduces and expands advanced safety technologies and equipment within the plant. We have installed a total of 11 safety laser beams to enhance identification and prevent collision accidents with workers, particularly for forklifts that operate frequently during nighttime. Additionally, an AI data recorder has been installed on one forklift with a high movement range to track and record surrounding workers, and its effectiveness is being tested. Further installations and targets are under final review. In 2023, we plan to install intelligent CCTV systems in areas vulnerable to fires, areas with frequent violations of outdoor safety helmets, and areas at risk of worker falls, as part of the continuous efforts for smart safety management.

- **Safety laser beams**: Preventing collisions during forklift night operations
- **AI data recorder**: Tracking and monitoring workers around forklifts
- **Intelligent CCTV**: Monitoring accident occurrences in hazardous areas

Health and Safety at Business Sites

Key Activities for Improving Workplace Health and Safety

Creating an Occupational Accident-free Workplace

Hyosung Chemical

Since 2020, Hyosung Chemical has been operating the 'Safe Workplace Campaign' to reduce accidents and strengthen safety awareness within the workplace. Starting from 2022, the campaign name was changed to 'Creating an Occupational Accident-free Workplace,' and action-oriented safety initiatives are being promoted at each organizational unit. The results of these initiatives are being monitored through the achievement of accident-free records at the PU level. Quantitative evaluations are being conducted for each PU, and outstanding PUs are recognized and awarded to encourage a competitive spirit in achieving safety performance.

- Raising awareness about safety activities
- Implementing various activities to ensure safety
- Managing organizational goals and evaluations related to safety activities

↓

Promoting action-oriented safety activities by each organizational unit

Strengthening internally driven safety activities at each organizational unit

↓

√ Creating an Occupational Accident-free Workplace
√ Attaining accident-free multiples

Year	Activity name	Target	Key activities
2021	Cultivating a safe workplace	Employees at Yongyeon Plant, including in-house personnel	• 'In addition to activities in 2020, holding PU safety and health meetings and promoting PU activities
2022	Creating an Occupational Accident-free Workplace	Employees at Yongyeon Plant, including the employees of contractors and partner companies	• In addition to activities in 2021, taking measures based on partner feedback (VOC)
2023	Creating an Occupational Accident-free Workplace	Employees at all plants, including the employees of contractors and partner companies	• In addition to activities in 2022, promoting accident prevention efforts

Inspection activities	Frequency	Inspection contents	No. of improvements
Various inspection activities for achieving 3 zeros	Monthly	• Inspection of equipment and facilities to remove smoke, odor, and discoloration • Inspection to prevent fatal accidents	11,226
Regular safety inspections at the workplace	Biannually / Monthly	• Company-wide safety inspection (biannually) • PU safety inspection (monthly) • PU site safety inspection based on inspection themes (monthly)	1,847
Improvement of near-miss accident cases	Monthly	• Identifying and improving near-miss accidents	522

Key Safety Management Activities for Stakeholders

Hyosung is actively promoting safety and health improvement for various stakeholders, including suppliers and subcontractors, by conducting safety and health inspections and implementing safety and health enhancement activities tailored to each operating company such as the risk assessment certification scheme.

Subcontractor Safety and Health Inspection and Support

Hyosung Corporation

We operate a monthly consultation committee attended by our safety and health managers and heads of subcontractors to conduct joint inspections and discussions for safety and health improvements. Additionally, semi-annual evaluations of subcontractor safety and health performance are carried out, and support activities, such as education for enhancing safety and health management, are provided to improve their risk identification and mitigation capabilities.

Partner Company Safety and Health Management

Hyosung TNC

Hyosung TNC promotes a collaborative partnership program, safety and health consultation committees, and a partner company safety and health mentoring system to foster accident prevention and establish a safety culture. Partner companies' safety and health levels are evaluated, and a reward system is implemented for outstanding companies.



Subcontractor Safety and Health Risk Assessment and Certification

Hyosung Heavy Industries

The Construction PU implements the Partner Company Safety and Health Risk Assessment and Certification (SCC) in collaboration with external experts. It assesses partner companies' safety and health management systems and grants certification. Certified companies receive support for contracting, consulting, and certification costs, and regular inspections are conducted to renew and manage their certification, aiming to prevent accidents at partner companies.

CSO-led Feedback Collection from Partner Companies

Hyosung Heavy Industries

The Power & Industrial systems PG holds quarterly CSO-led meetings with partner companies to gather opinions on safety and health, and the management provides support for improvement based on these inputs. In 2022, a total of 31 opinions were collected, and a support fund of KRW 320 million was provided for improvements. At the Construction PU, the CSO participates in labor-management committees to listen to opinions from all employees, including supplier employees and address issues. In 2022, a total of 403 opinions were collected, and 392 (97.3%) of them were addressed, achieving a 100% response rate for safety-related opinions.

Enhancing Partner's Safety Management

Hyosung Advanced Materials

Hyosung Advanced Materials' Ulsan Plant provides support for safety and health activities to 17 partner companies. Through the partner-led voluntary safety inspection system and Safety First program, the plant supports partner companies in building their risk assessment capacity and systems. In 2022, a total of 460 risks were identified and addressed. The plant also operates a cooperative partnership program and has achieved the highest grade, A grade, for three consecutive years. For new partner companies, safety and health mentoring is conducted, enabling benchmarking and learning from the plant's excellent partner companies in education and safety management practices. Additionally, annual evaluations recognize outstanding partner companies, and the plant provides financial assistance for external safety agency outsourcing for all partner companies.

Strengthening Partner Company Safety and Health

Hyosung Chemical

Hyosung Chemical enhances workplace safety and health to the level of the parent company through regular communication and workplace inspections with partner companies. Through periodic meetings with partner companies, their opinions are collected, and out of 252 opinions, 241 (96%) were addressed. Quarterly joint inspections with partner companies resulted in a total of 312 improvements. Furthermore, to enhance partner companies' safety management capabilities, it provides support to 20 companies, including monthly dedicated safety manager personnel expenses and outsourcing costs to specialized agencies, totaling approximately KRW 19.5 million. Additionally, to strengthen safety and health responsibilities and sharpen partner companies' safety management capabilities, it has been participating in the cooperative partnership program organized by the Korea Occupational Safety and Health Agency since 2016. In 2022, nine internal and external companies received various technical, material, and financial support, and as a result, they achieved the highest grade, A grade.

Activities	Key activities and effects	
Communication	Operation of partner company committee (monthly) Partner company meetings (monthly) VOC collection through SNS (ongoing)	Sharing of information on plant's risk factors and necessary data
Inspection	Joint inspections for in-house partner company workplaces (quarterly)	Improvement of workplace safety levels
Personnel expenses support	Support for dedicated safety managers (7 companies, approximately KRW 17.5 million) Support for outsourcing safety management to specialized agencies (13 companies, approximately KRW 2 million)	Sharpening partner companies' safety management capabilities
Cooperative partnership program	Technical support: Guidance on risk assessment, educational materials Material support: Personal protective equipment, safety facilities / equipment Financial support: Expenses for workplace environmental measurements, etc.	Enhancing partner companies' responsibility for safety and health measures

Management for Mutual Growth

UN SDGS LINKAGE

Why so important?

If large companies and small- and medium-sized enterprises (SMEs) only pursue maximized short-term profits, there is a concern that it could weaken the foundation for SMEs to survive and lead to a crisis in the corporate ecosystem. Therefore, there is a need to establish a system of mutual cooperation among companies from a medium to long-term perspective. Mutual Growth is recognized as a highly important issue in our society. Hence, not only partner companies but also various stakeholders such as SME customers and rural communities need to come together and face the rapidly changing market environment with challenging and progressive methods while contributing to society and ensuring sustainable growth.

Our Approach

Hyosung is establishing systems for mutual growth, fair trade, and supply chain management for the co-prosperity with stakeholders, including partner companies. We systematically manage this approach to listen to the voices of stakeholders and coexist together, preparing for a sustainable future.

Our Achievement

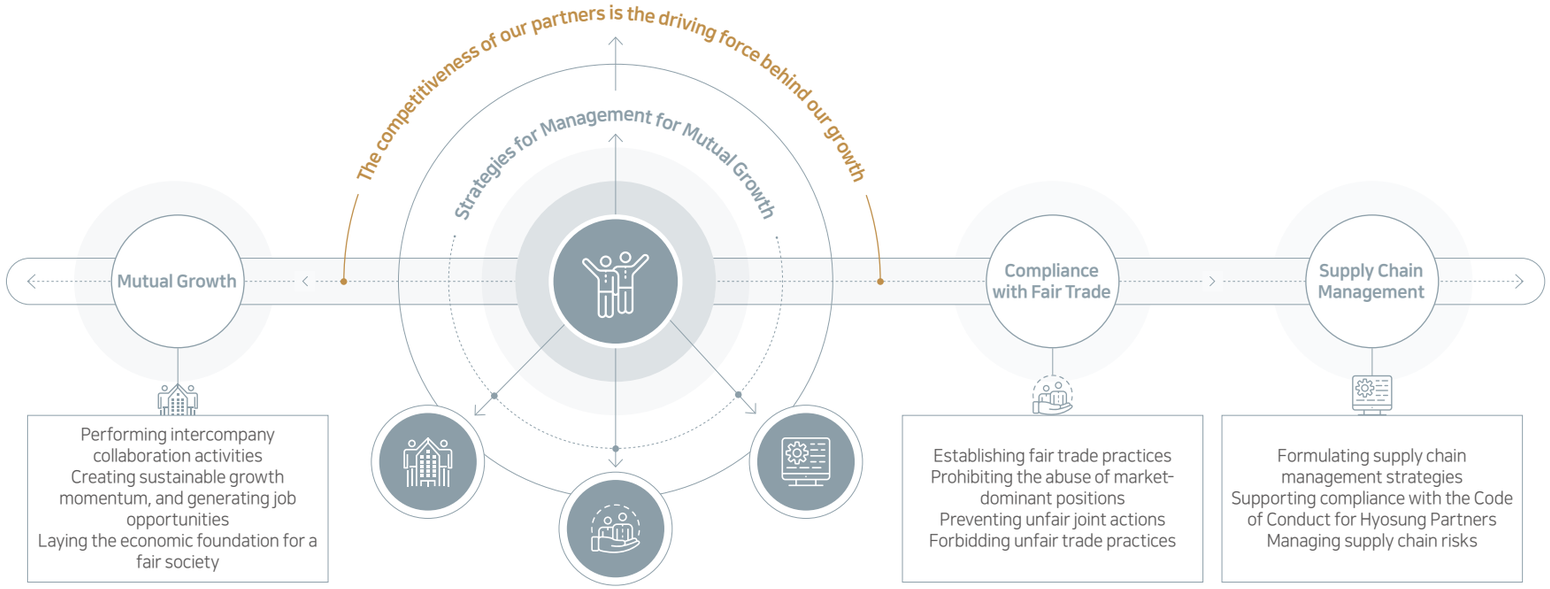
Strengthened operation of collaborative programs for mutual growth with partner companies

Agreements on cooperation for mutual growth	896 partners
Provided ESG education and consulting	18 partners
Energy-saving diagnosis consulting	8 partners
Purchases of environmentally friendly products and services amounted	KRW 53.935 billion

Strengthening for Mutual Growth Management

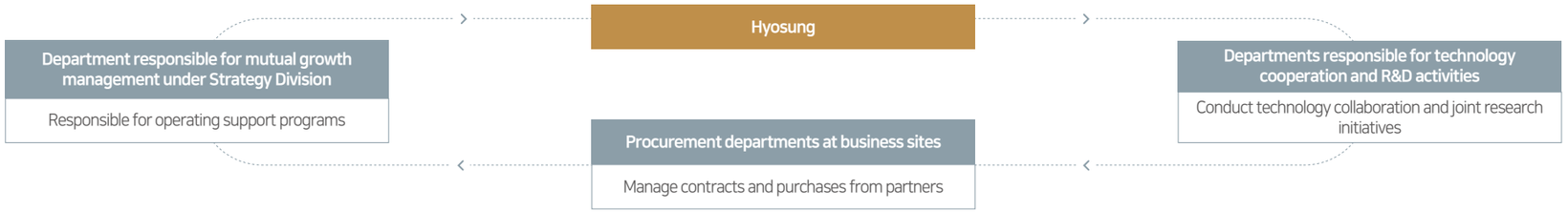
Strategy for Mutual Growth Management

Hyosung is committed to the philosophy that 'the competitiveness of our partners is the driving force behind our growth' and the perception of 'being tied with partners by a common destiny.' Based on this philosophy, we strive to create a common goal that encompasses the entire value chain and work together to shape the future. Through mutual growth management, we promote mutual growth with our partners and establish and abide by the principles of fair trade, aiming to become ethical corporate members in our society. Building a healthy supply chain ecosystem and practicing fair market transactions while fostering intercompany collaboration, we seek sustainable coexistence in fast-evolving markets.



Organization for Promoting Management for Mutual Growth

To systematically carry out activities for mutual growth management, Hyosung organizes a department responsible for mutual growth management affairs within the Strategy Division. It operates the partner support programs and manages partners through purchase departments at each business site, taking into account the characteristics of the supply chain. By listening and communicating with partners about their difficulties and suggestions, we facilitate smooth mutual growth. Additionally, to polish up the technological capabilities and competitiveness of our partners, Hyosung R&DB Labs and the Power & Industrial Systems R&D Center encourage partner participation in joint research initiatives.



Management for Mutual Growth

Key Activities for Mutual Growth

Signing Mutual Growth Agreements and Cash Payments to Excellent Partners

To foster a fair trade culture and promote co-prosperity with partners, Hyosung annually signs mutual growth agreements with outstanding partners selected through self-assessments. These agreements include contents related to compliance with fair trade regulations and support for coexistence, such as timely cash payments. We allow partners to request payment for goods up to three times a month and ensure cash payments within 10 days of issuing tax invoices, contributing to improving the cash flow of partner companies. In 2022, approximately KRW 1.75 trillion (approximately a 33.5% increase compared to 2021) in cash was paid to 896 outstanding partners as part of the mutual growth support.

Category	Year	Hyosung Corporation	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	Total
No. of outstanding partners	2021	107	56	636	50	40	889
	2022	106	57	645	46	42	896
Cash payment (KRW million)	2021	24,860	27,246	712,749	19,211	20,750	804,816
	2022	23,031	32,692	974,282	16,369	28,170	1,074,544

Communication with Partners

To practice mutual growth with partners, Hyosung participates in purchase consultations and directly visits partners to listen to their difficulties and suggestions. Additionally, we maintain continuous communication and operate various support programs to build trust with the suppliers.

PC Renewal for Partners

To support the growth infrastructure of partners, Hyosung provides assistance to selected partners that need to upgrade their business PCs. The support includes providing new SSDs, laptops, desktops, wide monitors, and more.

Supporting Partners Build Their Capacity

Hyosung Corporation and Hyosung Heavy Industries actively participate in government-supported programs for industrial innovation, investment resources, and benefit sharing initiatives to enhance the productivity of partners. Among these initiatives, 25 partners have participated in the performance-sharing program, where support was provided for outdoor worker protection through container facilities for workers to rest and respiratory disease prevention through cleaning vehicles. Moreover, Hyosung has implemented remote video inspections for customer site inspections to reduce response times and enhance partners' productivity and capabilities. Hyosung TNC provides tailored job training through external specialized education institutions like the Korea Management Association Consultant Inc. (KMAC) to improve partners' troubleshooting abilities, productivity, quality innovation, waste reduction, manufacturing cost reduction, and process improvement. Hyosung Advanced Materials engages in activities through the Management Doctor Program to improve various aspects of management for partner companies, including management rationalization, work automation, and welfare system establishment. Hyosung Chemical supported partner companies through management diagnostics using the Management Doctor Program to reduce losses in their processes, cut costs, and increase profits.

Customized ESG Education and Consulting

Hyosung provides professional consulting to improve partners' understanding of ESG activities and easily apply them to their business operations. This includes job training on various aspects of ESG, including human rights, ethics, supply chain, environment, safety, and climate change response. Moreover, tailored ESG management guidebooks are provided to help partners meet the increasing demand for sustainable management. Furthermore, an incentive program is in place, where companies striving to establish an ESG management system receive bonus points in supply chain evaluations.

Category	Hyosung Corporation	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	Total
No. of beneficiary companies	1	1	13	2	1	18

Cooperative Energy-Saving Business with Large, Medium, and Small Enterprises

Hyosung Corporation · Hyosung Heavy Industries · Hyosung Advanced Materials · Hyosung Chemical

To promote energy conservation and GHG emissions reduction among partners, Hyosung has signed a mutual growth agreement for large, medium, and small enterprises with the Korea Energy Agency. Under this agreement, we provide energy diagnosis consulting to partners. The energy managers at the partners undergo a diagnosis of processes and workplace environments to identify factors for energy saving and GHG mitigation. They receive analysis of problem areas, economic feasibility, and improvement themes. If any equipment support is needed, we review and take necessary support measures.

Category	Hyosung Corporation	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical	Total
No. of participating partners	1	4	2	1	8
Energy saving amount (toe / year)	18.79	66.87	26.98	53.68	166.32
GHG emissions reduction amount (t CO_2)	38	135	54	108	335

Energy Saving Equipment Support

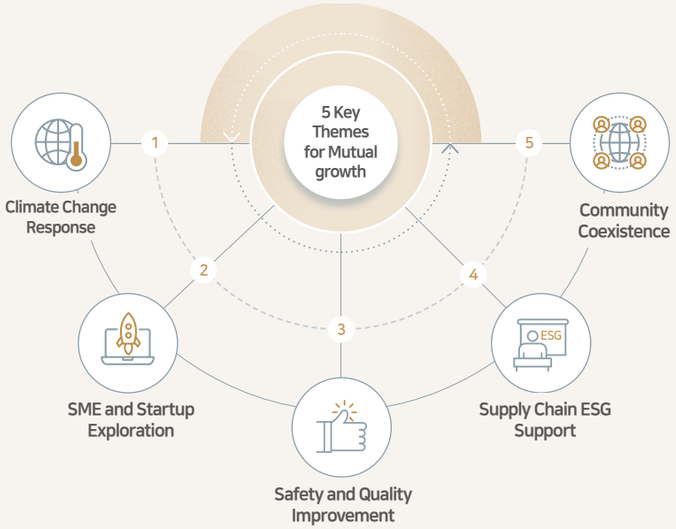
Hyosung Corporation · Hyosung Heavy Industries · Hyosung Advanced Materials

Hyosung conducts on-site diagnostics at partners to identify methods for cutting energy losses and consumption, such as replacing inefficient equipment with high-efficiency ones. We provide support to implement these methods, helping partners reduce energy usage costs.

Category	Hyosung Corporation	Hyosung Heavy Industries	Hyosung Advanced Materials	Total
No. of companies that received energy-saving equipment	1	3	1	5
Annual energy-saving cost (KRW 1,000 / year)	3,084	10,403	4,481	17,968

Five Key Themes for Mutual growth

Hyosung's mutual growth encompasses not only partners but also a broad range of stakeholders, such as small and medium-sized enterprise customers and rural communities. To achieve mutual growth with these stakeholders, we have identified five key themes for focused implementation, including sensitive ESG management issues like climate change and safety



Theme-based Activities

Climate change response
Energy-saving and carbon reduction consulting and equipment support for SMEs
Support for SMEs to obtain eco-friendly certifications and calculate carbon labeling

SME and startup exploration
Brand development for SMEs affiliated with RE:GEN ALLIANCE*
Capacity enhancement for eco-friendly startup businesses

Safety and quality improvement
Equipment support to enhance productivity for SMEs
Cost support for appointing safety managers, safety education, and consulting

Supply chain ESG support
ESG management education / consulting for SMEs
Improvement of working conditions for suppliers and support for women's rights

Community coexistence
Supporting rural communities through producing eco-friendly products, promoting rural community economy (e.g., rice purchases)

↓

Contributing to the growth and sustainability of the community

* RE:GEN ALLIANCE is a guaranteed brand created for external participants with strong commitment to Hyosung's ESG brand, RE:GEN. Hyosung will grow and coexist with RE:GEN ALLIANCE members and lead the dissemination of sustainable values for our society.

Interview with Stakeholders by Theme

SME and Startup Exploration

Interview with Jong-mi Wang, CEO of Pleats Mama, a Startup Participating in Eco-friendly Business Marketing Support

Pleats Mama is a partner of Hyosung, united by the common factors of 'eco-friendliness' and 'fashion.' Hyosung supports Pleats Mama to establish itself as an eco-friendly leading brand, and Pleats Mama acts as a kind of antenna shop, capturing market feedback for Hyosung's materials. Hyosung has provided multi-faceted marketing support for Pleats Mama. Together, we introduced bags and clothing made from reclaimed fishing nets from the southern sea of Korea at 'ISPO Munich 2022' held in Germany. With Hyosung's help, Pleats Mama could open its first flagship store, 'EE:UT' in Samcheong. Hyosung actively contributed to the planning of the flagship store and supported Pleats Mama in overcoming investment difficulties as a startup brand. Pleats Mama hopes for continued collaboration with Hyosung in future flagship stores. We plan to include devices to showcase the detailed process of Hyosung's recycled materials becoming final products and even release Hyosung's limited edition products. In the budding eco-friendly fashion industry, Hyosung aims to lead the industry with its materials, while Pleats Mama excels in product development. Together, we imagine becoming a fantastic partner in resolving domestic environmental issues by reducing reliance on overseas eco-friendly materials.

Climate Change Response

Interview with Dong-su Jang, Factory Manager of Kyung Chang Industrial, a SME Participating in Energy Saving Support Program

Kyung Chang Industrial manufactures and sells gun magazines, bulletproof helmets, and police supplies. Among them, our bulletproof helmets use aramid yarn, a material also widely used in the aerospace industry due to its heat-resistant and robust properties. We chose Hyosung as our aramid yarn partner because of its high-quality products and stable supply, ensuring satisfactory trade. As an excellent business partner, Hyosung actively supports us through the mutual growth program. One of the support programs that has made a significant impact is the energy-saving support project. Hyosung's staff and professional consultants visited our factory to conduct on-site diagnosis to identify any facilities or processes wasting energy. They discovered ways to reduce energy usage and made proposals. We were grateful that Hyosung supported us to replace equipment with a significant energy-saving effects by covering the cost. Hyosung's supports included insulating the steam supply pipe in our facility to prevent unnecessary heat loss, and improving boiler efficiency by utilizing waste heat from exhaust gases. Calculating the energy-saving effect of the supported equipment, we estimated an annual savings of over KRW 4 million. While the amount of savings might not be substantial, it enabled us to become more conscious of climate change. These small efforts, when combined, contribute to a more beneficial society. We hope to continue fostering a mutually beneficial relationship with Hyosung. As Kyung Chang Industrial grows, we expect to increase our orders from Hyosung, and that, to us, is the essence of mutual growth.

Interview with Stakeholders by Theme

Safety and Quality Improvement

Interview with Yang-bae Park, Director of Sung Do General Technology, Participating in Safety Management Technical Guidance Support Program

Sung Do General Technology has been a long-term partner of Hyosung's Yongyeon Plant, responsible for cleaning processes such as heat exchanger cleaning, chemical cleaning, catalyst replacement, and various pipeline cleanings to ensure process safety. We have also extended our partnership with Hyosung into our venture in Vietnam by establishing a local corporation, based on the trust we have in Hyosung. Given the nature of chemical processes, the importance of safety cannot be emphasized enough. Our company utilizes the safety management funds provided by Hyosung to engage external professional organizations for regular safety management. We undergo regular safety inspections, evaluating whether machinery and equipment pose any risks, as well as assessing various aspects related to safety, from electrical installations to the overall factory environment. We receive guidance on these safety-related matters to prevent any safety incidents from Hyosung. We can confidently say that we are doing our best to ensure safety and avoid accidents with Hyosung's help. In the future, as a partner of Hyosung Chemical, a global chemical company, Sung Do General Technology also dreams of becoming a global cleaning company. To achieve this, we look forward to a partnership with Hyosung in not only safety but also in the overall ESG management fields. We firmly believe that Hyosung will continue to make efforts in maintaining a continuous symbiotic relationship, just as it has always been.

ESG Support within Supply Chain

Interview with Ho-jeong Gil, CEO of Strategy & Innovation, Participating in Supply Chain ESG Education / Consulting

Strategy & Innovation has been entrusted by Hyosung to handle the entire consulting process for its partner companies, helping them adapt to the rapidly changing ESG management environment. Our responsibilities include developing ESG management manuals tailored for the partner companies, providing education, conducting assessments, and facilitating improvements. From the initial stages of project planning, Hyosung impressed us by emphasizing a focus on helping partner companies understand ESG management and expanding ESG adoption, rather than merely evaluating and ranking them from a management perspective.

ESG has become a prevalent trend, and various assessment agencies and trading partners are now demanding ESG-related information. However, we noticed that the evaluation criteria and requested information varied significantly, leading many small and medium-sized enterprises to struggle with compliance.

Therefore, Hyosung and Strategy & Innovation put in considerable effort to reference various ESG indicators while analyzing domestic regulations, creating an ESG manual that small and medium-sized enterprises could easily embrace.

To ensure the successful implementation of the manual in the field, we provided education and improvement plans to the partner companies and later revisited them to assess whether the planned initiatives had been effectively implemented. We were pleased to find that ESG management culture was gradually taking root within the partner companies.

As a result of our collaboration with Hyosung, its partner companies now have increased confidence in dealing with future ESG requirements that may arise from exports or business transactions with other major companies. Personally, I believe this experience will be a lasting memory, as we have seen the positive impact of our efforts on the partner companies.

Community Coexistence

Interview with Dong-jun Kim, working at the Rural Fund Management Department, KOFCA(Korea Foundation for Cooperation of Large&Small Business, Rural Affairs)

As a partner dedicated to fostering the development of rural communities, Hyosung has been an especially meaningful collaborator for our foundation in 2022. Hyosung has always been a company with brilliant ideas, making our collaboration an enjoyable experience. One particular project that stands out was the support provided by Hyosung for products utilizing eco-friendly materials in Gunbuk-myeon, Haman. The project was not only an exemplary case of mutual growth between a company and a region but also a model example from an ESG perspective. As a result, our foundation is planning to widely promote this project as an outstanding case.

The T-shirts produced with recycled yarns, a food tray, high-efficiency agricultural dryers, and solar power generation equipment supported in the area not only contribute to the welfare of local students and residents but also play a significant role in reducing carbon emissions by decreasing the use of fossil fuels. This aspect aligns perfectly with both the E (environment) and S (social) aspects of ESG, and we anticipate positive ripple effects in various fields. Additionally, as this project was initiated and executed by Hyosung, a globally active company, it has garnered media attention, further spreading a positive perception of eco-friendly materials.

We hope that Hyosung continues to pursue such projects consistently. With Hyosung's ESG activities resonating throughout the global market, it has the potential to act as a catalyst for promoting eco-friendly product consumption worldwide. The efforts of Hyosung might also create a positive butterfly effect leading to decarbonization and carbon neutrality.

Our foundation will continue to collaborate with Hyosung to create innovative and distinctive ESG projects, elevating mutual brand value. Together, we aim to build a society where local farmers can smile, fostering a community where everyone can share in the joy.

KRW 10 billion Funded for Shared Growth Fund of SMEs and Rural Communities

Hyosung has entered into a memorandum of understanding with the KOFCA (Korea Foundation for Cooperation of Large&Small Business, Rural Affairs) to provide funding for the implementation of the 5 Key Themes for Mutual growth. We have contributed a total of KRW 10 billion, with KRW 5.5 billion allocated to the SME Shared Growth Fund and KRW 4.5 billion to the Rural Shared Growth Fund. Both funds serve as private funds contributed to the cooperative foundation to foster collaboration and coexistence with SMEs and rural communities. Our earnest commitment to coexistence will persist in the future.

Management for Mutual Growth

Compliance with Fair Trade

Establishment of Fair Trade Practices

Hyosung has adopted and implemented the four major practices recommended and established by the Fair Trade Commission to foster a culture of fair trade with its partner. Additionally, guidelines prohibiting retaliatory actions such as restricting or discontinuing one-sided transactions with partners have been announced to create a foundation for a fair partnership. We are committed to building rational and transparent business relationships with our partners.

Four major practices of fair trade

No.1	No.2	No.3	No.4
Practices for contract conclusion	Practices for the establishment and operation of internal review committees	Practices for selection and operation of partners	Practices for issuance and preservation of written documents

Disclosure of Fair Trade Principles for Partners

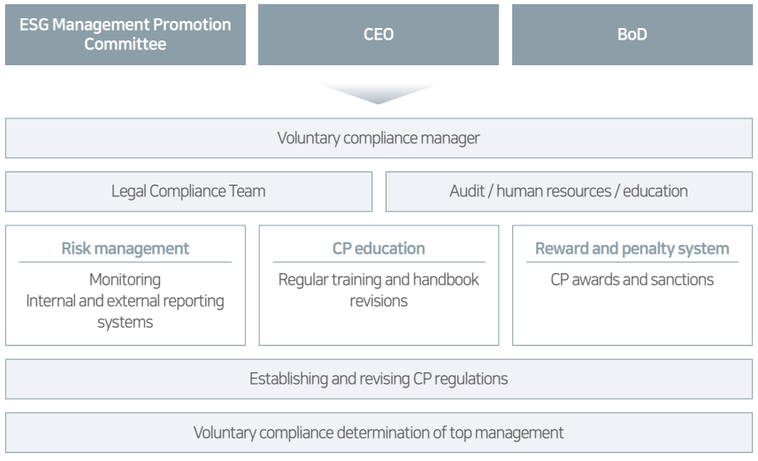
Hyosung and its partners aim to be trusted companies within the community and contribute to sustainable growth. As the first step towards this goal, the 'Code of Conduct for Hyosung Business Partners' was established in 2012. The code was developed in alignment with international standards, including the Universal Declaration of Human Rights, the ten principles of the United Nations Global Compact (UNGC), core conventions of the International Labour Organization (ILO), and OECD Guidelines. It outlines four compliance areas, which include ethical business operations, respect for the human rights of partners' employees, the establishment of a safe working environment, and responsibility for environmental management. The code provides detailed guidance on each compliance area. We are publicly disclosing the code on our website, going beyond the promises between the two parties and declaring our commitment to compliance as a social promise.

Operation of Fair Trade Compliance Program (CP)

To prevent risks related to legal violations and establish a culture of compliance and ethical management among employees, Hyosung operates a Fair Trade Compliance Program. Based on the revised version released in July 2022, the program provides guidelines for fair trade with partners and conducts voluntary compliance management monitoring. Additionally, we use the checklist of the Preliminary Business Consultation System to reinforce anti-corruption activities. Employees are regularly updated on the Fair Trade Compliance Program guidelines through the Fair Trade Compliance Manual to ensure awareness and adherence to the program.

CP Organization and Voluntary Compliance Manager

The fair trade compliance tasks are handled by the Legal Compliance Team. The team ensures that all employees are familiar with our compliance program guidelines, receive fair trade education, and participate in monitoring activities to minimize related risks. The Compliance Officer, appointed by the BoD, serves as the voluntary compliance manager. The officer is responsible for operating the Fair Trade Compliance Program and has been delegated the authority to regularly report important matters directly to the BoD and top management.



Operation of Partner Reporting Center

Our partner companies can report any unfair demands or violations of regulations through channels such as the hot-line and the reporting center, both online and offline. Additionally, various support programs are in place to ensure that all partner companies have equal opportunities along with system improvement.

Introduction of Standard Subcontracting Contracts

Hyosung complies with and applies the standard subcontracting contracts published by the Fair Trade Commission. These contracts include provisions to safeguard the physical and intellectual property rights of its partner companies, such as prohibiting forced provision of technical information, implementing and guaranteeing clauses related to technical data storage and protection of intellectual property rights, and clauses regarding the transfer of ownership of object.

Pre & Post-Contract Deliberation System

Since 2019, Hyosung has implemented and operated a pre and post-contract deliberation system with its partners to conduct self-monitoring on potential illegal activities and unfair practices. Before proceeding with transactions, we verify matters such as the provision of written contracts prior to the transaction, prohibition of unfair subcontracting payment determination, and prohibition of coercion regarding goods and unjust economic demands. After the completion of transactions, we confirm issues such as delayed payment, violations of technical data regulations, and possible reduction of unfair subcontracting payments. Operating this deliberation system has proven effective in preventing legal violations in advance and detecting potential risks associated with unfair trading, enabling early improvements to prevent such risks.

(Unit: Case)

Category	Company name	2021	2022
Pre-contract deliberations	Hyosung Corporation	-	-
	Hyosung TNC	-	-
	Hyosung Heavy Industries	68	56
	Hyosung Advanced Materials	-	462
	Hyosung Chemical	-	-
Post-contract deliberations	Hyosung Corporation	-	-
	Hyosung TNC	-	-
	Hyosung Heavy Industries	30	35
	Hyosung Advanced Materials	-	11
	Hyosung Chemical	-	-
Dispute resolution request	Hyosung Corporation	0	0
	Hyosung TNC	0	0
	Hyosung Heavy Industries	0	0
	Hyosung Advanced Materials	0	0
	Hyosung Chemical	0	0

Management for Mutual Growth

Supply Chain Management

Compliance Pledge to 'Code of Conduct for Hyosung Partners' for Mutual growth

Hyosung accepts compliance pledges from its partners for them to actively participate in the 'Code of Conduct for Hyosung Partners', aimed at becoming a trusted company in the community.
By encouraging them to comply with the code, we aim to establish transparent and fair trading relationships with our partners, facilitating their fulfillment of corporate social responsibilities.

Risk Assessment and Management of Suppliers

Hyosung strives to establish fair and transparent criteria for selecting partners. We clearly disclose mandatory and recommended criteria for participating in bidding on our Mutual Growth website, and any interested company can freely apply for registration as a supplier through the e-procurement system. Furthermore, to manage supply chain risks, we conduct registration screening for all new partners before bidding participation. The evaluation criteria for new partner registration include traditional management aspects such as quality, delivery, price, and business performance, as well as compliance with environmental and safety legal requirements and evaluation of ethical management levels, including human rights and labor. Additionally, we conduct reassessment of existing partners and take differentiated actions based on evaluation results.

Hyosung's partner selection process → Recruitment of partners → Partner evaluation and review → Partner selection (bidding-contracting) → Commencement of transactions (purchase-receipt)

Evaluation Criteria and Weightage

Evaluation criteria	Management evaluation	Human rights issues	Environmental / safety evaluation
Weightage	50 points	30 points	20 points

Actions Based on Supplier Evaluation

Ⓐ Score ≥ 90: Priority given in contract and exempted from reassessment in the next year
Ⓑ Score ≥ 80: Priority given in contract
Ⓒ Score ≥ 70: Maintaining the existing transaction
Ⓓ Score ≥ 60: Warning and guidance management, special assessment within 3 months
Ⓔ Score < 60: Transaction suspension

Since 2022, Hyosung TNC has established and implemented a supply chain management policy that reflects environmental and human rights factors in the management of its partner companies. In addition, it conducted an ESG capability assessment for major domestic suppliers of raw materials and packaging materials, which accounted for 90% of its annual purchases. This assessment was based on Hyosung TNC's own ESG evaluation questionnaire and the ESG self-assessment system of the Korea SMEs and Startups Agency. The results of this assessment were used to support risk management and prevention for partner companies by integrating them with the mutual growth program.

In the construction sector of Hyosung Heavy Industries, an evaluation is conducted annually for partner companies that have been involved in on-site construction for over a month. The top-performing partners are provided with incentives for bidding opportunities, while companies that do not meet the qualification criteria are excluded from the partner list. This ensures thorough management of supply chain risks. In response to the enforcement of the Serious Accident Punishment Act in 2022, the evaluation of safety and health aspects of new partner registrations has been strengthened. Additionally, an ESG management status assessment for both new and existing partner companies has been introduced, and extra points are given to outstanding companies as part of the evaluation process.
The Power and Industrial Systems division has established a system within the Supplier Relationship Management (SRM) platform, which serves as a communication channel with suppliers, to manage the social responsibility management risks of partners. Through this system, suppliers can conduct self-assessments in various ESG sectors.

Hyosung Advanced Materials conducts annual assessments of major raw material suppliers in accordance with international standards such as IATF 16949 and ISO 14001. These assessments cover various aspects, including quality, price, delivery, management, environment, and human rights. Notably, ESG self-assessments covering environmental, labor, human rights, ethics, and safety aspects have been implemented for major partners at overseas business sites to manage and prevent ESG risks. For example, evaluations on topics such as 'awareness training and activities for energy conservation' are conducted to understand climate change risks in the social and environmental sectors and to support partner companies in preventing such risks.

Hyosung Chemical standardized its purchase orders by inserting clauses related to ESG management compliance into its existing purchase orders in both Korean and English. The same criteria are also applied during regular evaluations of partner companies, and the evaluation results are considered during the re-contracting review process.

Green Procurement Policy Compliance

Hyosung is committed to adhering to green procurement policies and taking the lead in practicing green management by purchasing environmentally friendly products and services. Particularly, Hyosung Advanced Materials recently revised its sustainable procurement policy and green procurement policy to respond to the increasing demand for corporate social responsibility in the supply chain sector. As part of this response, the company added provisions related to biodiversity and the prohibition of conflict mineral usage.

(Unit: KRW 1,000)

Company	Purchasing items	2020	2021	2022
Hyosung Corporation	• Recycled nylon chips • Bio-polyester chips • LED and fire extinguishers, etc.	72,448	319,822	341,245
Hyosung TNC	• Recycled nylon / polyester chips • Bio-based spandex raw materials • Other eco-labeled certified raw materials	11,326,858	13,201,928	28,800,344
Hyosung Heavy Industries	• Eco-labeled certified materials • High-efficiency energy-certified equipment • New and Renewable energy-certified products for energy and pollution reduction • Materials for recyclable resources	61,436,059	12,822,586	24,705,929
Hyosung Advanced Materials	• Bio-based raw materials • Recycled polyester chips • Yarns utilizing recycled polypropylene chips	813,313	1,141,128	1,079,461
Hyosung Chemical	• Eco-friendly LED lamps • Eco-friendly ink and adhesives • Recycled toner, etc.	206,050	314,806	366,491

* Eco-friendly products: Products that minimize negative environmental impact by considering resource and energy usage, pollutant emissions, etc., throughout the procurement-production-usage processes
* Hyosung TNC: Data for 2020 and 2021 were revised due to changes in calculation standards.
* Hyosung Advanced Materials: Data for 2020 and 2021 were revised due to changes in calculation standards and addition of eco-friendly items for procurement. Performance decreased compared to the previous year due to the overseas transfer of domestic plants in 2022.

Establishment of Supply Continuity Emergency Scenario and Response Manual

Hyosung Corporation | Hyosung TNC | Hyosung Advanced Materials | Hyosung Chemical

Hyosung has developed scenario training and a response manual to systematically address delivery emergencies affecting all products supplied to customers. These emergency situations include various scenarios such as labor shortages due to strikes, transportation accidents, environmental incidents, and cyber-attacks. Based on these established scenarios, simulated drills are conducted to assess the extent of damages caused by emergencies, identify the causes, and derive recovery and mitigation measures. Through these exercises, issues and improvement measures for each response phase are identified. Moreover, the effectiveness of response outcomes based on these scenarios is validated through such drills.

Customer Obsession

UN SDGS LINKAGE

Background

The paradigm of 21st century management activities is rapidly shifting from 'customer-centric management and customer satisfaction' to 'customer experience innovation and customer happiness. A 'sustainable company' can be achieved when all members deeply immerse themselves in activities that understand customers from various and multidimensional perspectives and go beyond providing top-quality products and services to create long-term customer value, namely customer happiness.

Our approach

Hyosung's customer obsession is a business activity that practices 'customer-first' in the beginning, end, and every category of its management activities.

- Rather than just focusing on providing products and services with a competitive advantage over competitors, we strive to understand the root of the problems that customers face even before they do. We perform our tasks with great curiosity and a deep sense of responsibility for creating long-term customer value.
- We boldly challenge ourselves in customer experience innovation and creating customer value. Failures that occur in the pursuit of customer happiness are willingly accepted and become a process of learning and lessons in our organizational culture.
- We actively adopt scientific methodologies for pursuing customer happiness and continuously innovate to achieve 'sustainable customer happiness.'

Our Achievement

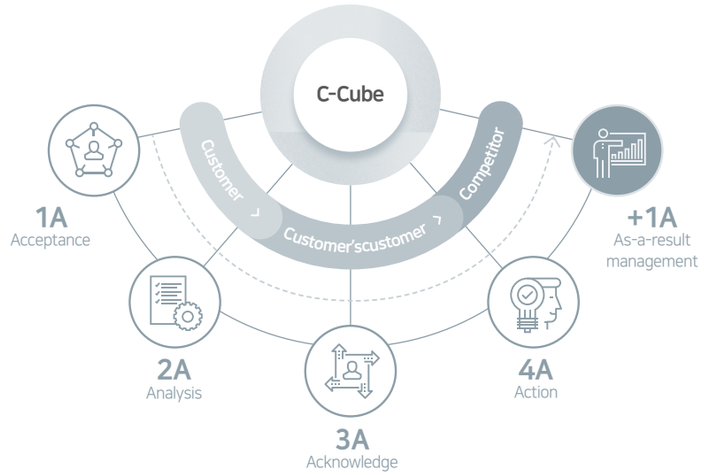
Hyosung TNC International quality standard for hydrogen containers (UN/ECE R134)	Passed with the first domestically produced nylon material hydrogen fuel tank liner
Hyosung Heavy Industries Entry into the eco-friendly and modernization of power grid in Africa	Won contracts for power grid projects in South Africa and Ethiopia
Hyosung Advanced Materials Carbon labeling certified products	Increased the number of certified products from 3 to 18
Hyosung Chemical Production facilities and technology for deuterium (D_2)	Achieved domestic production for the first time

Realization of Customer Obsession

C-Cube System

Since the introduction of C-Cube activities in 2019, Hyosung has been establishing a 4A+1A process as an execution system within the company. The core of the 4A+1A process lies in the analysis of Real VOC through comprehensive information gathering. Real VOC encompasses needs and issues that customers may not even be aware of, and providing solutions to deliver a 'WOW' experience (satisfaction beyond imagination, namely happiness) to customers is the ultimate goal. Additionally, C-Cube activities aim to identify new challenges for future growth, such as environmental sustainability, and enhance brand value.

4A+1A Process



C-Cube Activities

In 2022, various VOC activity cases were analyzed to identify factors that influenced the outcomes. Based on this analysis, improvement measures were derived to contribute to the success of future activities. Particularly, in the area of environmental sustainability, efforts extended beyond product development to include obtaining eco-certifications, organizing offline events to introduce low environmental impact products, and implementing diverse marketing activities to enhance the company's brand value from the perspective of ESG management.

In 2023, VOC activity cases will be analyzed through discussions among different departments to deepen the analysis and enhance the company's overall analytical capabilities. Additionally, sharing market research and VOCO data collection methods among departments will foster overall organizational capabilities. The activation of C-Cube face-to-face training for overseas organizations, which was impacted by the COVID-19 situation, will be revived to strengthen global deployment of C-Cube activities and enhance collaboration between the headquarters and overseas corporates.

Enhancing Customer Value through Quality Management

Securing Global Competitiveness through 'Quality DNA'

Since its establishment of the Quality Management Promotion Headquarters in 1980 and the expansion of Total Quality Control (TQC) activities across the organization, Hyosung has been committed to quality management from an early stage. In 2005, we declared it as the 'The Year of Establishing the Foundation for Quality Management' and adopted action guidelines such as 'Securing World's Best Quality, Customer Satisfaction through Quality Differentiation, and Nurturing Talent' at the Quality Management Declaration Ceremony.

Based on this foundation, each operating company within the Hyosung operates an internal quality improvement system to produce stable and high-quality products, maintaining standardized production conditions. Furthermore, each has obtained and continually renewed the ISO 9001 certification, a globally recognized quality management certification.

Strict Quality Standards for New Product R&D

Hyosung Advanced Materials

Hyosung Advanced Materials succeeded in the development of a new ballistic helmet using aramid which it had initiated the development of in 2017, and it commenced deliveries of the helmet to the South Korean military in the second half of 2023. By applying its self-developed 'super fiber' aramid, Hyosung Advanced Materials enhanced the bulletproof performance against pistol ammunition compared to conventional materials, while also improving comfort through ergonomic design. These achievements allow it to provide solutions that meet rigorous quality standards in terms of safety and convenience.

Bio Product Certification Acquisition

Hyosung Chemical

Hyosung Chemical obtained bio-based product certification for its optical film product through the United States Department of Agriculture (USDA)'s Bio Preferred Program. The program evaluates the bio-based carbon content of products. Hyosung Chemical's BESTOF Film passed the minimum bio-based content criteria with 47% bio-based content, earning the final certification. By focusing on quality management and obtaining bio-based product certification, Hyosung Chemical aims to offer reliable products and contribute to the expansion of the use of renewable bio-based materials.

Customer Obsession

Communication with Customers - Real VOC

Addressing Customer's Eco-Friendly Needs through Communication

With increasing global interest in eco-friendly solutions, Hyosung is proactively responding to eco-friendly material needs by strengthening communication with global customers through various domestic and international exhibition activities.

Need for eco-friendly materials


Recycled fiber


Industrial bio-based fiber


Carbon-saving polymer

Preview in Daegu / Seoul 2022 - Low Environmental Impact Fiber Hyosung TNC

Hyosung TNC participated in the largest fiber exhibition in Korea, 'Preview in Daegu / Seoul' and showcased spandex fibers made from corn-based raw materials and nylon fabrics recycled from discarded PET bottles and fishing nets. Additionally, Hyosung TNC presented variety of fashion products, collaborating with top domestic SPA brand 'TopTen' and casual wear brand 'ZioZia'.

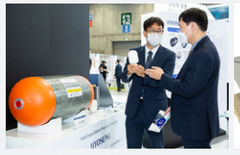
ISPO Munich 2022 - Eco-Friendly Fashion Collaboration Hyosung TNC

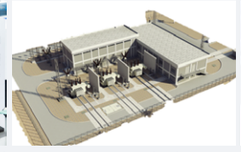
At ISPO, the world's largest outdoor and sportswear exhibition, Hyosung TNC collaborated with the domestic sustainable fashion startup brand, PLEATSMAMMA, to showcase 'Discarded Fishing Net Edition' bags and apparel made from 'regen Ocean Nylon', recycled fiber from discarded fishing nets.

Chinaplas 2023 - Carbon Reduction Eco-Friendly Materials Hyosung Chemical

Hyosung Chemical participated in the Chinaplas 2023 exhibition in China, introducing its Poketone brand. Following its presence at the K-Show 2022 in Germany, it focused on promoting Poketone's eco-friendly features, such as harmless to humans and low CO_2 emissions, by showcasing its applications in EV components in Europe and China and 3D printing materials, aiming to enhance brand awareness.

Needs for Transition to Renewable Energy


Hydrogen fuel tank material


Digital substation

Carbon fiber hydrogen fuel tank

H2 MEET 2022 - Eco-Friendly Material for Hydrogen Fuel Tanks Hyosung TNC

At the H2 MEET(H2 Mobility Energy Environment Technology) 2022, the Hydrogen Industry networking exhibition, Hyosung TNC presented a nylon-based liner material for hydrogen fuel tank for the first time in Korea. Hydrogen fuel tank liners play a crucial role in preventing hydrogen leakage. The nylon-based liner is lighter and stronger than the preexisting metal liner, so it is expected to become a key material that increases the energy efficiency of hydrogen vehicles.

CIGRE 2022 - Eco-Friendly Technologies for Power Transmission and Distribution Hyosung Heavy Industries

Hyosung Heavy Industries participated in CIGRE 2022, organized by the International Council on Large Electric Systems, held in France. As a highly prestigious international technical organization in the power and distribution field for over a century, CIGRE presented various technical seminars and exhibitions. Hyosung Heavy Industries showcased its eco-friendly technologies along with other leading technologies in the field.

JEC World 2022 - Carbon Fiber Hydrogen Fuel Tanks Hyosung Advanced Materials

Hyosung Advanced Materials attended JEC World 2022, the world's largest composite materials exhibition featuring cutting-edge composite technology. At the event, it introduced hydrogen fuel tanks with TANSOME®, highlighting its outstanding strength, thereby showcasing Korea's excellent technological capabilities to the global audience.

Diverse Communication Channels with Customers

In order to have close communication and active feedback with customers and provide solutions that quickly capture their expectations and demands, we operate various customer communication channels to achieve customer value creation.

Multi-Channel Communication for Customer Engagement Hyosung Heavy Industries

Hyosung Heavy Industries strengthens its customer communication system by utilizing various communication channels. It publishes the 'Power Technology Magazine' for customers, sharing global trends in power technology along with its activities and achievements. Additionally, it operates the YouTube channel 'Harrington Tube' for ongoing communication.

Marketing through Monthly Newsletters Hyosung Advanced Materials

As part of our customer communication channels, Hyosung Advanced Materials issues a monthly newsletter to establish a new communication platform. Starting from 2020, it has been publishing newsletters every month to regularly communicate with a wider range of customers. The newsletter contains market information, such as Hyosung Advanced Materials' operational status, introducing new products, raw material prices, and logistics updates. It shares insights on lightweight trends in the new mobility sector and the effects of applying eco-friendly products, thereby expanding opportunities for increased scope of customer companies and sales.

Expanding Online Customer Meetings Hyosung Advanced Materials

Considering the impact of COVID-19, Hyosung Advanced Materials initiated online meetings and webinars in 2020 as a regular communication channel. It has conducted 3,249 meetings in 2020, 5,624 in 2021, and 8,580 in 2022 to listen to the VOC. Through online meetings, it actively engages customers in climate change response seminars and collaborative work. Particularly, it promptly assesses mutual needs for product carbon footprint and reduction implementation. Global customer companies such as Autoliv, Goodyear, and Continental use this channel to explain their carbon-neutral roadmaps and sustainable management directions. Also they regularly followup on the partner company's mid to long-term carbon emission reduction goals and their execution.

Customer Obsession

Expanding Product Development and Services to Reflect Customer Needs

Hyosung TNC

Development of Nylon Material for Hydrogen Fuel Tank Liner - A First in Korea

Hyosung TNC was the first Korean company to succeed in developing and utilizing nylon as the 'liner' material for fuel tanks with its proprietary technology. The nylon material applied to hydrogen containers has passed the international quality standard (UN/ECE R134) test, demonstrating its functionality, quality, and technical completeness as a liner material. It plans to collaborate with hydrogen fuel tank manufacturers and automobile companies to conduct commercial tests.
As the market for various hydrogen mobility solutions expands, including hydrogen-powered EVs, drones, trams, ships, and urban air mobility, nylon is expected to attract more attention as a liner material for hydrogen containers. Hyosung TNC is striving to expand new growth drivers by quickly identifying these market trends.

Hyosung TNC

World's First Commercialization of 'regen Bio-Based Spandex' Made from Corn

In response to strong demands from domestic and international fashion brands for eco-friendly products, Hyosung TNC has achieved success in developing and commercializing 'regen Bio-based Spandex' made from natural materials extracted from corn, instead of non-renewable resources. This groundbreaking product has received global eco-friendly certifications.
'regen Bio-based Spandex' replaces some of the raw materials extracted from non-renewable resources with materials obtained from corn, which is USDA certified for bio-content. Previously, corn-extracted materials were used in packaging, cosmetics, and liquid detergents but were not suitable for high-performance fiber products like Spandex due to their lack of elasticity and recovery. After more than one year of R&D, Hyosung TNC succeeded in commercializing 'regen Bio-Based Spandex' and received the SGS ECO PRODUCT mark, a bio-raw material certification.

Hyosung Heavy Industries

Overseas Market Expansion to Meet Customers' Large Capacity GIS Demands

As the VOC for customers' large capacity Gas Insulated Switchgear* (GIS) increases, Hyosung Heavy Industries has been working on the development of large capacity GIS since 2020, to establish a lineup that can lead the premium large GIS market.
By securing global top-level design technology for large capacity GIS, Hyosung Heavy Industries has been able to quickly enter major markets centered around the Middle East and North America. Particularly, last year's order of 420kV 80kA GIS in Kuwait was a significant achievement as it marked its first entry into the Kuwait market. Moreover, by becoming the first domestic company to penetrate the US large capacity GIS market, which was previously dominated by European and Japanese companies, Hyosung has secured a favorable precedent for expanding future contracts.
The continuous effort to achieve technological differentiation and explore premium markets in the field of large capacity GIS will lead to the completion of high-quality products and customer satisfaction.

*Gas Insulated Switchgear (GIS): A device used to swiftly interrupt current during normal and abnormal conditions to protect the power system

Hyosung Heavy Industries

Promoting Eco-Friendly and Modernization of African Power Grid

The Republic of South Africa's power authority has announced the Just Energy Transition Program (JET) and Energy Storage System (ESS) implementation plan to achieve carbon neutrality by 2050. In response, Hyosung Heavy Industries has focused on customer VOC that emphasizes technological capabilities. It has engaged in activities such as technology seminars to showcase its technological competence, detailed analysis of evaluation criteria using networks, and recruitment of technical advisors from customer companies, all aimed at understanding customer needs thoroughly. As a result of these efforts, it has achieved success in securing the first-phase ESS project by the South African power authority. Furthermore, through high design and construction capability, it has established a strong market presence in South Africa and neighboring regions.
Furthermore, Hyosung Heavy Industries has secured a contract for a large-scale power grid project from the Ethiopian power authority. The project involves the installation of five substations, including AIS and GIS substations in the Southern Nations, Nationalities and People's Region of southwestern Ethiopia. With this project, GIS will be introduced to Ethiopia's national power grid for the first time, leading to further market expansion in the region.

Customer Obsession

Expanding Product Development and Services to Reflect Customer Needs

Hyosung Advanced Materials

Development of All-PET Circular Economy Products with Recycling Consideration

Hyosung Advanced Materials recognized that eco-friendly material development is essential for meeting the increasing demand for eco-friendly regulations and achieving carbon neutrality in the automotive industry, as discussed in the company customer conference on future trends in November 2022. To address this, it is currently developing All-PET carpets that can be recycled after use, going beyond the already supplied car carpets with biopolyesters and recycled polyesters for eco-friendly vehicles. With the transformation of automobiles from EVs to eco-friendly Multi-Purpose Built Vehicles (PBVs) that can be provided to customers at a lower cost according to their business purposes and demands, Hyosung Advanced Materials, as an interior material company, is striving to propose new values that meet the needs of customers.

Hyosung Advanced Materials

Expanding Carbon Labeling in Response to Eco-Friendly Trends in the Mobility Industry

Considering the eco-friendly trends in the automotive industry, which is an important customer segment for Hyosung Advanced Materials, it is necessary to calculate and manage not only the emissions from the plant but also the emissions from the products. Following the Sustainability Steering Committee meeting in the first half of 2021, it expanded the carbon labeling* certification, which was limited to three existing tire code products, to all major products in all business units. The GHG Emissions information of the products, calculated according to ISO 14067 and verified by a third party, has been transparently disclosed on our website and elsewhere. In 2022, it obtained carbon labeling certification for a total of 18 products from eight domestic and overseas plants, including carpets, aramids, and carbon fibers. It aims to establish a system for calculating and managing the overall environmental impact throughout the product lifecycle to meet the customer's needs for understanding and improving carbon and other environmental impacts.

*Carbon labeling: A certification process that verifies and awards labels based on the GHG Emissions produced throughout the entire lifecycle of a product. The emissions are converted into an equivalent amount of carbon dioxide (CO_2).

Hyosung Chemical

Best Optical Film, Customers' Total Solution Partner

Hyosung Chemical's Optical Film PU is committed to being the best in the Plain TAC* market, a display polarizer material. It actively reflects the needs of its customers and supplies various widths and lengths of products while making efforts to meet customer demands for specific characteristics. The PU brand 'BESTOF' stands for 'Best Optical Film' and also carries the meaning of 'Best of TAC,' aiming to be the best in the TAC industry. It strives to provide customers with the best quality and performance and position itself as the customer's 'Total Solution Partner.'

*TAC (Tri-Acetyl Cellulose): A type of material used to protect the PVA polarizing film within LCD polarizers

Hyosung Chemical

Strengthening the Semiconductor Material Supply Chain Domestication of the Entire Deuterium Process

Hyosung Chemical's Neochem PU succeeded in domesticating the production facilities and technology for deuterium (D_2) for the first time in Korea in 2022, based on the electrochemical technology developed over 20 years. The newly completed production facility can produce 10 tons of high-purity deuterium annually and is currently undergoing product quality evaluation by a domestic semiconductor manufacturer, with supply to overseas optical cable manufacturers. Deuterium is a gas used in the heat treatment process of semiconductors and optical cables and is classified as a strategic material, making international trade challenging. As Korea relies entirely on imports for deuterium for semiconductors and optical cables, it aims to contribute to the stabilization of the domestic supply chain, thus reducing the country's dependence on foreign sources.

ESG MANAGEMENT

Environmental Management at Business Sites

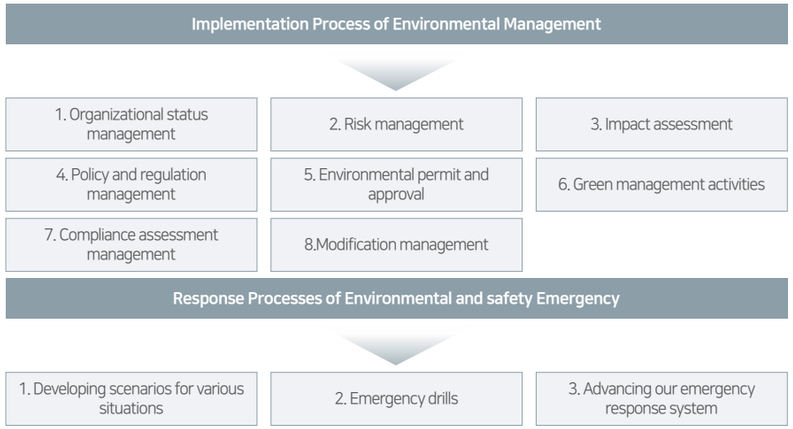
UN SDGS LINKAGE

Hyosung is committed to minimizing any negative environmental impact caused by its business operations. To this end, we have established a set of internal management standards that are even stricter than the emission allowances set by environmental regulations. Moreover, we are implementing investment plans aimed at improving the overall environmental quality and creating eco-friendly workplaces. Business activities have been identified as one of the contributors to ecosystem destruction. Recognizing the global growing demand for conserving biodiversity, we will initiate various activities geared towards environmental protection and biodiversity conservation, with the goal of creating a healthy ecosystem.

Environmental Management Status of Business Sites

Environmental Management Policy

Hyosung operates an environmental management system based on ISO 14001, and formulates and manages its own environmental management policy.



Principles of Compliance with Environmental Regulations

- We adhere to the principles of environmental regulation compliance to mitigate environmental pollution and impacts while ensuring efficient management of environmental risks. The principles include:
  1. We promptly incorporate amendments to environmental regulations based on our environmental management policies, manuals, and processes. Additionally, we conduct thorough reviews of the regulations to ensure efficient environmental risk management along with annual evaluations of compliance.
  2. We minimize environmental impacts by setting internal standards that are more stringent than the legal requirements.
  3. We transparently disclose our adherence to environmental regulations to stakeholders through diverse channels, including sustainability reports, environmental information disclosure systems, and CDP.
- We establish KPIs and environmental management targets covering environmental certifications, environmental impact assessments, environmental compliance assessments, regulation management, pollutant emission levels, waste generation, and handling of stakeholder complaints, and develop annual plans to monitor the progress and achievement of these objectives.

Air Quality Management

Compliance with Legal Emission Allowances and Establishment of Own Emission Standards

- Hyosung abides by the legal emission allowances for air pollutants and also establishes internal emission standards that are stricter than the legal requirements.
- We conduct continuous monitoring and equipment replacement to ensure continuous compliance with the internal emission standards.
- Hyosung Corporation and Hyosung Heavy Industries have implemented rigorous management by setting the internal emission standards at 20% and 50%, respectively, compared to the legal emission allowances.

Real-Time Monitoring of Air Pollutant Emissions

- Hyosung TNC Ulsan Plant has installed TMS for key facilities to monitor air pollutant emissions in real time, and an expansion of TMS installation is planned to establish a real-time monitoring system for all workplaces.
- At Hyosung Advanced Materials Jeonju Plant, TMS has been installed for facilities that exceed 4 tons of nitrogen oxide (NOx) emissions per year. In addition, real-time automatic measuring instruments have been installed at two outlets to monitor the emission of specific air pollutants and NOx.
- Hyosung Chemical Yongyeon Plant has installed TMS for key facilities to establish a real-time monitoring system for the total emissions of air pollutants. Additionally, to ensure the proper combustion of managed substances, such as volatile organic compounds, a flare stack calorimeter has been operated.

Advancing Environmental Management to Minimize Air Pollutant Emissions

- Hyosung Corporation and Hyosung Chemical have installed low-NOx burners in the boilers to reduce NOx emissions.
- Hyosung Heavy Industries Changwon Plant is currently working on lessening compressed air consumption and extending the lifetime of bag filters through the introduction of injector pulses for descaling. The Changwon Plant also plans to establish replacement cycles and work standards for pre-treatment filters, rubber packings, and activated carbon, including bag filters.
- Hyosung Advanced Materials Ulsan Plant has been participating in the 'voluntary agreement for reducing fine dust and pollutants subject to total volume control' with the Ministry of Environment.
- Hyosung Advanced Materials Jeonju Plant has installed high-temperature specialized ceramic bag filters to all the firing line to minimize dust emissions.
- During the PET film production process at Hyosung Chemical, hazardous workplace substances and atmospheric pollutants are emitted from the in-line coating machine. To address this issue, local exhaust systems and activated carbon adsorption towers have been installed.

Environmental Management at Business Sites

Environmental Management Status of Business Sites

Water Quality and Effluent Management

Compliance with Legal Emission Allowances and Establishment of Own Emission Standards

- Hyosung complies with the legal emission allowances for water pollutants and also establishes internal emission standards that are stricter than the legal requirements.
- With an aim of monitoring water pollutants, Hyosung Corporation, Hyosung Heavy Industries and Hyosung Chemical have implemented rigorous management by setting their own internal emission standards at 20%, 50% and 30% respectively, compared to the legal emission allowances.

Monitoring of Water Pollutant Emissions

- Hyosung Corporation conducts water quality analysis for specific substance harmful to water quality four times per year for all facilities to manage the emission of newly added pollutants beyond the ones permitted.
- Hyosung TNC Gumi Plant monitors water pollutant discharge by commissioning monthly water quality analysis to an external specialized agency.
- Hyosung Heavy Industries monitors the discharge concentration of water pollutants by conducting monthly water quality tests. The wastewater sludge is removed through dredging to enhance treatment efficiency.
- Hyosung Advanced Materials operates a monitoring system that analyzes inflow wastewater and immediately notifies any leaks if the pollutant concentration exceeds normal levels.
- Hyosung Chemical carries out regular monitoring of pollutant emissions and quarterly reports the actual emissions compared to planned targets to the ESG Management Committee.

Minimizing Water Consumption

- Hyosung is dedicated to reducing water usage at each business site to alleviate water stress, implementing water recycling and other water-saving initiatives.
- At the Hyosung TNC, rainwater is stored in reservoirs within the facility and reused as cooling water, while recycled water is used in various processes to minimize water consumption.
- Hyosung Heavy Industries minimizes unnecessary water use by conducting internal checks to prevent leaks, and recycles water used in watertight tests for switch gears.
- Hyosung Advanced Materials collects water used in production processes and discharges it into an emergency reservoir within the plant for reuse as cooling water. In March 2023, on World Water Day, a campaign was conducted to raise employee awareness about water resources and water scarcity.
- Hyosung Chemical stores relatively low-contamination washing water in industrial water reservoirs for reuse. The quarterly water usage is reported to the ESG Management Committee, compared to the planned target.

Waste Management

Waste Disposal

- Hyosung makes persistent efforts to cut down on waste generation by promoting the reuse and recycling of a higher proportion of waste produced during its manufacturing processes.

Category	Activities
Hyosung Corporation	• Sorting, processing, and selling waste synthetic fibers and synthetic resins generated during the processes to recycling companies or entrust them for recycling. • Consistently surpassing the annual targets of the resource circulation promotion system.
Hyosung TNC	• Evaporating the moisture in the emulsion for reuse. • Recycling wastewater sludge which was previously disposed by landfilling • Installing a high-efficiency dehydrator to minimize wastewater sludge. • Recovering methane through anaerobic digestion of wastewater for use as an alternative to fossil fuels.
Hyosung Heavy Industries	• Selection and recycling of thinner cans, powder cans, miscellaneous irons, etc. • Introducing a real-name waste discharge system for waste oil and paint, facilitating reduction in waste discharge.
Hyosung Advanced Materials	• Recycling all wastewater sludge, synthetic fibers, organic solvents, and wood by entrusting them to a waste treatment company. • Commissioning entrusted companies to regenerate used activated carbon into products instead of landfilling. • Planning to invest in shredding, neutralizing, and sludge washing facilities in June 2023 to reduce waste dope from aramid waste.
Hyosung Chemical	• Quarterly reporting to the ESG Management Promotion Committee on waste recycling rates with efforts to increase recycling rates. • Considering investments in drying equipment for wastewater sludge to mitigate waste generation. • Actively working on developing products conducive to reducing waste.

Chemical Substance Management

Electronic System for Chemical Management

- Hyosung controls all chemical substances used in its production processes through an ERP-based electronic system, verifying whether they contain regulated chemicals. When procuring chemicals, we require Material Safety and Health Data (MSDS) and Letters of Confirmation (LOC) from suppliers. Only materials approved after confirming their regulatory status in the Electronic Chemical Management System (ECMS) are eligible for purchase.
- Our electronic system ensures compliance with the Toxic Chemicals Control Act and the Act on the Registration and Evaluation, etc. of Chemical Substances, enabling systematic data management of all chemical substances. We maintain transparency by submitting and disclosing information on chemical substance performance, emissions, and statistical data to the Ministry of Environment.

Management of Chemical Substances: Warehousing Inspection on Handling Facilities and Reduction of Hazardous Chemicals

- Hyosung R&DB Labs has developed an low environmental impact catalyst, 'Antimony-Free,' to replace antimony (Sb), one of the eight hazardous heavy metals. Hyosung TNC plans to utilize this catalyst in polyester manufacturing to reduce the use of hazardous chemicals.
- Hyosung Heavy Industries Changwon Plant annually replaces existing hazardous chemicals with non-hazardous alternatives and endeavors to avoid the use of new hazardous chemicals through pre-environmental safety reviews.
- Hyosung Advanced Materials Ulsan Plant manages data on chemical material intake and outtake for each process, as well as emissions from prevention facilities and water discharges from wastewater treatment plants.
- Hyosung Advanced Materials Jeonju Plant has revised the plans for chemical accident prevention and management by integrating off-site impact assessments and hazard management plans and the plans have been approved by the National Institute of Chemical Safety.
- Hyosung Chemical has installed leak detectors in hazardous chemical storage facilities to ensure early detection of harmful chemicals in case of emergencies and promptly respond to prevent environmental incidents.
- Hyosung Chemical's Suppliers are required to conduct inspections before shipping, and vehicles transporting chemicals can enter the company premises only after passing pre-shipment inspections using the Supplier Self-Checklist without any issues found. Upon receipt of the chemicals, related personnel from each team conduct inspections under the supervision of the Environmental Safety Team, the Production Team, and the Quality Team.

Training on MSDS and Handling Chemical Substances

- Hyosung obtains Material Safety and Health Data (MSDS) from suppliers and provides specialized training to all employees, categorizing them as administrators, handlers, and workers, to prevent chemical accidents.
- We develop response manuals to prepare for chemical accidents and conduct optimized training.

Environmental Management at Business Sites

Key Activities for forstering Biodiversity

RE:GEN GUARDIAN: Hyosung's ESG Activities to Promote Biodiversity

- Hyosung defines RE:GEN GUARDIAN as the 'Journey for all species' and aspires to restore the environment of our planet, encompassing the sea, land, rivers, and air, to its original state. The ultimate goal is to create a better world that can be shared with all generations of humanity.

One Company, One River Initiative

- At Hyosung Corporation Anyang Plant, employees engage in monthly environmental cleaning activities along the Anyangcheon stream and Hogegun Riverside Park. These efforts are aimed at enhancing water quality, preserving habitats, and restoring the local ecosystem.
- Employees at Hyosung Heavy Industries Changwon Plant conduct annual garbage collection activities in the riverside areas of Namcheon and Wanancheon, near the factory to safeguard the aquatic ecosystem. Moreover, a collaborative initiative with other companies in Changwon Industrial Complex is scheduled for conducting environmental cleanup activities at Bongam tidal flats and Changwon Gwisan sea, commencing from Marine Day in 2023.
- Hyosung TNC and Hyosung Advanced Materials actively participate in environmental cleanup campaigns under the One Company, One River initiative. Their dedicated efforts involve the removal of harmful plants to foster biodiversity along Yeocheoncheon, an ecological stream in Nam-gu, Ulsan.

Engaging Citizens and Employees in Plogging and Tree Planting

- Hyosung hosted the 'Sebit ESG Color Festival' at Sebitseom.
- We organized the 'Sebit RE:GEN Plogging,' to engage citizens in environmental cleaning efforts along the Han River.
- In celebration of our 50th anniversary, Hyosung established the 'Hyosung Sharing Forest' at Noeul Park within the World Cup Park in Mapo-gu. Since 2016, we have been organizing an annual tree planting event at the Hyosung Sharing Forest, bringing together citizens, employees, and their families to participate in the meaningful initiative.
- As of 2022, the initiative has successfully planted over 3,000 trees, representing around 40 different species. Additionally, we support annual operating expenses to preserve and manage the ecosystem of Noeul Park.


Contribution to the Shared Growth Fund for Rural Community and Fostering Marine Forest

- Hyosung has contributed KRW 4.5 billion to the “Shared Growth Fund” for Rural Community and collaborates with Korea Fisheries Resources Agency and Geoje-Si to promote marine forest management for the conservation of marine biodiversity.
- Seagrass, designated as a protected marine species under the Marine Ecosystem Act, plays a crucial role in providing food, habitat, and nursery grounds in marine ecosystems. It is also internationally recognized as a representative blue carbon with its carbon absorption capabilities.
- The Shared Growth Fund supports activities to improve marine environment, such as monitoring the distribution and habitat of seagrass, seagrass transplantation, and collection of abandoned fishing gear in the sea.
- Creating marine forests has various positive effects on marine ecosystem health, including a 2.5-fold increase in benthic organism populations, a 1.5-fold increase in the number of species present, and a 1.2-fold increase in species diversity index compared to before their establishment.

Restoration of Class Ⅱ Endangered Plant 'Jeonju Pogostemon'

Hyosung Advanced Materials

- In May 2022, Hyosung Advanced Materials signed an MOU with the National Institute of Ecology for ‘Biodiversity Conservation and Eco-culture Promotion’ and organized a tree planting event for the class Ⅱ endangered plant 'Jeonju pogostemon' in September at Girin Park in Jeonju.

Implementing Behavioral Enrichment Programs for Wildlife Conservation Beyond Natural Habitats and Reproduction Enhancement

Hyosung Chemical

- Hyosung Chemical Oksan Plant actively participates in biodiversity conservation activities through 'Behavioral Enrichment' programs in collaboration with Cheongju Zoo, an ex-situ conservation institution.
- Various behavioral enrichment programs are implemented for the animals living in the zoo, providing them with experiences similar to their natural habitats. These activities include offering opportunities for feeding, play, and sensory stimulation.
- We plan to conduct regular activities to enhance the physical and psychological well-being of endangered wildlife species, such as Asiatic black bears, Eurasian lynx, Leopard cat, and Red-crowned crane, and to improve their chances of successful breeding in the future.


Recognition of Our Commitment to Supporting Endangered Species Conservation

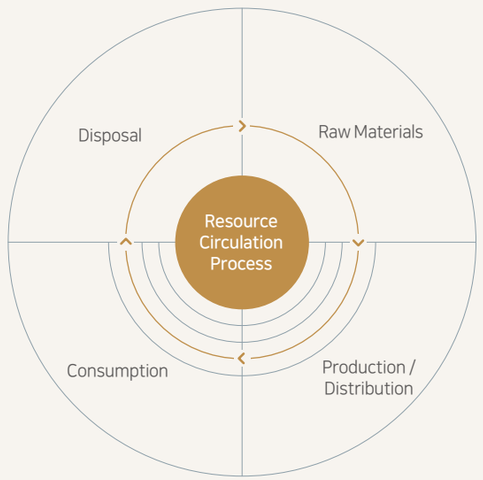
Hyosung Advanced Materials Hyosung Chemical

- Hyosung Advanced Materials' Efforts in Restoring Class Ⅱ Endangered Plant 'Jeonju Pogostemon' and Hyosung Chemical's 'Behavioral Enrichment' Programs for Endangered Wildlife Species such as Asiatic Black Bears and Himalayan Tahr were recognized.
- On the ‘Endangered Species Day’ in 2023, Hyosung Advanced Materials and Hyosung Chemical were awarded certificates and plaques of recognition from the National Institute of Ecology for their dedicated support and sponsorship in conserving endangered wildlife species.

Circular Economy

UN SDGS LINKAGE

Hyosung takes a comprehensive approach to resource circulation to preserve our planet's resources for future generations. Throughout the entire process of our products, from production and distribution to consumption, we are committed to promoting the efficient use of resources, minimizing waste generation, and encouraging the recycling and reuse of waste materials. Aiming to contribute to the creation of a sustainable circular economy society, we implement specific policies tailored to each stage of the process.



Resource Circulation System

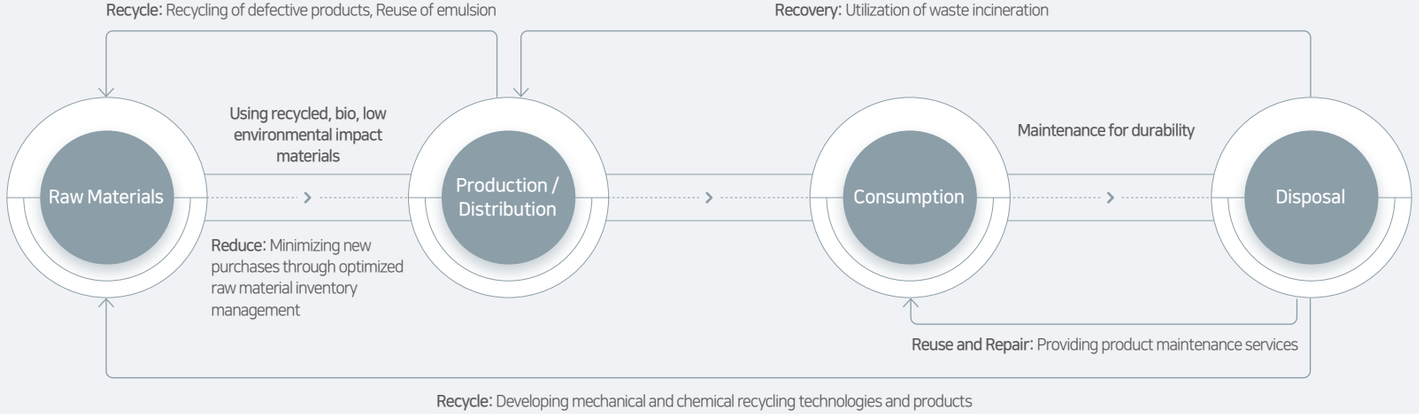
Hyosung establishes its company-wide resource circulation process to minimize the environmental impact throughout the entire product lifecycle, from raw material development to production, distribution, and disposal. By managing waste materials according to this process, we aim to contribute to the creation of a sustainable circular economy system.

R&D on Green Technologies

- Developing lyocell tire cord, made of cellulose extracted from wood
- Developing cation dyeable (CD) PET yarn using waste PET bottles as raw materials
- Developing an industrial Bio-PET yarn that is produced using Bio-EG, a material extracted from plants
- Developing the world's first bio-based spandex yarn made of substances extracted from natural raw materials such as corn
- Developing the All-PET car mat with less waste generation.

Using and Producing Low Carbon Raw Materials, Minimizing Use of Virgin Raw Materials

- Developing a technology to recycle waste fishing nets into nylon fabrics.
- Producing recycled polyester yarn using extracted raw materials from plastic waste to apply in fabrics, tire reinforcement materials, car mats, and carpets.
- Developing car mats and carpets using recycled Bulked Continuous Filament (BCF).
- Minimizing new purchases through optimized raw material inventory management.



Reducing and Recycling Waste

- Introducing a real-name waste discharge system for waste oil and paint, facilitating waste discharge reductions
- Installing a high-efficiency dehydrator and investing in the advancement of manufacturing processes to minimize wastewater sludge
- Reuse of emulsion
- Recycling all wastewater sludge, synthetic fibers, organic solvents, wood, activated carbon by entrusting them to a waste treatment company.

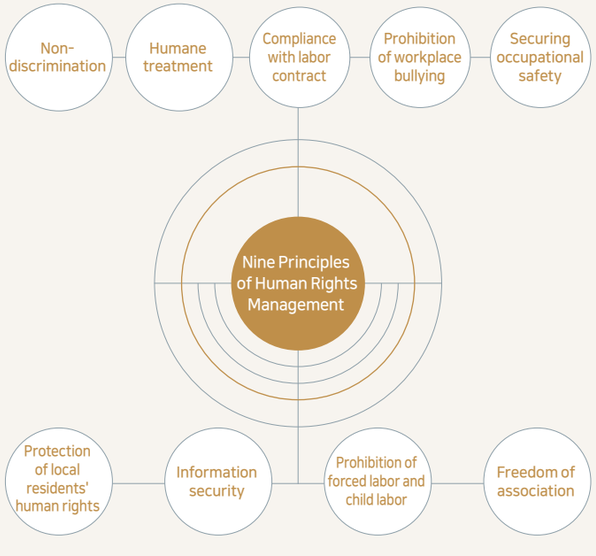
Resource Circulation of Waste Materials Outside Business Sites

- Recycling steam generated by incinerating waste from external incinerators in the manufacturing process
- Establishing a network to trade external steam and steam generated during process among nearby plants
- Opening 'the Goodwill Store Hyosung Branch 1,' a social enterprise promoting resource circulation, where our employees donated items.

Human Rights Management

UN SDGS LINKAGE

As human rights issues during business activities come to the forefront, corporate responsibility to respect human rights has become an undeniable trend. Hyosung has developed a human rights policy based on the United Nations Global Compact's Ten Principles. Guided by our nine Hyosung Human Rights Management Principles, we provide clear guidelines for all employees to make principled and ethical decisions. Our ultimate goal is to cultivate an upright corporate culture and evolve into a company that fully embraces its social role and responsibilities.



Establishing Human Rights Standards

Human Rights Policies and Principles

- By means of the 'Hyosung Way,' our value system aimed at 'enhancing and enriching quality of life for humanity with our leading technologies and management capability,' we pursue mutual growth with all stakeholders
- Hyosung establish human rights policies to ensure human rights protection of all stakeholders, and the policies incorporate the Ten Principles of the UNGC, the labor standards suggested by the ILO and the OECD Guidelines for Multinational Enterprises.
- We comply with labor rights and standards regarding working conditions and strive to protect and promote human rights of employees not only in Korea, but also in all other countries where we have a business presence.

Human Rights Impact Assessment

- We conduct a company-wide human rights impact assessment once a year. For the assessment, we utilize metrics derived from the human rights management guidelines and checklist distributed by the National Human Rights Commission of Korea.
- In 2023, we plan to enhance existing evaluation criteria such as measures to institutionalize human rights management and remediation process, and add new evaluation items related to human rights protection within the workplaces to advance the checklist.
- Through human rights impact assessments, we aim to proactively identify potential risks to our stakeholders and implement activities to prevent the infringement of human rights and mitigate negative human rights impacts.

Stakeholders	Potential risks	Countermeasures
Employees	Discrimination in employment	Implementing an employment preference policy for people with disabilities and socially vulnerable groups Operating the maternity protection system - Preventing career breaks caused by childbirth and childcare Conducting employment programs for women in socially vulnerable groups - Increasing female workforce representation
	Discrimination and harassment	Operating an in-house reporting center - Establishing a process for reporting and addressing human rights violations and harassment
	Employee safety and health	Health check-up programs - Operating programs to prevent cerebrovascular and cardiovascular diseases, health check-up programs for employees, and health funds Mental health programs - Management of mental well-being of employees
	Prohibition of forced labor	Adopting a flexible working system - Ensuring compliance with legal working hours
Customers	Customer human rights abuse	Reinforcing the customer information security system - Establishing a privacy policy and assigning personnel and departments responsible for information security
Suppliers	Safety and health of partners	Enhancing safety management of partner companies - Operating a voluntary safety inspection system led by partner companies - Implementing mentoring programs on safety and health for new partner companies
Local community	Guaranteeing environmental rights around the business sites	Building eco-friendly business sites - Investing in environmental facilities to prevent pollution

Reporting Channel

- We have established both internal and external reporting systems to address issues related to undeserved demands, unfair business practices, verbal abuse, and physical violence.
- We have developed a resolution manual for addressing human rights infringements, ensuring the protection of victims and providing appropriate remedies in accordance with regulations.
- Cases received via the reporting channel are promptly handled by the Audit Team, initiating an investigation following internal procedures. The investigation is conducted with utmost confidentiality, ensuring that any information related to the reported matter or the informant is kept confidential. The progress of the investigation is communicated to the whistleblower in a transparent manner.
- The HR Counseling Center is operated to collect and deliver employees' work-related grievances directly to the HR Team, covering various issues such as conflicts with colleagues, career aptitude, and workplace bullying. The HR Team takes appropriate action and resolves issues through interviews with employees.

Employee Training on Human Rights

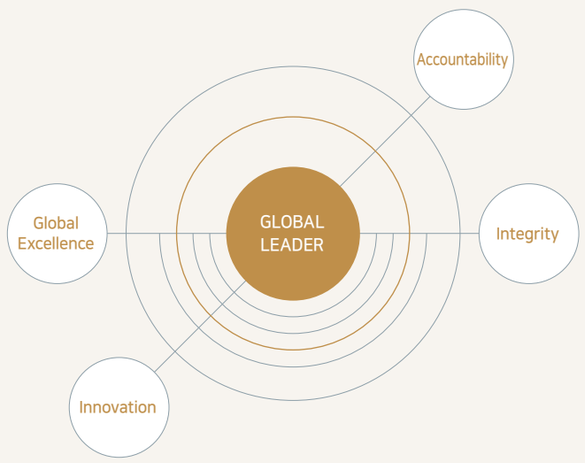
- We conduct human rights training programs both online and offline, covering various topics such as combating sexual harassment and assault, preventing abuse of power and workplace bullying, and promoting awareness of the rights of people with disabilities.
- We unfold various campaigns with an aim of creating a working environment that can safeguard human rights.
- We establish our own comprehensive countermeasures against power abuse and continually carry out prevention activities to spread a culture of mutual respect.

Category	Training	Content
All employees	Training on the prevention of workplace sexual harassment	Eliminating sexual harassment and violence, and relevant regulations
	Training on the prevention of workplace bullying	Defining bullying and discrimination, and learning relevant regulations and preventive measures
	Training for raising awareness of people with disabilities	Understanding type of disabilities, and learning relevant laws and regulations
	First step toward human rights (dignity)	The meaning of human dignity, the history of human rights, and dignity of interdependence (materials on the YouTube channel of the National Human Rights Commission)

Talent Management

UN SDGS LINKAGE

In pursuit of fulfilling its mission to 'enhance and enrich the quality of life for humanity with our leading technologies and management capability,' Hyosung seeks to attract individuals equipped with the qualities of 'Global Excellence,' 'Innovation,' 'Accountability,' and 'Integrity,' nurturing them to become global leaders. Moreover, we place emphasis on enhancing employee engagement and job satisfaction by promoting work-life balance and fostering a positive organizational culture, which is achieved through active listening and incorporation of employees' valuable feedback.



Global Excellence
Talents with global competitiveness and superior capabilities

Innovation
Talents who embrace new challenges

Accountability
Talents who work with a sense of ownership

Integrity
Talents who build trust in their work with colleagues

Talent Recruiting and Onboarding Support

Direction

- We fulfill our mission to 'enhance and enrich the quality of life for humanity with our leading technologies and management capability.'
- We seek to attract talents equipped with the qualities of 'Global Excellence,' 'Innovation,' 'Accountability,' and 'Integrity'.
- We aim to become a global leader, together with our employees.

Open Recruitment

- We operate both regular and occasional recruitment channels to attract 'global leaders' who can fulfill Hyosung's mission
- We transparently share information on employment contracts and the recruiting process through our own online recruitment site.
- All applicants are given equal opportunity in the recruitment process and are not subjected to discrimination based upon their academic background, age, race, gender, or religion.
- In order to serve the socially disadvantaged, we implement the employment preference policy for people with national merit or disabilities.
- To ensure fair and open recruitment, we deliver preliminary training to interviewers

Onboarding Programs

- We operate onboarding programs to help new employees quickly adapt to the company and demonstrate their capabilities.
  > New hires include junior-level employees selected through regular recruitment, experienced employees selected through occasional recruitment, and externally recruited executives.
- New employees participate in introductory training on Hyosung – which consists of lectures on Hyosung's core values, history, business skills, and special lectures – immediately after joining the company. Job training and OJT programs are provided for each operating company and department to help employees better understand their positions and easily adapt to the corporate environment.
- Experienced employees participate in a 3-day training program once a quarter aimed at helping them become familiar with the core values, corporate culture, organizational structure, and systems of their new organization.
- Externally recruited executives participate in 1:1 intensive training, provided by in-house lecturers, to better understand the management status, organizational structure, corporate culture, and management philosophy.
- Considering the constraints presented by the prolonged COVID-19 pandemic, a metaverse platform is in operation to help new employees more quickly adapt to the company and develop an emotional bond with their colleagues.

Category	Onboarding programs
New employees	• Introductory training consists of programs on Hyosung's core values, history, business skills, and special lectures. • Job training for each operating company and department to help employees better understand their positions • OJT programs
Experienced employees	• Quarterly training program to support familiarization with the core values, corporate culture, organizational structure, and systems
Executives	• 1:1 intensive training, provided by in-house lecturers, for better understanding of the management status, organizational structure, corporate culture, and management philosophy

On-the-job-Training (OJT) Program	
Period	Under the guidance of selected senior employees, this program extends over six months following the completion of introductory training provided by Hyosung / operating companies, and job placement in their designated departments (specifics may vary by department).
Content	Senior employees share required skills to support newcomers in preparing for their new positions.
Qualification requirements for senior employees	• A person who has more than three years of work experience in a department where new employees are assigned • A person who has an outstanding performance record and understanding of the company • A person who is recommended by each team leader
Description	• During the initial four months, the training focuses on hands-on subjects relevant to the position, aimed at enhancing employees' capacity to effectively perform their job duties. • For the following two months, newcomers develop essential knowledge and competencies required for the position, reviewing work manuals and engaging in improvement tasks.

Talent Management

Employee Capacity Building

Talent Development Strategy

- For the purpose of realizing our core values through global leaders, we have established a comprehensive talent development strategy that includes elements such as 'instilling our management philosophy,' 'nurturing leadership,' 'empowering expertise,' and 'cultivating global competence.'
- The Human Resource Development Center of the holding company provides programs on core values, management philosophy and leadership skills for all employees, while each operating company provides specialized training to sharpen job expertise and skills.

Instilling Our Management Philosophy

- Our management philosophy is deeply integrated into our training programs, where we embed our core values, known as the 'Hyosung Way,' and the corresponding 'Work Attitude' that aligns with these values to all our employees. Through this approach, we encourage and inspire our employees to follow a unified direction, fostering a workplace culture that embodies and practices these values.
- We conduct training programs to raise awareness about the significance of mutual collaboration and effective communication among team members, fostering work synergy.

Training program	Content	Trainee
Work attitude training on responsible management practice	Fostering work attitudes for responsible management: Studying job-specific best practices and developing concrete action plans for implementation during actual tasks.	All employees
Training for new employees	Training on corporate history, business, core values, and work attitude to facilitate quick onboarding of new employees	New hires (new / experienced)
Training by position	Programs to enhance capabilities, leadership, and measures to increase brand value for each job position	All employees

Empowering Expertise

- To achieve value-driven management through global excellence, we offer progressive training programs tailored to each job group.
- Each operating company conducts customized vocational training at the PU / business site / team level, tailored to the unique characteristics of its business. This training approach integrates hands-on work experience and learning concurrently.
- Job training programs encompass knowledge and skills essential for fulfilling job duties within sales, research, production, and accounting sectors.

Job Training by the Human Resource Development Center (for All Employees): Core Knowledge / Skills by Job Group	
Category	**Content**
Common	Business communication, presentation skills, strategic planning, problem-solving, data utilization, agile methodologies
Sales	Marketing strategies, customer consultation skills, key client management, overseas market research, price negotiation, sales strategy
Production	Manufacturing cost management, quality issue resolution, process innovation, quality management, on-site problem solving, data analysis
Research	Project management, R&D performance evaluation, creative problem solving, cost-saving design, product / process improvement
Accounting	Financial statements, financial analysis, cost management, cost / profit analysis, business feasibility analysis, enterprise valuation

Occasional Training by PU / Business Site: Job Knowledge / Skills by Business

Category	Content
Sales	Comprehensive understanding of sales activities, including customers, markets, competition, credit, inventory, and logistics
Production	Comprehensive understanding of production activities, including processes, facilities, quality, innovation, and environmental safety
Research	Comprehensive understanding of R&D activities, including technology development, research methodologies, feasibility studies
Management	Comprehensive understanding of management and operations, including costs, accounting, regulations, HR, labor relations
Common competencies	Relevant knowledge and competencies required in each business division, including product knowledge, work attitude, organizational strategies

Nurturing Leadership

- We have developed a diverse range of educational programs to cultivate leaders who will steer the company's ongoing growth. Through a tiered training, we aim to polish up overall management capabilities, elevate leadership skills, and foster a positive organizational culture, all of which will enable us to effectively manage and operate the business.

Category	Content
New executives	Nurturing essential entrepreneurial management competencies and the mindset required for executive roles
Scouted executives	Assisting the onboarding of scouted executives by providing education on our core values, business status, and company policies
GMC (Global Management Course)	Assisting the onboarding of executive candidates by providing education on key management functions and assigning improvement tasks
Team leaders	Engaging in detailed discussions with team leaders to implement our management philosophy effectively Supporting team leaders in improving intergenerational understanding and communication skills to enhance their leadership Enhancing regular assessments and feedback for team members to ensure effective team management
New team leaders	Supporting newly appointed personnel to fulfill their roles and responsibilities, as team leaders, in terms of performance / personnel / organization management

Cultivating Global Competence

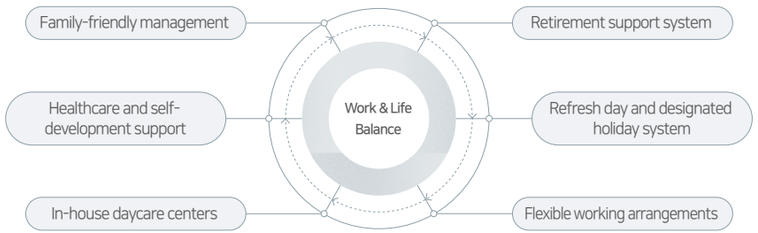
- We listen to the educational needs to ensure the sustained growth of overseas subsidiaries, providing training programs for local personnel and resident staff.
- In 2022, we focused on capacity building of local personnel in China
  - > Providing training to local sales personnel on collecting trade information and enhancing consultation skills.
  - > Creating a cohesive Hyosung identity through training programs covering the company's history, global business operations, and the Hyosung Way, specifically targeting newly promoted employees.
- In 2023, our focus will be on cultivating successors, including candidates for corporate leadership, to advance a management approach led by local personnel. We will provide consultation for overseas subsidiaries in need of educational systems.

Talent Management

Work & Life Balance

Work & Life Balance

- Driven by the conviction that the well-being of employees underpins our growth, we embrace family-friendly management practices and facilitate internal and external communication initiatives. These efforts are aimed at assisting our employees in achieving a work-life balance.



Refresh Day and Designated Holiday System

- Under the 'Refresh Day Policy,' Hyosung encourages employees to take advantage of up to five consecutive annual paid holidays in situations where using their paid leave might be challenging due to plant operation schedules.
- We also implement the Designated Holiday Policy, granting employees time off, aligning with one-day national holidays or traditional holidays. In 2022, we assigned holidays through this system in months that has no statutory holiday.

Flexible Working Arrangements

- Hyosung adheres to legal working hour regulations (52 hours per week) while promoting flexible work arrangements to enhance employee productivity.
- We have introduced a selective working hours system and a flexible working hours system, ensuring overtime compensation for extra work.
- Through these mechanisms, employees can effectively manage their time based on workload, fostering flexibility and efficiency.

Healthcare and Self-development Support

Programs for Healing and Mental Well-being to Overcome Pandemic Fatigue

Hyosung TNC | Hyosung Heavy Industries | Hyosung Advanced Materials

- In light of the prolonged COVID-19 situation, we have initiated programs aimed at boosting employee morale and relieving the stress arising from work responsibilities.
- Operation of non-face-to-face health and culture programs, real-time YouTube tours with local guides and experts, online art museum tours, and online meditation provide a chance to recharge comfortably.

Subscription Services for Self-Development

Hyosung TNC

- In the midst of the rapid digital transformation prompted by the aftermath of COVID-19, we have broadened the scope of education to include on-demand services for our employees, beyond virtual learning.
- Starting from 2022, we have introduced subscription services such as 'Audio Classes' and 'Audio Books,' tailored to individual preferences. These offerings empower employees to engage in self-development anytime and anywhere, with a variety of topics, leveraging digital devices.

Retirement Support System

Hyosung TNC | Hyosung Advanced Materials

- In 2022, the Reemployment Support System evolved into the Career Design Program, expanding its participant scope from employees reaching retirement age to employees aged 50 and above. This adjustment enables them to actively prepare for their second phase of life.
- A new program was introduced to assist employees aged 50 and above in creating lifelong career plans.
- Participants have the opportunity to select specific areas of interest, such as relationships & networking, health, finances, housing & leisure, as part of the proactive preparation for their post-retirement life.

Family-friendly Management

Support for Educational Expenses

- Full support of admission and tuition fees for children entering or currently enrolled regular high schools and universities /colleges in South Korea
- Financial aid for children studying in foreign high schools and universities

Support for Leisure Activities

- Supporting club activity expenses for employees
- Offering condominium support for employees and their family members

Healthcare Management

- Providing comprehensive health check-ups for all employees
- Providing comprehensive health check-ups for spouses of employees aged 40 and above
- Subscribing accident insurance coverage for all employees

Maternity Protection System

- Providing maternity leave of 90-120 days before and after childbirth, and leave for prenatal checkups
- Shorten working hours during pregnancy
- Providing leave and medical expense support in case of miscarriage or stillbirth
- Allowing shortened working hours and childcare leave after childbirth
- Securing place and time for breastfeeding
- Allowing leave for spouse's childbirth and family care leave
- Restricting night and holiday work for pregnant employees

In-house Daycare Centers

- Hyosung operates in-house daycare centers in the Mapo, and Changwon
- To create a nurturing childcare environment, we collaborate with professional childcare service agencies to hire skilled teachers, ensuring high-quality education and dependable childcare. Additionally, we perform regular inspections to ensure the absence of toxic substances.

Talent Management

Organizational Revitalization Activities

Team Building Activities (Hyosung One Team, HOT)

- Hyosung operates a team-building program called 'Hyosung One Team' (HOT) with the aim of fostering effective communication and cooperation within teams to generate synergies.
- Initially, the HOT program was organized on a voluntary basis until 2018. Starting from 2019, it has been integrated into the training curriculum for new team leaders. This integration helps new leaders swiftly restructure their teams and establish seamless communication channels with their team members.
- Through this program, participants have the opportunity to assess their team dynamics, pinpoint underlying issues, and collaboratively develop solutions, thereby using the experience as a stepping stone for further progress.
- The HOT training program was temporarily halted due to the COVID-19 pandemic. However, we are currently resuming the program, which is contributing to enhance team atmosphere. Moreover, we are designing courses tailored to the diverse needs of teams such as fostering intergenerational communication, strengthening collaboration, and improving work efficiency.

The Proud Hyosung-er Award

- Proud Hyosung Employee Recognition Award is conducted on a quarterly and annual basis to executives or employees who achieve outstanding performance in contributing to our growth and development.
- Winners are selected from the marketing, technology, research, and management support divisions, and monetary incentives and promotion-related advantages are given as rewards
- Through the award, we motivate employees to achieve management goals and expand the scope of recognition to include qualitative contributions beyond quantitative achievements, acknowledging and encouraging employees' efforts.

Enhancing Communication

Mutual Communication System

- In order to facilitate cross-departmental communication in PGs and PUs, we are designating 'Communicators' at each business site.
- At least one employee at each site should be selected as a communicator. Once appointed as a communicator, the employee is responsible for communicating and sharing information on issues pertaining to their business site, after undergoing proper training related to organizational communication.
- We operate programs to enhancing work synergy, with the goal of recognizing the importance of mutual cooperation among team members and effective communication.
- Team leaders acquire mentoring and coaching techniques to foster their subordinates, while improving their communication skills to support organizational effectiveness. Team members understand cross-generational work methodologies, developing work capabilities through effective communication.

Enhancing Labor-Management Communication

- Labor unions are established within the company. At each business site, they regularly conduct briefing sessions or tiered meetings, sharing our management status to employees.
- Our headquarters and each business site have established Labor-Management Committees, holding quarterly meetings to address received complaints and manage issues at a company-wide level. Continuous monitoring ensures the progress of improvements.

HR Counseling Center

- The HR Counseling Center serves as a communication channel to collect and deliver employees' work-related grievances regarding various issues, such as sexual harassment, embezzlement, and personnel corruption, to HR executives.
- The center has contributed to an increase in employee satisfaction and a decrease in the employee turnover rate by providing them with grievance counselling and opportunities to change job duties.
- HR executives conduct direct interviews with employees and give them feedback under strict confidentiality.

Internal Bulletin Boards, Blogs and Other External Communication Channels

- Hyosung operates communication boards such as 'Tong Tong Bulletin Board' and 'Wa-gle Wa-gle' on the company intranet where all employees can widely share business information and news, as well as freely exchange their opinions.
- We proactively engage with and address the feedback and suggestions submitted by employees through the Tong Tong Bulletin Board.
- We share diverse news both within and outside the company – including major corporate news, updates on social contribution activities, and employee stories – through the Hyosung blog, 'MY FRIEND HYOSUNG,' the company magazine, and in-house broad casting HBS.
- We share information about our business, products, and sustainable management through various external communication channels such as YouTube, Instagram, Facebook, and KakaoTalk.

External Communication Channels

Hyosung Official Facebook Page
https://www.facebook.com/myfriendhyosung

Hyosung Official Naver Post Page
https://post.naver.com/hyosungpr

YouTube Channel - Hyosung TV
https://www.youtube.com/channel/UCpR8UwUbF20GCWJy4hxCOdQ

Hyosung Blog - MY FRIEND HYOSUNG
https://blog.hyosung.com

Hyosung Kakao Talk Channel
Http://pf.kakao.com/_vxfxdPj

Hyosung Brand Journalism

Brand New 효성
Hyosung Worldwide
hyosung_worldwide

- Search for 'channel name' in KakaoTalk, YouTube, Instagram, Facebook, and LinkedIn.

Corporate Social Responsibility

UN SDGS LINKAGE

In contemporary society, companies are called upon to fulfill various responsibilities beyond the traditional roles of production and employment, and actively address diverse social issues as members of society. Accordingly, it has become important for companies to discharge their social responsibilities and seek sustainable growth by gaining legitimacy and fostering a positive reputation. Rather than offering short-term assistance, Hyosung aims to create a society where beneficiaries can become self-reliant. We also continue to work on achieving mutual benefits for the company and local communities by enhancing social contribution activities closely aligned with our core business activities.

Our Achievements

KRW 3.071 billion
Social contribution invest-ments

Selected for 4 consecutive years
CSR in the Community

298 individuals hired
Among participants in the Employment Promotion Program

Corporate Social Responsibility System

CSR Strategy

- Under the social contribution slogan, 'we will stand with you through sharing,' Hyosung carries out social contribution activities based on its vision of being 'a company that empowers beneficiaries to pioneer their future through education and sharing'.
- In pursuit of our vision, we have formulated our CSR strategy across three focus areas: aiding vulnerable groups domestically and internationally, sponsoring cultural and artistic endeavors, and providing assistance to patriots and veterans.
- We carry out social contribution initiatives using low environmental impact products linked to our core businesses, aiming to tackle climate change and advance ESG management in tandem.
- Strengthening our commitment to giving back to society, we support women re-entering the workforce after a career break, sponsor Goodwill stores, and extend aid to elderly national merit recipients, etc.

We Will Stand with You through Sharing

Vision	A company that empowers beneficiaries to pioneer their future through education and sharing		
Strategy	Aiding vulnerable groups domestical-ly and internation-ally	Sponsoring cultural and artistic en-deavors	Providing assis-tance to patriots and veterans
UN SDGs			
Mid- to long-term KPIs	Creating a society where beneficiaries can become self-reliant	Discovering sus-tainable programs through communi-cation with local stakeholders in-stead of one-time support	Expanding long-term support pro-grams for three years or more

Selected for 'CSR in the Community' Recognition Institution

- Since 2019, we have been recognized for our social contribution efforts in the Corporate Social Responsibility in the Community program, jointly conducted by the Ministry of Health and Welfare and the Korean Council of Social Welfare, for four consecutive years.
- In partnerships with non-profit organizations, we participate in social contribution activities to promote community engagement.
- Hyosung Advanced Materials Ulsan Plant was acknowledged for its contributions and received commendation from the Minister of Health and Welfare in December 2022.

Company	CSR activities
Hyosung Corporation	Employee volunteer activities and support for the Janggunbong Daycare Center for children with disabilities
Hyosung TNC	Assistance for the rehabilitation treatment of children with disabilities and their sib-lings by the Purme Foundation Providing learning support to Jangseongpo Elementary School through One Company, One School initiative and supporting Junggo-san Village through One Company, One Vil-lage initiative
Hyosung Heavy Industries	Support for Eden Welfare Foundation, a so-cial enterprise for individuals with severe dis-abilities
Hyosung Advanced Materials	Sponsorship for the production of barrier-free films Employee volunteer activities and support for Young Nak Aenea's Home Providing learning support to Jangseongpo Elementary School through One-site, One-school initiative and supporting Junggo-san Village through One-site, One-village initiative
Hyosung Chemical	Sponsorship of WESTART Multicultural Family Education Program Love Sharing Baking Volunteering

Our CSR Achievements

Category	Unit	Hyosung Corporation	Hyosung TNC	Hyosung Heavy In-dustries	Hyosung Advanced Materials	Hyosung Chemical
Social contribu-tion investments	KWR million	430	785	612	790	492
No. of programs	Program	26	36	33	38	41
No. of participating employees	Person	309	551	1,298	772	533
Total volunteer hours	Hour	159	1,108	437	1,171	183

Corporate Social Responsibility

Aiding Vulnerable Groups in Korea

CSR Performance Measurement

- Hyosung evaluates social contribution activities through a CSR performance measurement process designed by experts to promote activities that are necessary for sustainability – such as those defined by the UN SDGs.
- Since 2013, we have conducted internal performance measurement of selected CSR programs.
- We enhance the effectiveness of our CSR activities by conducting internal performance measurements, sharing the results with stakeholders, and identifying proper improvements.

Sponsoring Goodwill Store

- The 'Goodwill Store' hires persons from vulnerable groups such as people with disabilities and North Korean defectors to contribute to their economic independence.
- The store uses profits from donated goods for job creation and vocational training for the disabled.
- Hyosung has installed donation boxes for the Goodwill Store in our head office and at each business site, and we deliver items donated by employees to the Goodwill Store Eunpyeong Branch.

Social Value Creation in 2022
Approx. KRW 160 million
(Cumulative social value* KRW 2.25 billion)

* The cumulative social value is the sum of sponsorship amounts, value of sponsored goods, and indirectly generated amounts (institution staff wages or beneficiary wages) from the year of project initiation (2013-2014) to 2022.

Donation for Disaster Relief

- We have made donations in the event of disasters such as fires and floods in local communities.
- In March 2022, we made donations of KRW 300 million to the Korean Red Cross for residents affected by a large-scale forest fire in Uljin, Gyeongbuk, and Samcheok, Gangwon.
- In August, a donation of KRW 300 million was delivered to the Korean Red Cross for flood victims in the central region due to concentrated heavy rainfall.

Sponsoring Eden Welfare Foundation

- Since 2014, we have supported Eden Welfare Foundation, a social enterprise to create job opportunities for people with disabilities.
- We have donated old PCs and monitors and financed the cost of replacing production facilities and lights in plants, ensuring a safe working environment for them.
- As of 2022, we have provided a total of 10,732 units of computer equipment.

Social Value Creation in 2022
Approx. KRW 1.84 billion
(Cumulative social value* KRW 18.84 billion)

Employment Promotion Program for Women from Vulnerable Groups

- We are promoting the employment of middle-aged women and women with experience for their economic self-reliance and growth
- In line with the government's job creation goals, a total of 37 participants received support, and 27 of them secured employment in 2022.
- From 2013 to the present, out of a total of 400 participants in the employment support program, 298 have found jobs.

Social Value Creation in 2022
Approx. KRW 660 million
(Cumulative social value* KRW 7.21 billion)

Supporting Disabled Children and Non-disabled Siblings

- Through the Purme Foundation, Hyosung sponsors rehabilitation treatment for disabled children and provides educational and counselling expenses for their non-disabled siblings
- In 2022, we organized family trips for families with disabled children and Hyosung families, outings for non-disabled siblings, and year-end music concerts with disabled children.

CASE

Social Contribution Related to Core Business

We supported our low environmental impact products in the rural farming area of Gunbuk-myeon, Haman-gun, Gyeongnam Province.

- Hyosung TNC: T-shirts made using Regen, our recycled fiber product
- Hyosung Advanced Materials: Agricultural drying machines made from carbon fiber
- Hyosung Chemical: Tableware made from Polyketone
- Hyosung Heavy Industries: Support for solar power generation facilities

Hyosung TNC	Hyosung Advanced Materials
T-shirts made using Regen, our recycled fiber product	Agricultural drying machines made from carbon fiber
Hyosung Chemical	**Hyosung Heavy Industries**
Tableware made from Polyketone	Solar power generation facilities

Corporate Social Responsibility

Aiding Vulnerable Groups Abroad

Overseas Child Sponsorship

- Through voluntary salary sharing among employees, we establish connections with vulnerable children in Vietnam, providing financial support for their education and livelihood.
- Our Matching Grant fund is used for classroom expansion, improvement of drinking water quality, awareness-building, and construction of libraries, in order to help develop the regions where these children live.

Supporting a Health Promotion Project for Female Juveniles in Rwanda

- Hyosung conducted activities to build 'Girls Rooms' and enhance public health and sanitation for the benefit of female juveniles in Rwanda.
- In 2022, we initiated the construction of menstrual sanitation facilities in Kamegeri and Ngoma, Mukiza in Rwanda, aimed at assisting female students in managing their menstrual hygiene effectively while at school. In addition, we conducted local community education programs to enhance the rights and well-being of female children.

Support for Kindergarten Construction in Quang Nam, Vietnam

- In 2022, we provided support for the construction of a kindergarten in Quang Nam, Vietnam, where we operate business.
- Recognizing the lack of kindergarten infrastructure preventing children from receiving education, we undertook the construction of one kindergarten building, and employees from the subsidiaries in Quang Nam corporation participated in volunteer activities.

Sponsoring Cultural and Artistic Endeavors

Certification of Exemplary Institution Supporting Culture and Arts

- Since 2015, Hyosung has been certified by the Ministry of Culture, Sports and Tourism of Korea as an excellent institution for supporting culture and the arts.
- The certification recognizes and approves model organizations and companies that proactively implement sponsorship activities in the cultural and artistic sectors.
- We have been recognized for our continued support in this regard, including our sponsorship of Yeonwoo Theater, cultural heritage activities for Changdeokgung Palace, and funding the production of a musical show for preventing violence.

Support for Theater Troupe

- As part of our sponsorship of cultural and artistic endeavors, we have supported Yeonwoo Theater since 2015.
- The sponsorship funds are used to discover new actors and scriptwriting in creative play development.

Support for Barrier-free Film Production

- Since 2018, we have sponsored the production of two barrier-free films each year, and have donated the voices of our employees.
- Barrier-free films provide visual description for the visually impaired, allowing them to enjoy movies without constraints. They also offer subtitles for dialogue, sound, and music for the hearing impaired.
- In 2022, The movies 'Astro Gardener' and 'The World of Us' were made into barrier-free versions with support from Hyosung.

Providing Assistance to Patriots and Veterans

Housing Support for Veterans

- Over the ten years since our first donation in 2012, we have been working with a wide range of companies to improve residential environments for people of national merit.
- In 2022, we reconstructed and renovated 9 old houses belonging to war veterans.
- We supported 95 homeless war veterans in moving into rental houses.
- Through this project, we have provided pleasant residential spaces to 439 war veterans.

Supporting AI Care Robots for Patriots and Veterans

- In 2022, Hyosung supplied AI care robots called 'Pibo' to 10 elderly individuals who are national merit recipients and live alone and have faced restricted in-person interactions due to the impact of COVID-19.
- The AI care robot called 'Pibo' is a doll-type robot that offers assistance by providing information such as news and weather updates, monitoring body temperature and heart rate, reminding individuals of medication schedules, and offering emergency assistance in critical situations.
- In recognition of our donation of 40 AI care robots to elderly national merit recipients in 2021, we were honored to receive the Patriotic Culture Award from the Ministry of Patriots and Veterans Affairs.

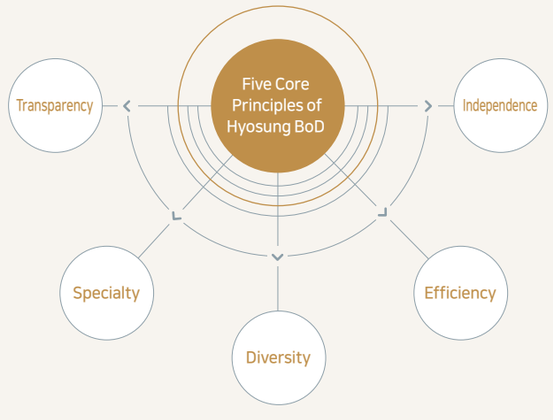
Welfare Support for the Korean Military

- Since 2016, Hyosung has sponsored welfare benefits for the Korean Army, including book cafes and physical training supplies and laundry rooms.
- In 2022, we continued to provide welfare support for the Korean Army

Governance

UN SDGS LINKAGE

Aligned with the mission of 'Enhance and enrich the quality of life for humanity with its leading technology and management capability', Hyosung is dedicated to governing our company through a transparent and equitable governance structure and operational principles. As the highest decision-making body, the Board of Directors (BoD) consist of members from diverse backgrounds and equipped with expertise. This approach ensures impartial and independent decision-making and establishes a governance framework that facilitates efficient management through checks and balances based on five core principles. In pursuit of sustainable growth and safeguarding shareholder rights, the BoD deliberates and determines matters mandated by law, corporate articles of association, and delegated by the general meeting of shareholders, or high-priority issues pertaining to fundamental company policy and business operations. Moreover, the BoD endeavors to uphold the interests of various stakeholders and shareholders.



Composition and Operation of the Board

Independence and Transparency of the Board

- Hyosung upholds a BoD structure that includes a majority of outside directors who are carefully selected and verified by the Outside Director Candidate Nomination Committee. This setup ensures effective checks and balances on the company's management practices.
- Resolutions of the BoD are reviewed and determined in accordance with the Articles of Association and the BoD regulations. Directors with special interests or other potential conflicts of interest shall be restricted from exercising their voting rights.
- The Audit Committee is exclusively composed of outside directors.
- Both the ESG Management Committee and the Outside Director Candidate Nomination Committee maintain a minimum ratio of 2/3 outside directors, with an outside director serving as the chair of each committee to ensure impartiality and transparency.

Expertise and Diversity of the Board

- The BoD comprises outside directors who are accomplished experts in various fields, including society, economics, finance, law, technology, and the environment.
- The Audit Committee includes at least one or more experts in the fields of finance and accounting.
- Regular and occasional training sessions are conducted to enhance the expertise of board members and to ensure effective BoD operations.
- For newly appointed directors, we deliver training that covers an overview of the company, including visions, strategies, financial status, and major policies. The existing directors are also provided with training to improve their understanding of the industry.
- The BoD includes a female director.

Fair and Transparent Evaluation and Compensation

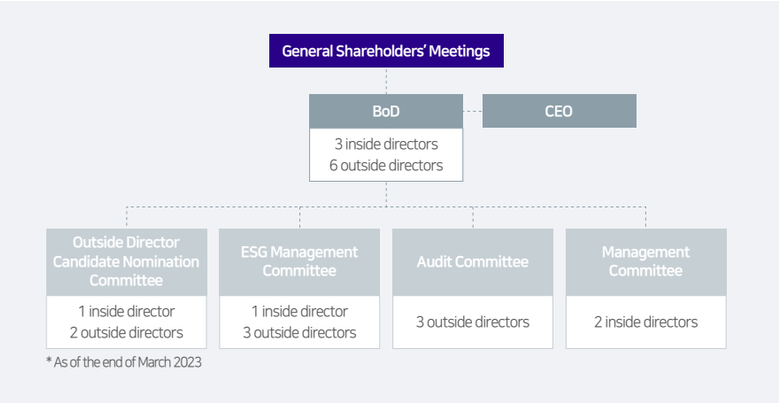
- Each year, directors are evaluated based on their expertise in corporate business and technology, as well as their performance in terms of Board activities.
- Standing directors are comprehensively evaluated based on quantitative indicators, including sales, operating profits, and net profit as well as non-quantitative indicators such as ESG and global management and the evaluation results are discussed within the BoD.
- Based on the evaluation results, compensation for the board members is approved in the general meeting of shareholders, and is provided within the limits of compensation for directors.
- The retirement allowance for members of the BoD shall be paid in accordance with the provisions on retirement allowance for executives, which was determined by resolution of the general meeting of shareholders.

Compensation for Directors and Auditors in 2022

Unit: KRW million

Category	Persons	Total compensation	Average compensation per capita
Standing directors	3	13,891	4,630
Outside directors	3	163	54
Members of the Audit Committee	3	163	54

Organizational Chart of the Board



* As of the end of March 2023

Sub-committees and Roles

- In line with related laws and regulations, Hyosung has established sub-committees within the BoD for prompt and efficient decision-making.
- Certain authorities of the board are delegated to these committees, allowing experienced professional directors to review and address issues accordingly.

Committees	Roles
Management Committee	Reviewing and making resolutions on various agenda delegated by the BoD, including business principles and investments, in accordance with the Articles of Association and the BoD regulations.
Audit Committee	Addressing audit-related matters, including audit plans, assessing the appropriateness of significant accounting standards and the feasibility of changes to accounting practices, examining the effectiveness of the internal control system, choosing and assessing external auditors
Outside Director Candidate Nomination Committee	Verifying the qualifications, competencies, and independence of outside director candidates and making recommendations of suitable candidates to the BoD.
ESG Management Committee	Carrying out preliminary deliberations on major business matters, including spin-offs, mergers, and business transfers and takeovers, as well as shareholder rights and shareholder return policies. Assessing and making decisions regarding significant internal transactions in accordance with the Fair Trade Act, ESG-related policies, objectives and risk management, as well as investment plans.

* In April 2021, the Transparent Management Committee, which was previously in charge of governance under the BoD, was expanded and reorganized as the ESG Management Committee after integrating the environmental and social domains to its scope of activity

Operational Status of Sub-committees*

Sub-committee	Members	No. of meetings convened in 2022
Management Committee	2 inside directors: Hyun-Sang Cho (Chair), Kyoo-Young Kim	29 times
ESG Management Committee	3 outside directors: Dong-Chae Jeong (Chair), Yun-mo Sung , So-young Kim 1 inside director: Kyoo-Young Kim	5 times
Outside Director Candidate Nomination Committee	3 outside directors: Il-ho Yoo (Chair), Yun-mo Sung, So-young Kim 1 inside director: Hyun-Joon Cho	1 times
Audit Committee	3 outside directors: Ki-Ung Kim (Chair), Il-ho Yoo, Byung-Hyun Jo	7 times

* The sub-committees may vary by operating company.

Governance

Composition and Operation of the Board

Composition of the Board

- The BoD consists of directors who are appointed in the shareholder's meeting.
- The BoD is comprised of 3 inside directors and 6 outside directors.
- Inside directors are nominated by recommendation of the BoD, while candidates of outside director are nominated through a separate resolution process by the Outside Director Candidate Nomination Committee.
- Relevant information is provided to shareholders through reference materials that are disclosed prior to the shareholders' meeting and via the shareholder circular and notice of shareholders' meeting. The resolution is approved by shareholders on the day of the shareholders' meeting.

Board Skill Matrix*

Management / Leadership	9 members
• Expertise and experience in managing large-scale organizations	

Accounting / Finance	4 members
• Expertise in auditing company accounts and financial management	

Economics / Industry	7 members
• Expertise in the company's operating industry • Experience in supply chain optimization encompassing production and distribution, or expertise in efficient corporate operations	

Law • Regulations / Policy	5 members
• Expertise in identifying and managing issues related to policies, laws, and regulations that could impact the company's management	

Mergers and Acquisitions / Capital Markets	6 members
• Expertise for decision-making on the company's investment activities • Expertise in merger and acquisition strategies, risk analysis, and relevant regulations	

Environment • Culture / CSR	7 members
• Expertise and experience in human rights management, fair operations, education, culture and arts, social investments, and community engagement related to CSR activities.	

Sales / Marketing	5 members
• Expertise and experience in expanding market share, enhancing brand awareness, and managing corporate image	

Risk Management / ESG Strategy	9 members
• Expertise and experience in risk management to conduct pre-assessment of enterprise risks across management, legal, and accounting	

R&D / Industrial Technology	4 members
• Expertise and experience in research and industrial technology to discover new business opportunities and business models in line with technological changes	

Global Business	7 members
• Expertise in international political dynamics, global environments, and cultural background of various regions for business and risk management	

Ratio of outside directors	66.7%
• Ratio of outside directors among the total board members	

Gender ratio	11.1%
• Ratio of female directors among the total board members	

Average age	63.4 years old
• Average age of board members	

No. of affiliated committees per board member	1.4 committees
• No. of committees each board member is affiliated with ※ Sub-committees: ESG Management Committee, Audit Committee, Management Committee, Outside Director Candidate Nomination Committee	

*Please refer to the operating company website for the board skill matrix for each operating company.

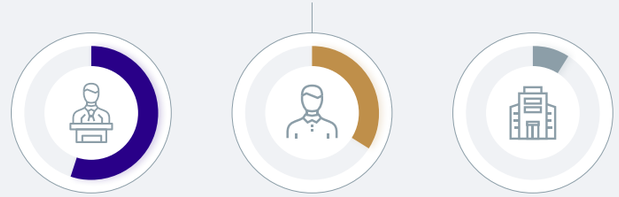
Operation of the Board

- Regular board meetings are convened quarterly in accordance with Article 6 of the BoD Regulations, with ad-hoc meetings held when necessary.
- In 2022, a total of 6 Board Meetings were held, and the average attendance rate per director was 100%.
- Outside directors have the right to inquire, express their opinions on management matters, and request information. They are also entitled to access and duplicate various records, ledgers, and other documents. If needed, they can consult internal or external experts to fulfill their business responsibilities effectively.
- The company is committed to collaborating with outside directors to facilitate the execution of their duties.

Shareholder-friendly Management and Protection of Shareholders' Rights and Interests

- Hyosung has paid year-end dividends for 17consecutive years, from 2006 to 2022, to return its management performance to shareholders.
- We provide notice of the general meeting of shareholders 17 to 22 days prior to the meeting date, allowing shareholders ample time to thoroughly consider the meeting agenda.
- We implement shareholder-friendly management by enabling shareholders to submit written or electronic proposals for agenda items of the forthcoming shareholders' meeting. This process is open for up to 6 weeks prior to the scheduled meeting, empowering shareholders to actively engage and exercise their rights in corporate decision-making.
- In addition to the annual performance announcements, we organize regular Non-Deal Roadshows (NDRs) targeting investors in Korea and Asia with an aim of enhancing shareholders' understanding and fostering trust in our company. We also fulfill shareholders' information requests by providing Investor Relations (IR) materials.
- We have established an internal control policy and regulations to comply with in the prevention of internal transactions and self-transactions by management leadership or dominant shareholders.

Shareholders Ownership



55.7%
Largest Shareholder and Persons with Special Interests

36.4%
Others

7.8%
National Pension Service

As of the end of December 2022

Integrated Risk Management

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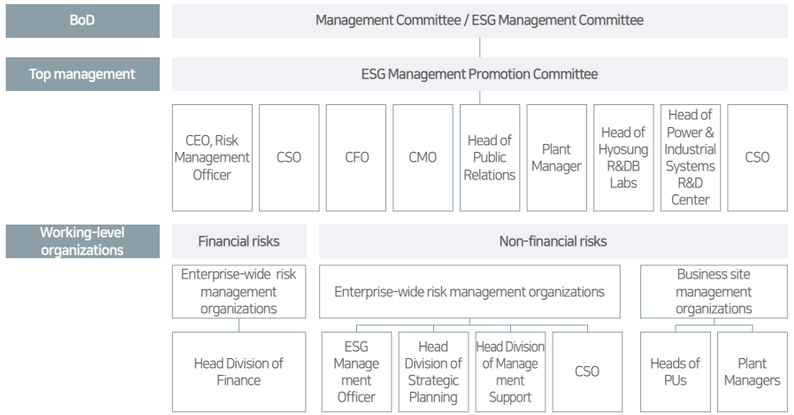
In pursuit of sustainable corporate growth, Hyosung has established and operates a risk management system along with dedicated management organizational. Both financial and non-financial risks can hinder sustainable management. As a response, we offer comprehensive reports that categorizing specific risk and corresponding management measures, taking the lead proactive risk management.

Strengthen Risk Management

Risk Management System

- The Management Committee and ESG Management Committee under the BoD discuss risk-related matters, major risk responses, and situations management.
- The ESG Management Promotion Committee, responsible for non-financial risk management, is chaired by the Risk Management Officer, the CEO. Its members include CSO (Chief Strategic Planning Officer), CFO (Chief Financial Officer), CMO (Chief Management Officer), Head of Public Relations, Plant Manager, Head of R&D centers.
- Finance risks are managed by Head division of Finance under CFO effectively through seamless collaboration between the Sales Division at the headquarters and domestic and overseas subsidiaries. This involves measurement, evaluation, and execution of financial risk assessment and hedging.
- Non-financial risks are managed by the Enterprise-Wide risk management organizations under the direct control of the CEO as well as working-level organizations led by the heads of PUs and Plant Manager.
  - > Enterprise-wide risk management organizations under the direct control of the CEO: ESG Management Team, Strategic Planning Division, Management Support Division, CSO.
  - > Working-level organizations led by the Heads of PUs and Plant Managers: Responsible for working environment, safety, supply stability, order intake, business site management, and response to litigation risks.



Risk Management by Type

Financial Risk

Category	Description	Countermeasures
Market	Stock price, interest rate, exchange rate fluctuations	• Operating an internal accounting management framework • Minimizing Exchange Position and specifying measurement periods, hedging intervals, and hedging ratios in the foreign exchange risk management rule
Credit	Inability of customers or trading partners to fulfill the contract terms	• Setting and managing credit limits for trade partners, based on the internal accounts receivable management rule • Managing recovery measures including credit investigations and collateral for investments and loans
Liquidity	Unforeseen liquidity deterioration	• Forecasting future cash flows to maintain an appropriate level of cash reserves • Establishing agreements with financial institutions for emergency fund injections

Non-financial Risk: Business Continuity

Category	Description	Countermeasures
Supply chain	Risk of delayed product delivery due to failure to maintain the supply of raw materials and production continuity	• Regular self-assessments in accordance with internal contingency plan for supply chain continuity based on emergency scenarios • Regular assessments of quality and environmental standards, including IATF 16949, ISO 9001, and ISO 14001, for primary material suppliers • Support for consulting and regular evaluation to enhance ESG management capabilities of small-and-medium-sized suppliers • Order review and operation of Bid Approval Committee (BAC)
Disaster and Safety Risks	Risks that may arise from natural disasters such as earthquakes and fires, and safety incidents within the workplace	• Dedicated organization for company-wide safety risk management • Establishment of organization for emergency response in case of disasters and safety accidents, development of scenario-specific manuals and recovery measures • Regular joint Civil-defense drill based on accident scenarios such as factory fires and explosions
Environmental	Risk of legal punishment and fines due to inappropriate response to environmental regulations	• Operation of dedicated organization for environmental risk management • Regular inspection and prevention of potential risks through environmental impact assessments • Renewal of ISO 14001 certification and self-verification activities • Conducting Regular drill on environmental incidents based on internal plans , including chemical substances or wastewater leaks

Category	Description of Risks	Countermeasures
Climate change	• Regulations related to emission • Physical risks to business transition	• Dedicated organization for climate change risk management, monitoring of relevant regulations, establishment and implementation of reduction targets • Monitoring of GHG emissions from facilities, calculation of product carbon emissions • Applying internal carbon pricing in determining the direction of business development and investment
Quality	• 4M Method • Impact of continuous supply/delivery	• Impact feasibility assessment of 4M* changes and monitoring of product quality • Management of nonconforming product handling process • Development and training of emergency scenarios for quality management risks
Human rights	• Human rights violation • Human resources management	• Regular implementation of human rights impact assessments and subsequent improvement • Establishment and distribution of human rights policies and guidelines • Conducting training on human rights protection, non-discrimination, and operating a reporting system
Security	• Data loss due to external/ internal cyberattack • Internal data leaks	• Dedicated organization for Security and operation of security regulations and standards • Knowledge management through Electronic Content Management (ECM) • Regular training on the ten Information Security Rules and Internal Security Guidelines, security training for departmental security officers, and enterprise-wide security training
Legal and Ethical	• Lawsuits caused by unfair contract conditions and unfair business transactions • Corruptions	• Ensuring compliance with contract review regulations and utilizing standard contract templates to prevent legal risks, disseminating lawsuit cases to enhance awareness of potential legal risks • Enhancing understanding through practical training in foreign exchange, patents, contract management • Providing education on anti-corruption laws, subcontracting laws, fair trade laws, and ethics
Reputational	• Risk of deteriorating reputation due to misinformation or negative communication	• Training on PR Risk Management for New Hires, Promotees, and New Team Leaders • Enhancing Awareness through Conducting Case-based Education on Principles and Processes for PR Personnel • Stakeholder Communication for Brand Marketing and Various Channels Understanding
Brand / Marketing	• Brand/Trademark Rights Infringement • Misrepresentation/Exaggeration/ Minimization of Information • Selective Information Dissemination Excluding Vulnerable Audiences	• To safeguard and enhance the protection and value of the brand and trademarks, establish separate guidelines and adhere to them • Establish and implement 'Ethical Marketing Operating Principles' • Encourage external agencies handling advertising and marketing outsourcing to adhere to the operating principles

* 4M : Man, Machine, Material, Method

Ethical Management

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Hyosung has established the Code of Ethics and associated guidelines to foster an upright corporate culture. By conducting periodic reviews, we are establishing a process to strengthen our ethical management. Additionally, we operate three reporting channels, including the HR Counseling Center, Reporting Center, and Grievance Handling Center, to enhance awareness of ethical management. Our Audit Department conducts regular management assessments and audits of reports received both internally and externally.

Process of Strengthening Ethical Management

Ethical Management System

Strengthening Ethical Management

- In our commitment to integrity management, we have formulated the Code of Ethics along with accompanying guidelines, providing a set of standards that every employee follows to make principled and ethical decisions.
- In 2022, we revised our policies on Code of Ethics, Human Rights Management, Prevention of Discrimination and Harassment, Anti-corruption. We also strengthened the compliance standards for employees, including measures against embezzlement and fraud, protection of internal whistleblowers and overall ethical guidelines.
- The CEOs of Hyosung Corporation and its four operating companies have participated in the 'CEO Ethical Management Pledge Ceremony,' hosted by the Ethical Management ESG Forum, for four consecutive years starting in 2020, to declare our commitment towards compliance with ethics management internally and externally.

Organizational System for Ethical Management

- Hyosung has set up a Legal Compliance Team, directly under the CEO, to strengthen ethical management activities.
- Ethical management personnel are designated within each department to support the Legal Compliance Team, and internal auditors are appointed to monitor overall business management.

Communication Channels for Ethical Management

- Hyosung operates the HR Counseling Center, Reporting Center, and Grievance Handling Center to provide employees with counseling services for unethical behaviors and grievances.
- In addition to in-person counseling services, employees can also access online anonymous counseling services to ensure confidentiality. We offer a range of communication channels, including email and mail, for their convenience.
- An online reporting channel is available on our website to receive anonymous reports on unethical behavior, including bribery, solicitations, and unfair business transactions.

Awareness Building

Raising Awareness and Providing Training for Ethical Management

- All new Hyosung employees sign a `Pledge to Practice Ethical Management' and a `Pledge for Prohibiting Solicitation and Bribery,' proving their commitment to the Code of Ethics and Guidelines
- We also create and distribute promotional videos and magazine-type publications through the groupware to raise awareness of ethical management.
- For the purpose of promoting awareness and practice of ethical management, employees are provided with annual training on ethical management.
  - > All onboarding employees and newly promoted employees are required to take ethical management training.
  - > Departments that are more susceptible to supply chain risks participate in regular training focused on compliance with subtracting laws and preventing contract violations.
  - > Sales departments are provided with the information on compliance processes and standards applicable to the sales field, such as protection of trade secrets, cases of embezzlement, bribery and forgery, and regulations related to fair trade and franchise and agency transactions.
- Hyosung also implements a 'Pledge of Compliance with the Code of Conduct for Hyosung Partners' to ensure that our partners implement ethical management measures such as anti-corruption.
  - > We provide ethical education materials and venues for employees of partner companies.
  - > We offer ESG management consulting, aiming to extend ethical management awareness throughout the supply chain.

Internal Monitoring and Follow-up Management

- We conduct regular audits in accordance with internal audit regulations and special audits on specific issues as well as audits of reports received both internally and externally.
- We conduct audits on overall business management encompassing planning, sales, and production with particular focus on technology and product quality.
- We ensure that the principles of independence and anonymity are upheld to prevent whistleblowers and individuals subject to audits from facing any unfair treatment or disadvantage.
- Any suspicious incidents identified through audits are dealt with through countermeasures such as cautions, disciplinary actions, and compensation depending on the severity of the incident.
- Individuals identified as responsible through these audits are required to take immediate action for improvement.
- The Audit Team regularly re-inspects the issues found to prevent re-occurrences.

Reported Anti-corruption Violations

2022	Hyosung Corporation	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical
No. of reported cases	-	1	1	1	1
No. of disciplinarians	-	-	-	-	-

1) No. of reported cases: Excluding simple complaints, duplicate complaints, or cases where investigation was impossible due to the lack of clarity in the information received
2) No. of Disciplinarians : No. of individuals subject to reprimands, pay cuts, suspensions or dismissals (excluding written warnings)

Research & Development

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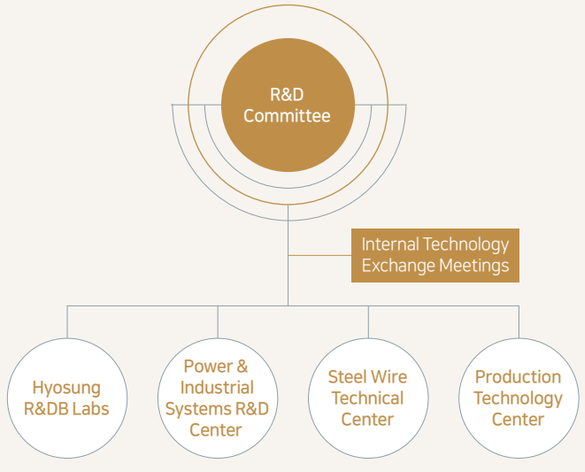
At Hyosung, we have set up a research and development framework centered around the R&D Committee and Internal Technology Exchange Meetings. We run specialized research and development organization in various domains, propelling the advancement of novel products and technologies. With a consistent rise in the number of patents registered and filed by each subsidiary, we are committed to spearheading innovative R&D initiatives.

Organizational Framework of R&D



Establishment of R&D Framework

R&D Framework

R&D Committee

- The R&D Committee fulfils its role in discussing the status of R&D regarding the main business items of our subsidiaries, as well as reflecting customers' requirements in our R&D strategies.
- The Committee is held twice every year to define the direction of R&D activities and to comprehensively review the opinions shared by related departments.

Internal Technology Exchange Meetings

- The internal technology exchange meetings act as a platform for cross-departmental sharing of technologies within the company, thus boosting our R&D efficiency.
- We regularly convene fundamental technology task force teams (TFTs) to acquire core fundamental technologies and internalize our research capacity.
- Through the meetings, we aim to create a corporate culture that fosters technology convergence.
- The meetings facilitate addressing research challenges with a high level of effectiveness.

R&D Organization

- The R&D organizations include the Hyosung R&DB Labs, Power & Industrial Systems R&D Center, Steel Wire Technical Center and Production Technology Center.
- In 2019, we established the Production Technology Center with the aim of boosting technological competitiveness across the company. This center acts as a bridge between Hyosung R&D Labs and each production organization, fostering specialized human resources in core technologies.

Hyosung R&DB Labs

- As Korea's first R&D center affiliated with a private corporation, Hyosung R&DB Labs has extended its research areas to include chemical products, raw materials, and new materials, based on its research capabilities in synthetic textiles.
- In addition to acquiring research technology for promising new businesses that will drive our future growth, we are dedicated to innovating new products and processes within our existing business areas and promoting commercialization.

Steel Wire Technical Center

- The Steel Wire Technical Center was established for the purpose of developing tire reinforcement materials made of steel cord and bead wire, as well as enhancing their production processes.
- As a specialized research institute in steel wire materials, it is enhancing the research capabilities and operating research centers in China and Vietnam. The center intends to swiftly apply new technologies to production, ensuring a prompt response to our customers' requirements.
- The center is at the forefront of tire performance enhancement research, focusing on lightweight solutions and developing environmentally friendly products for the next generation to minimize our ecological footprint.
- We have expanded our advanced analysis equipment, pilot research facilities, and research organization to reinforce our base technology and research capabilities.

Power & Industrial Systems R&D Center

- Since its foundation, the Power & Industrial Systems R&D Center has been at the forefront of the technological development of heavy electric machines in Korea. It is currently focused on developing new technologies such as ESS, STATCOM, and voltage-source HVDC to better cope with the power industry's paradigm shift to DC grids in the future.
- It focuses on the establishment and development of asset management solutions that provide systematic management services for facility assets by combining products, services, and operating systems based on fourth industrial technology.

Production Technology Center

- The Production Technology Center was established to efficiently apply newly developed technologies to the production line.
- It is charged with reviewing the newest facilities required by plants, the optimization of process design and operating conditions using computer simulation technology, support for new construction and extension projects, and plans for the application of new technology. The results of these reviews are reflected in our production organization.

R&D Expenditure Plans and Performance

Unit: KRW million

Category	2022 R&D expenditure plans	2022 R&D expenditure performance
Hyosung TNC	18,211	21,187
Hyosung Heavy Industries	48,623	38,748
Hyosung Advanced Materials	25,808	33,931
Hyosung Chemical	20,551	20,883

* Based on the consolidated financial statements of the year
**By entering into development outsourcing service agreements with its operating companies, Hyosung R&DB, under Hyosung Corporation, conducts R&D and patent registration and application tasks.

Key R&D Performance

Company	Key R&D performances
Hyosung TNC	• Technology for manufacturing recycled polyester chips • Pilot technology for chemical recycling of nylon • Antimony (Sb)-Free polyester compounds and yarns • Nylon liner for hydrogen tanks
Hyosung Heavy Industries	• The first commercialization of intelligent power grid 'STATCOM' in Korea • Becoming the first in Korea to possess HVDC and MV/LVDC technology using our own-developed Voltage-Source MMC Converter
Hyosung Advanced Materials	• Technology for nylon tire cord made of bio-material • Technology for mass production of high-strength steel cord and tire cord for EVs • Prepreg resin for aviation products
Hyosung Chemical	• Post-Consumer Recycled (PCR) film • Block polypropylene for single-material retort films • Improvement of process stability for flame-retardant grade glass fiber reinforced POKETONE used in connection plug board for EVs

Information Security

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To address the evolving security challenges effectively, Hyosung has established and operates a proactive security system. In conjunction with this, we have constituted a Security Responsibility Strengthening Task Force Team (TFT) to enhance security responsibilities. Furthermore, we are engaged in a range of initiatives, including disclosing information on security practices, establishing integrated log repositories, and increasing awareness of information security among employees.

Organizational Structure for Data Security

Advancing Data Security System

Expanding the Role of Security Responsibility Strengthening TFT

- Established in 2021, the 'Security Responsibility Strengthening TFT' comprises members from the Holding Company Security Team, Security Officers from operating companies, PU, and business sites. Its role has been extended with active operation.
- The TFT plays a pivotal role in effectively disseminating and implementing security policies formulated by the Holding Company Security Team across business sites.
- The TFT actively engages relevant departments, contributing to raising awareness of information security and formulating concrete security strategies.
- In 2022, during information security training for all employees, including personnel from partner companies, the 'Security Responsibility Strengthening TFT' effectively showcased its role and accomplishments. This was also evident in the Information Security Pledges. Looking ahead, the TFT will sustain its commitment to collaborating on information security and security responsibilities.

Activities for Data Security

Disclosing Data Security Activities

- Starting from 2022, companies surpassing a certain revenue threshold are mandated by applicable laws to disclose their information security investments, personnel, activities, and pertinent details from the preceding year. This initiative is aimed at safeguarding internet users and encouraging investments in corporate information security.
- Accordingly, Hyosung Corporation, Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials, Hyosung Chemical, and other operating companies completed the disclosure of the status of overall information security for the year of 2021 in June 2022.
- The total information security investment for the holding company and the four major operating companies in 2022 amounted to KRW 3.39 billion, and the combined number of information security personnel stood at 9.5. These figures represent approximately 5.1% and 4.5%, respectively, of that in the Information Technology (IT) sector.

Data Security Training for Partners

- We create an annual plan for information security training to systematically educate new hires and employees on information security. Diverse information security campaigns are carried out through various channels, such as email and bulletin boards.
- In 2022, information security training sessions were completed by over two thousand personnel from partner companies. These sessions highlighted security incident cases stemming from deliberate or negligent actions of partner company personnel, emphasizing compliance.
- Following the training, all participants are required to fulfill the Information Security Pledges, affirming their commitment to security incident responsibility.
- In 2023, in partnership with The Korean Association for Industrial Technology Security, we are preparing in-depth security training for team security managers. The training will encompass the significance of industrial security, case studies of industrial technology leaks, and relevant legal precedents.

Integrated Log Management and Security Monitoring

- To efficiently manage logs coming from numerous servers, communication devices, firewalls, and other security equipment, we have implemented integrated log repositories.
- In 2022, we invested in bolstering the processing capacity of log repositories in response to the escalating log volumes driven by the expanded scale of services and servers.
- The bolstered capacity of log repositories guarantees the consistent collection, processing, and storage of extensive log data. The operation of 24/7 security monitoring empowers us to prevent security incidents and promptly address unusual patterns.

Reinforcing Email Security

- We have introduced a multifaceted email security system, aiming to safeguard against various threats like attempts to steal user accounts, deploy malicious codes, and initiate unauthorized access to transactions funds through email.
- Twice a year, we conduct mock simulations involving malicious emails to heighten the awareness of email users. These initiatives aim to cultivate the capability to identify suspicious emails and adopt appropriate response tactics.

Visualizing Privacy Policy with Infographics

- To ensure a clear understanding of the Privacy Policy for customers and stakeholders, we visualized the content in the form of infographics.
- Users can intuitively grasp the purposes of collection, utilization, and disposal regarding their personal information.
- We constantly monitor the amendments of relevant laws, including the Personal Information Protection Act, to ensure the legal compliance of our Privacy Policy. With continuous assessment and revision, we are promoting proactive responses to personal information protection.

External Cooperation System

- We have established a collaborative system with government agencies and organizations such as The Korean Association for Industrial Technology Security and the Korean Academy of Industrial Security to protect core technology and intellectual property in the domestic manufacturing sector.
- In 2022, we took part in the Industrial Security Conference hosted by the National Intelligence Service and the Ministry of Trade, Industry, and Energy, which brought together more than 900 domestic industrial security professionals. During the event, we learned from exemplary practices of other companies, adapting them to become valuable resources for Hyosung.
- Addressing both domestic and international security challenges, we actively explore proactive response strategies while continuously enhancing our information security capabilities.

ESG PERFORMANCE

Stakeholder Engagement

Hyosung endeavors to deliver differentiated value to stakeholders by comprehensively grasping their interests and formulating an efficient communication strategy. We carefully identify key stakeholder groups and evaluate associated risks and opportunities using tailored communication channels for each group. Additionally, we are committed to fostering genuine interactions with stakeholders and integrating their feedback into our management initiatives. We continue to offer products and services that generate economic and social benefits in tandem, ensure a sustainable supply chain, cultivate a workplace that prioritizes human rights and the environment, establish mutually beneficial partnerships, and engage in meaningful CSR activities for local communities.

Stakeholder group	Main interests	Our responses	Communication channels
Customers	• Developing innovative products through R&D • Providing eco-friendly products tailored to the needs of our customers • Maintaining Continuous communication to collect feedback after providing products and services	• We aim to enhance the sustainability of our products and services by listening to customers' feedback throughout entire product lifecycle, from R&D to final delivery.	• Official website (ongoing) • Global exhibitions (ongoing) • Technology exchange meetings (ongoing) • Customer satisfaction surveys • Regular newsletter (monthly, yearly)
Employees	• Providing fair evaluation and opportunities • Facilitating communication between employees and management • Work & life balance	• We endeavor to establish a good work environment by promoting a healthy work-life balance for our employees. Moreover, we uphold a fair performance evaluation system and offer a wide range of benefits aimed at enhancing employee skills and capabilities.	• Team building activities (Hyosung One Team, HOT) • Wa-gle Wa-gle, Tong Tong Bulletin Board (ongoing) • Communicator system • "Conversation with Management" meeting (quarterly) • Performance sharing meeting / business briefing sessions (quarterly) • Tiered meetings (ongoing) • Regular newsletter
Partners	• Enhancing communication • Fair distribution of outcomes • Preventing unfair demands or unnecessary business interference • Promoting fair business practices	• We persistently provide support to our partners, attentively listening to their challenges and ideas. We encourage their engagement in collaborative research project, striving for shared advancement.	• Meeting with partners (ongoing) • Support for quality and safety improvements (ongoing) • Hotline / reporting channel (ongoing) • Cooperation and mutual growth program (ongoing)
Shareholders and Investors	• Building trust in management leadership • Ensuring sustainable growth engines • Ensuring financial soundness and profitability • Ensuring sound governance	• Apart from financial data, we disclose our sustainability achievements and actively seek input from shareholders and investors regarding the direction of our sustainable management.	• Corporate IR activities (ongoing) • BoD (at least once a quarter) and shareholders' general meeting (annual) • Business reports (annual) • Corporate Disclosure System (ongoing)
Local Communities	• Sustainable long-term support for mutual growth • Interactive two-way communication • Conducting meaningful CSR activities	• We are engaging in a range of CSR initiatives to develop the capacity of local communities for long-term self-sustainability, rather than providing short-term aid.	• Environmental clean-up activities (monthly) • Open-house events at plants (ongoing) • Business-related CSR activities (ongoing) • Communication channel with local community councils (ongoing)

Double Materiality Assessment

Hyosung conducts an annual materiality assessment to identify crucial sustainability issues that can directly or indirectly affect both our key stakeholders and business. To derive relevant and timely materiality issues, we have adopted the concept of double materiality assessment, encompassing not only the impact of material issues on corporate operations (Outside-In), but also the impact of corporate activities on the environment and society (Inside-Out). In 2022, the materiality assessment was performed based on a comprehensive evaluation of domestic and international sustainability standards and policies, sustainability-related media coverage, trends within pertinent industries, and survey results of key stakeholders. This report includes a total of 12 material issues identified through the assessment as well as our management approach and highlights of our achievements in this regard.

Process of Double Materiality Assessment

STEP 1.
Creating issue pool

We conducted analysis to create a pool of 24 ESG issue topics. In this process, we considered the requirement of domestic and international ESG information disclosure guidance such as GRI Standards, SASB, MSCI, DJSI, KCGS, our mid- to long-term ESG management strategies, media coverage, trends within relevant industries and key topics.

STEP 2.
Selecting Material Issues through Double Materiality Assessment

Out of the 24 issue topics, we assess Financial Materiality, considering both positive and negative impacts that external sustainability factors can have on our financial status. Additionally, we examine Impact Materiality, encompassing the positive and negative effects on the environment and society arising from our business activities. This comprehensive analysis enabled us to identify a final selection of 12 Material Issues.

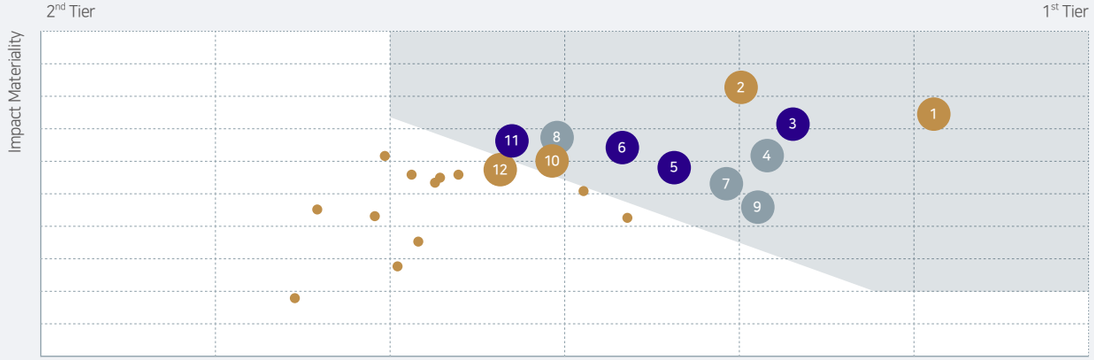
Double Materiality Assessment Methodology

Financial Materiality (financial impact analysis)	Impact Materiality (environmental and social impact analysis)
• Internal analysis: Analysis of materials from the ESG Management Promotion Committee, Management Reports, and Business Strategies • Analysis of regulations and policies: Examination of domestic and international regulatory and ESG policy trends • Analysis of domestic and international standards: Evaluation of domestic and international ESG information disclosure guidelines and initiatives, including SASB, TCFD, KCGS. • Stakeholder survey: Conducting surveys targeting employees, partners, customers, shareholders, investors, and other relevant parties.	• Stakeholder survey: Conducting surveys targeting employees, partners, customers, shareholders, investors, and other relevant parties (from March 8, 2023, to March 15, 2023) • Analysis of domestic and international standards: Evaluation of domestic and international ESG information disclosure guidelines and initiatives, including UN SDGs, GRI, UNGC • Media analysis: Analyzing 1,990 media articles on environmental, social, governance, and economic issues (published in 2022) • Industry benchmarking: Analyzing material issues in reports of 38 domestic and international companies with outstanding ESG ratings

STEP 3.
Designing the structure and content of the Report

The 12 Material Issues derived from the 2022 Double Materiality Assessment indicate a decrease in economic and environmental concerns when compared to 2021. Notably, governance-related issues have been introduced. The process and outcomes of the Double Materiality Assessment were presented to the BoD for validation, ensuring the selection of Material Issues for the ESG Report. Following this final review, the structure and content of the ESG Report were designed.

Material Issues derived from Double Materiality Assessment



●: Low Impact ●: Medium Impact ●: High Impact

* We present the results of the Double Materiality Assessment, encompassing Hyosung Corporation, Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials, and Hyosung Chemical.

Category	Material Issues	GRI Standards 2021	Impact		Business Impact	Page
			Financial	Environmental and social		
Environment	① Climate Change Response	GRI 201: Economic Performance GRI 302: Energy GRI 305: Emissions	●	●	Risk	20-25
Environment	② Green business	GRI 201: Economic Performance	●	●	Revenue	26-31
Society	③ Workplace safety and health	GRI 403: Occupational Health and Safety	●	●	Risk	32-36
Economy	④ Generating economic outcome	GRI 201: Economic Performance GRI 207: Tax	●	●	Revenue	26-31
Society	⑤ Product safety & quality and customer satisfaction	GRI 416: Customer Health and Safety GRI 417: Marketing and Labeling	●	●	Revenue	43-46
Governance	⑥ Sustainable supply chain	GRI 308: Supplier Environmental Assessment GRI 414: Supplier Social Assessment	●	●	Risk	37-42
Economy	⑦ Securing new growth engines and business diversification	GRI 201: Economic Performance	●	●	Revenue	26-31
Governance	⑧ Ethical / compliance management	GRI 205: Anti-corruption	●	●	Risk	63
Governance	⑨ Integrated risk management	Non-GRI	●	●	Risk	62
Environment	⑩ Environmental Pollutant Management (Water, Air, Waste, Soil)	GRI 303: Water and Effluents GRI 305: Emissions GRI 306: Waste	●	●	Cost	48-50
Society	⑪ Strengthening Human Rights Management	GRI 401: Employment GRI 404: Training and Education GRI 405: Diversity and Equal Opportunity GRI 406: Non-discrimination GRI 407: Freedom of Association and Collective Bargaining GRI 408: Child Labor GRI 409: Forced or Compulsory Labor	●	●	Risk	52-56
Environment	⑫ Reducing resource consumption and establishing circular economy system	GRI 301: Materials GRI 306: Waste	●	●	Revenue	51

Hyosung Corporation

Governance and Economic Performance

Reporting Scope

The ESG Performance section in this report encompasses the subsidiary companies listed below, which collectively contribute to over 99% of Hyosung Corporation's consolidated revenue. The data for Hyosung Corporation and its subsidiaries are presented separately, with subsidiary data provided only for the year of 2022. The cases in which specific items may not include data from certain subsidiaries are indicated in the footnotes.

Subsidiaries	Country of operation
Hyosung USA Inc.	USA
Hyosung TNS Inc.	Korea
Nautilus Hyosung America Inc.	USA
Hyosung Holdings USA, Inc.	USA
Hyosung Financial System (Huizhou) Co	China
Hyosung RUS	Russia
Forza Motors Korea Corp	Korea
Hyosung Good Springs, Inc.	Korea
HYOSUNG FINANCIAL SYSTEM VINA	Vietnam

Subsidiaries	Country of operation
NH Tech Co., Ltd	Korea
NH CMS Co., Ltd	Korea
Hyosung FMS. Co., Ltd	Korea
GST Safety Textiles Mexico S. de R.L	Mexico
Gongdeok Gyeongwoo Development Corporation	Korea
Hyosung Solutions S DE RL DE CV	Mexico
Hana Alternative Investmentlandchip 39th Real Estate Investment Trust Co., Ltd	Korea
ATM plus Co., Ltd	Korea
Hyosung TNS RUS L.L.C	Russia

Consolidated Statements of Comprehensive Income

(Unit: KRW million)

Category	2020	2021	2022
Sales	2,596,176	3,538,943	3,719,326
Cost of sales	2,199,348	2,601,583	3,343,962
Gross profit	396,828	937,360	375,364
SG&A	239,904	277,362	289,443
R&D expenses	19,783	19,435	21,033
Operating income	137,141	640,563	64,887
Other gain	57,869	29,657	32,716
Other loss	35,384	16,794	16,042
Finance income	46,951	63,896	158,463
Finance expenses	98,324	78,412	219,165
Profit before tax	108,236	638,910	20,859
Corporate tax expenses	14,109	95,906	(3,949)
Net profit	1,220	540,587	24,807
Other comprehensive gain(loss)	(28,658)	74,711	64,225
Total comprehensive income	**(27,438)**	**615,297**	**89,032**

Financial Statements (Consolidated)

(Unit: KRW million)

Category	2020	2021	2022
Current assets	1,626,795	1,906,512	2,060,066
Cash and cash equivalents	222,015	181,960	143,610
Trade and other receivables	493,060	738,947	651,632
Inventories	463,206	696,362	907,204
Other current assets	448,515	289,243	357,620
Non-current assets	2,802,955	3,351,362	3,207,219
Long-term trade and other receivables	41,676	29,792	28,025
Tangible assets	930,909	1,000,116	930,909
Investment in properties	278,154	263,733	278,154
Intangible assets	73,081	67,740	73,081
Other non-current financial assets	1,257,906	1,785,826	1,257,906
Non-current assets held for sale	221,229	204,156	639,144
Total assets	**4,429,750**	**5,257,874**	**5,267,285**
Current liabilities	1,090,338	1,561,239	1,811,857
Trade and other payables	404,628	538,403	510,532
Borrowings	392,008	837,517	1,085,634
Other current liabilities	293,701	185,318	215,691
Non-current liabilities	825,089	704,361	558,123
Long-term trade and other payables	20,751	15,070	18,712
Long-term borrowings	448,281	270,436	159,693
Other non-current liabilities	356,058	418,855	379,718
Total liabilities	**1,915,427**	**2,265,600**	**2,369,980**
Capital stock	105,355	105,355	105,355
Retained earnings	6,180,531	6,498,302	6,414,345
Other components of equity	-4,052,618	- 3,978,408	-3,964,651
Non-controlling interest	281,055	367,025	342,256
Total equities	**2,514,323**	**2,992,274**	**2,897,305**

Hyosung Corporation

Governance and Economic Performance

Corporation Tax by Country

Country	Items	Unit	2020	2021	2022
Korea	Sales	KRW million	1,826,403	2,891,085	3,061,616
	Profit before tax	KRW million	88,544	627,550	35,172
	Corporation tax expense	KRW million	31,794	56,742	(1,856)
	Tax rate	%	24.2	24.2	23.2
	Effective tax rate	%	35.9	9	-
USA	Sales	KRW million	1,312,738	1,428,735	1,876,847
	Profit before tax	KRW million	416,416	32,221	7,509
	Corporation tax expense	KRW million	(2,376)	7,186	(256)
	Tax rate	%	22.00~24.00	22.00~24.00	22.00~24.00
	Effective tax rate	%	(0.6)	22.3	(3.4)
Mexico	Sales	KRW million	22,800	38,993	54,631
	Profit before tax	KRW million	(1,341)	(3,307)	1,502
	Corporation tax expense	KRW million	624	(382)	588
	Tax rate	%	30	30	30
	Effective tax rate	%	-	-	39.1
Brazil	Sales	KRW million	32	100	43
	Profit before tax	KRW million	(2)	(4)	(13)
	Corporation tax expense	KRW million	0	2	1
	Tax rate	%	34	34	34
	Effective tax rate	%	-	-	-
China	Sales	KRW million	230,572	256,157	210,876
	Profit before tax	KRW million	6,524	7,431	1,192
	Corporation tax expense	KRW million	1,677	1,807	602
	Tax rate	%	20	20	21
	Effective tax rate	%	25.7	24.3	50.5
Russia	Sales	KRW million	177,755	142,055	294,291
	Profit before tax	KRW million	(152)	1,791	(3,738)
	Corporation tax expense	KRW million	718	323	(484)
	Tax rate	%	20	20	
	Effective tax rate	%	-	18	-
Vietnam	Sales	KRW million		0	112,377
	Profit before tax	KRW million		(5,623)	(8,948)
	Corporation tax expense	KRW million		0	0
	Tax rate	%		21	21
	Effective tax rate	%		-	-

*Values may differ from those in the consolidated financial statements due to internal transactions among consolidated companies, as well as unrealized gains or losses.
*Instances where pre-tax losses are incurred, preventing the calculation of effective tax rates, are marked with '-'. As a result, the effective tax rates for certain countries in the years 2020 and 2021 have been adjusted.

Current Status of Board of Directors

Category		Unit	Hyosung Corporation		
			2020	2021	2022
Diversity	Male	Person	9	8	8
	Female	Person	1	1	1
No. of outside directors within the BoD		Person	7	6	6
Outside director's attendance rate at the Outside Director Recommendation Committee		%	100.0	100.0	100.0
No. of meetings of the Audit Committee		Times	6	7	7
Outside director's attendance rate at the Audit Committee		%	100.0	95.2	100.0

Ethical and Compliance Management

Category		Unit	Hyosung Corporation	Subsidiaries
			2022	2022
Employee discrimination	No. of cases reported	Case	-	1
	No. of cases reviewed	Case	-	1
Anti-corruption	No. of cases reported	Case	-	5
	No. of individuals subject to disciplinary actions	Person	-	1
Fair trade	No. of violations	Case	1	-
	Fines for violations	KRW million	200	-
Violation of laws and regulations	Cases of fines imposed	Case	1	-
	Cases of non-monetary sanctions	Case	-	-
	No. of employees with records of investment-related investigations, customer complaints, lawsuits, or legal sanctions	Person	-	1
	No. of violations of legal and voluntary regulations regarding product and service information and labeling	Case	-	-
	No. of violations of legal and voluntary regulations regarding health and safety impact of products and services	Case	-	-
	No. of violations of legal and voluntary regulations regarding marketing communication such as advertising, promotion, and sponsorship	Case	-	-
	Total amount of fines	KRW million	200	-
	Fines for violations of financial regulations, including insider trading, monopoly, and anticompetitive behaviors	KRW million	200	-
	Fines for violations of environmental regulations, such as pollutant emissions	KRW million	-	-
Rate of employees that received an anti-corruption notification and related education		%	82.6	39.4

* No. of violations of fair trade was counted based on monetary sanctions in the form of fines according to criminal law as of the final verdict date, excluding cases in litigation.

Hyosung Corporation

Social Performance

Employee Status

Category		Unit	Hyosung Corporation			Subsidiaries
			2020	2021	2022	2022
Total employees (Permanent and Temporary)		Person	627	668	655	4,180
Employment type	Permanent (male)	Person	488	484	468	2,908
	Permanent (female)		102	136	137	639
	Subtotal		**590**	**620**	**605**	**3,547**
	Temporary (male)	Person	26	26	28	429
	Temporary (female)		11	22	22	204
	Subtotal		**37**	**48**	**50**	**633**
	Part-time (male)	Person	2	1	1	21
	Part-time (female)		0	1	2	1
	Subtotal		**2**	**2**	**3**	**22**
Age	Under 30	Person	61	79	94	1,023
	30-50		407	429	409	2,659
	51 and above		161	162	155	590
Gender	Male	Person	516	511	497	3,358
	Female		113	159	161	844
Job category (based on permanent employment)	Salary	Person	525	560	550	2,029
	Hourly		65	60	55	1,546
Diversity	Employees with disability	Person	15	15	16	75
	Veterans		2	3	3	63
	Foreigner		4	3	3	49
	Subtotal		**21**	**21**	**22**	**187**
Fostering Female Talent	Female employee ratio	%	18.0	23.7	24.3	20.2
	Female managerial positions ratio (manager and above)		12.7	17.0	18.4	149

* In the subsidiary's data, GST Safety Textiles Mexico S. de R.L. has been excluded from the aggregation.

New Recruitment and Turnover

Category		Unit	Hyosung Corporation			Subsidiaries
			2020	2021	2022	2022
New recruits	Male	Person	64	26	49	578
	Female		13	24	26	232
	Subtotal		**77**	**50**	**75**	**810**
	Under 30		25	**28**	52	**288**
	30-50		27	21	19	484
	51 and above		25	1	4	29
	Subtotal		**77**	**50**	**75**	**810**
Turnover (voluntary turnover of permanent)	Male	Person	10	32	36	391
	Female		5	12	17	69
	Subtotal		**15**	**44**	**53**	**460**
	Under 30		2	15	16	86
	30-50		12	25	36	340
	51 and above		1	4	1	34
	Subtotal		**15**	**44**	**53**	**460**
	Voluntary turnover rate	%	2.5	7.1	8.8	13.0

* In the subsidiary's data, GST Safety Textiles Mexico S. de R.L. has been excluded from the aggregation.

Total compensation and Remuneration

Category		Unit	Hyosung Corporation		
			2020	2021	2022
Total compensation for entry-level employees		KRW million	43	52	47
Ratio of entry-level employee compensation to legal minimum wage	Male	%	170.8	215.2	175.4
	Female		177.4	202.4	173.3
Rate of total compensation for female compared to male	Executive	%	36.8	28.5	32.6
	Manager level or higher		92.5	89.4	73.2
	Non-manager level		73.7	74.9	87.6
Average total compensation		KRW million	99	131	117
Total annual compensation for C-level executives		KRW million	4,641	7,427	7,241
Median employee compensation (excluding C-level executives)		KRW million	69	82	77
Ratio of C-level executives' compensation to that of employees		Times	67.5	90.9	93.6

Hyosung Corporation

Social Performance

Maternity and Childcare Leave

Category		Unit	Hyosung Corporation			Subsidiaries
			2020	2021	2022	2022
Maternity leave (male)	No. of employees under maternity leave	Person	23	19	16	74
	Returning ratio to work after maternity leave	%	100.0	100.0	100.0	100.0
Maternity leave (female)	No. of employees under maternity leave	Person	10	7	7	42
	Returning ratio to work after maternity leave	%	100.0	100.0	100.0	97.6
Childcare leave (male)	No. of employees entitled to childcare leave	Person	206	189	163	1,643
	No. of employees on childcare leave	Person	3	2	2	53
	No. of employees returning to work after childcare leave	Person	4	2	1	49
	No. of employees with over 12 months of service after childcare leave	Person	2	1	1	44
Childcare leave (female)	No. of employees entitled to childcare leave	Person	39	37	34	1,067
	No. of employees on childcare leave	Person	8	7	6	37
	No. of employees returning to work after childcare leave	Person	3	9	5	36
	No. of employees with over 12 months of service after childcare leave	Person	7	2	6	34

Labor Union Membership and Retirement Pension

Category		Unit	Hyosung Corporation			Subsidiaries
			2020	2021	2022	2022
Labor Union Membership Status	No. of employees covered by collective bargaining agreements	Person	57	51	46	1,694
	Ratio of employees covered by collective bargaining agreements among total employees	%	9.1	7.6	7.0	40.5
	No. of union workers	Person	44	37	36	1,475
	Ratio of union workers	%	77.2	72.5	78.3	87.1
Retirement pension	Total operation fund for retirement pension	KRW million	61,892	97,880	101,248	120,218
	Operation fund of DB pension	KRW million	61,450	91,441	100,405	93,070
	Operation fund of DC pension	KRW million	464	857	843	4,042
	Total number of members	Person	643	684	670	1,552
	No. of DB pension members		563	609	597	1,394
	No. of DC pension members		80	75	73	158

* Operation fund of DC pension : The figures for 2020 and 2021 have been adjusted to align with the 'amounts recognized as expenses related to the DC pension fund' in the footnotes of the financial statements in the 2022 business report.

Employee Training Status

Category	Unit	Hyosung Corporation			Subsidiaries
		2020	2021	2022	2022
No. of training participants	Person	10,860	14,097	13,368	29,950
Total training expenses	KRW 1,000	129,622	166,092	286,094	1,447,097
Total training hours	Hours	25,836	32,533	36,704	99,912
Average training hours per employee	Hours	41.2	48.7	56.0	22.1
Average training expenses per employee	KRW 1,000	207	249	437	321
No. of participants in environmental training	Person	902	508	539	1,298
No. of participants in ethics and anti-corruption training		538	525	541	1,648
No. of participants in fair trade training		476	499	589	1,410
No. of participants in safety and health training		3,654	6,426	4,486	6,353
No. of participants in human rights training (sexual harassment / disability awareness / discrimination prevention)		1,561	1,888	2,485	6,762
No. of participants in information security training		671	98	688	1,913
No. of participants in sustainability management training		21	1,065	841	2,660
No. of participants in retiree training		-	-	-	2

* No. of participants refers to the cumulative number of participants by course.

Regular Performance Evaluation

Category		Unit	Hyosung Corporation		
			2020	2021	2022
No. of employees subject to performance evaluation		Person	590	620	605
Performance evaluation rate		%	94.1	92.8	92.4
Regular performance and career development review rate by gender	Male	%	94.9	94.9	94.4
	Female		90.3	86.1	86.2
Regular performance and career development review rate by employee category	Executive		100.0	100.0	100.0
	Manager level or higher		99.0	99.1	99.0
	Non-manager level		87.5	84.9	84.4

Hyosung Corporation

Social Performance

Supplier Status

Category	Unit	Hyosung Corporation		
		2020	2021	2022
No. of suppliers	Company	247	290	534
Total purchase from suppliers	KRW million	14,115	31,103	54,789
Local purchase ratio in key business regions	%	-	65	63

* Supplier include raw material suppliers, and for Hyosung R&DB Labs, only companies under a mutual growth agreements are included in the calculation.

Social and Environmental Assessment of Supply Chain

Category	Unit	Hyosung Corporation
Ratio of new suppliers that conducted social and environment assessment	%	-
No. of suppliers that conducted social and environment assessment	Company	18
No. of suppliers having practical and potential negative impact	Company	-
Ratio of suppliers that agreed improvement based on the results of social and environment assessment	%	-
Ratio of suppliers whose contracts were terminated based on the results of social environment impact assessment	%	-

Compliant Handling Process for Suppliers

Category	Unit	Hyosung Corporation	
		2021	2022
No. of complaints submissions	Case	43	44
No. of complaints processed	Case	43	44
Processing rate	%	100.0	100.0

CSR Activities

Category	Unit	Hyosung Corporation			Subsidiaries
		2020	2021	2022	2022
CSR investment	KRW million	741	578	430	352
No. of CSR programs	Program	17	21	26	32

Occupational Accidents and Injuries

Category		Unit	Hyosung Corporation			Subsidiaries
			2020	2021	2022	2022
Occupational accident rate(rate of injured individuals due to work-related accidents and diseases)		%	0.16	0.30*	0.31	0.17
Employees	No. of fatalities	Person	-	-	-	-
	Fatality rate	Per 200,000 hours	-	-	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	-	-	-	-
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 hours	-	-	-	-
	No. of work-related accidents or work-related diseases	Case	-	-	1	5
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	1	2	1	-
Partners	No. of fatalities	Person	-	-	-	-
	Fatality rate	Per 200,000 hours	-	-	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	-	-	-	1
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 hours	-	-	-	0.5
	No. of work-related accidents or work-related diseases	Case	-	-	-	2
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	-	-	-	-

* The incident rate for the year 2021 has been adjusted to 0.30 following the approval of an industrial accident claim for noise-induced hearing loss by a former Hyosung Corporation employee.

Products and Services Subject to Product Information Labeling and Product Safety and Health Assessment

Category	Unit	2022
Ratio of products and services subject to product information labeling and associated assessment	%	100
Ratio of products and services undergone product safety and health assessment	%	100

Hyosung Corporation

Environmental Performance

* The scope of GHG emissions and energy usage includes all business sites of Hyosung Corporation. Meanwhile, other environmental data are collected from the headquarters, Anyang Plant, Suseo Office, and Transworld, which contribute to the revenue. Among the subsidiaries, Hyosung Financial System (Huizhou) Corporation is in the process of transferring its manufacturing facilities to HYOSUNG FINANCIAL SYSTEM VINA Corporation. Additionally, Hyosung TNS RUS L.L.C. was established at the end of 2022, and therefore environmental data for these subsidiaries was not included.

GHG emissions

Category		Unit	Hyosung Corporation				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct GHG emissions (Scope 1)	Stationary combustion	tCO_2eq	9,086	9,409	8,982	9,152	16,822
	Mobile combustion		360	357	353	377	9,834
	Other emissions		-	-	-	-	0
	Subtotal		**9,446**	**9,766**	**9,334**	**9,529**	**26,656**
Indirect GHG emissions (Scope 2)	Electricity	tCO_2eq	22,325	23,282	22,528	21,950	28,363
	Steam		291	319	319	374	1
	Subtotal		**22,615**	**23,601**	**22,846**	**22,324**	**28,364**
Total GHG emissions (Scope 1 & 2)		tCO_2eq	32,061	33,367	32,181	31,853	55,020
GHG emissions intensity	Scope 1	tCO_2eq / KRW 100 million	3.20	0.93	1.24	1.27	0.73
	Scope 2		7.65	2.24	3.05	2.98	0.78
	Subtotal		**10.85**	**3.17**	**4.29**	**4.25**	**1.51**

Air Pollutants Emissions

Category		Unit	Hyosung Corporation				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
General air pollutants	Nitrogen oxides (NOx)	Ton	5.8	1.1	5.8	3.2	-
	Sulfur oxides (SOx)		-	-	-	-	-
	Particulate matter (PM)		-	0.0	0.0	0.0	0.1
Ozone depleting substances	CFD(R-11)	Ton	-	-	-	-	-
	HCFC(R-123)		-	-	-	-	-
	HCFC(R-22)		-	-	-	-	-

Chemical Substances Management

Category	Unit	Hyosung Corporation			Subsidiaries
		2020	2021	2022	2022
Hazardous chemicals consumption	Ton	-	-	-	99
Hazardous chemicals intensity	Ton / KRW 100 million	-	-	-	0.00
Chemical substance emissions	Ton	16	13	15	17

Energy Consumption

Category		Unit	Hyosung Corporation				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct energy consumption	Diesel	TJ	0.89	1.12	1.03	1.21	8.58
	Kerosene		0.10	0.10	0.10	0.11	0.11
	LNG		178.00	184.48	176.19	179.64	25.69
	NG		-	-	-	-	297.42
	Gasoline		4.45	4.18	4.17	4.35	133.10
	Propane		0.77	0.88	0.79	0.70	0.01
	LPG		-	-	-	-	3.46
	Subtotal		**184.21**	**190.75**	**182.27**	**186.00**	**468.36**
Indirect energy consumption	Electricity	TJ	459.66	486.51	470.74	458.67	370.20
	Steam		8.35	8.87	8.87	10.05	0.02
	Subtotal		**468.01**	**495.38**	**479.61**	**468.71**	**370.22**
Total		**TJ**	**652.22**	**686.12**	**661.88**	**654.71**	**838.58**
Energy intensity		TJ / KRW 100 million	0.22	0.07	0.09	0.09	0.02

Hyosung Corporation

Environmental Performance

Waste Treatment

Category		Unit	Hyosung Corporation				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Non-hazardous waste (ordinary waste)							
Self-treatment		Ton	-	-	-	-	-
Outsourced treatment	Recycling		1,530	1,752	1,883	1,740	1,948
	Incineration		47	158	150	134	1,254
	Landfill		15	46	44	11	1,965
	Others		-	-	-	-	27
Subtotal			1,592	1,955	2,076	1,885	5,194
Hazardous waste (designated waste)							
Self-treatment		Ton	-	-	-	-	-
Outsourced treatment	Recycling		86	103	98	125	555
	Incineration		45	1	1	-	54
	Landfill		-	-	-	-	-
	Others		11	-	-	-	-
Subtotal			142	104	99	125	609
Total waste generated		Ton	1,734	2,059	2,175	2,009	5,803
Total waste recycled		Ton	1,617	1,854	1,981	1,865	2,503
Total ratio of waste recycled		%	93.2	90.1	91.1	92.8	43.1

* The reporting scope of Hyosung Corporation, previously limited to the Anyang Plant, has been broadened to encompass the headquarters, Suseo Office, and Transworld. Accordingly, historical data have been revised.

Use, Reuse and Recycling of Materials

Category		Unit	Hyosung Corporation		
			2020	2021	2022
Raw (subsidiary) materials	Total use	Ton	12,511	15,308	15,368
	Use of recycled and bio-based materials	Ton	30	170	147

Water Resources

Category		Unit	Hyosung Corporation				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Water consumption by water source	Municipal water	Ton	120,191	118,187	119,189	134,315	431,856
	Groundwater		-	-	-	-	-
	Industrial water		422,415	465,796	444,106	468,414	-
	River water		-	-	-	-	-
Total water consumption		Ton	542,606	583,983	563,294	602,729	431,856
Total reused water		Ton	-	-	-	-	53,556
Rate of water reuse		%	-	-	-	-	12.4
Total water intake		Ton	542,606	583,983	563,294	602,729	431,856

* The reporting scope of Hyosung Corporation, previously limited to the Anyang Plant, has been broadened to encompass the headquarters, Suseo Office, and Transworld. Accordingly, historical data have been revised.

Wastewater and Water Treatment

Category		Unit	Hyosung Corporation			Subsidiaries
			2020	2021	2022	2022
Wastewater discharge by location	Wastewater treatment	Ton	93,586	62,856	77,095	92,804
	Seawater discharge		-	-	-	-
	Outsourced treatment		-	-	-	10
Total Wastewater discharge		Ton	93,586	62,856	77,095	92,814
Biochemical Oxygen Demand (BOD)		Ton	0.16	0.08	0.10	0.04
Chemical Oxygen Demand (COD)			0.64	0.35	0.39	0.12
Suspended Solids (SS)			1.98	0.98	0.76	1.21
Total Nitrogen (T-N)			0.54	0.38	0.37	0.13
Total Phosphorus (T-P)			0.03	0.01	0.01	0.01

Hyosung Corporation

Environmental Performance

Sales and Purchase of Eco-Friendly Products and Services

Category	Unit	Hyosung Corporation			Subsidiaries
		2020	2021	2022	2022
Sales of eco-friendly products and services	KRW million	703	2,596	3,402	3,236
Purchase of eco-friendly products and services	KRW million	72	320	341	72,728

* We have defined the following products and services as environmentally friendly based on the internal criteria:
- Sold Products: Yarn and automotive carpets/ automotive option mats made of recycled polyester chips, automotive carpets/ automotive option mats made of recycled nylon chips or bio-polyester chips and high-efficiency certified materials
- Purchased Products: LED lighting fixtures, Recycled Chips, Biochips, High-Efficiency Certified Materials

Pollution-free Vehicles

Category		Unit	Hyosung Corporation		Subsidiaries
			2021	2022	2022
On-road vehicles	EVs	Vehicle	-	-	3
	Hydrogen vehicles		-	-	-
Off-road vehicles	EVs	Vehicle	16	17	26
	Hydrogen vehicles		-	-	-
Ratio of pollution-free vehicles		%	27.6	29.3	5.4

* On-road vehicles: Passenger cars, vans, trucks, special vehicles, two-wheeled vehicles (excluding electric bicycles)
* Off-road vehicles: Includes non-specified vehicles such as construction machinery, agricultural machinery, etc. E.g., forklifts, tool cars, and carts used in workplaces.

Energy Savings and GHG Emissions Reduction

Site	Project	Date of installation	Investment (KRW million)	Energy usage reduction (kWh / year)	Energy usage reduction (TJ / year)	GHG emissions reductions (CO_2 ton eq / year)
Anyang	Installing roots BL for transporting PET chips in the BCF packing room (shutdown of the high-pressure turbo compressor through compressed air conservation)	Mar. 2020	30	225,570	2.17	104
Anyang	Installing roots blower inverters at wastewater treatment plants	Dec. 2020	18	197,100	1.89	91
Anyang	Reducing power cost with efficient load management of aeration tank	Jan.2022	0	78,840	0.76	36
Anyang	Maintenance and leak elimination for compressed air drain traps (maintenance of 10 traps and leaks)	Mar. 2022	8	69,292	0.67	32
Anyang	Replacement of outdated chilled water pump motor for refrigeration system	Apr. 2022	13	51,443	0.49	24
Anyang	Replacement of outdated cooling water pump motor for refrigeration system	Apr. 2022	10	14,525	0.14	7
Anyang	20% improvement in compressed air manufacturing efficiency (Introduction of new air compressors and change of piping line)	Aug. 2022	350	2,610,480	25.06	1,199
Anyang	0.9kg/㎠ decompression of compressed air operating pressure (operating pressure reduced to low pressure - 7.0kg/㎠ and high pressure - 9.0kg/㎠)	Aug. 2022	105	761,244	7.31	350
Anyang	Reducing power costs by 30% through increased production output with the introduction of a high-speed tufting machine	Nov. 2022	495	105,120	1.01	48
Anyang	Reducing power loss through integrated operation of transformers (from 3 units of F#35 transformers to 2 units)	Dec. 2022	0	131,400	1.26	60

Biodiversity within Areas of Business Impact

Category	Unit	Hyosung Corporation	Subsidiaries
IUCN Red List of Threatened Species	종	-	324
Nationally designated endangered species	종	15	328

* IUCN Red List of Threatened Species: Included species categorized as Critical (CR), Endangered (EN), and Vulnerable (VU) within a 25 km radius of the business site.
* Nationally designated endangered species: Data have been collected based on major administrative areas according to the national distribution survey of endangered wildlife by the National Institute of Biological Resources.
* Subsidiary data includes some duplicate figures due to overlapping areas with business sites where only offices are located.

Environmental Investments

Category	Unit	Hyosung Corporation			
		2020	2021	2022	
				Plan	Performance
Waste treatment and environment restoration expenses	KRW million	269	328	380	448
Pollution prevention and environmental management expenses		126	228	200	232
Total		395	556	580	680

Key Environmental Investment Plans and Performance Reported through ESG Management Promotion Committee

Category	Content	Unit	2022 (Plan)	2022 (Performance)
Waste treatment expenses and environment insurance	Waste treatment expenses, such as wastewater sludge and environmental liability insurance	KRW million	252	314
Preventing environmental pollution	Enhancing storage of wastewater, atmospheric emissions, and waste	KRW million	90	96
	Exhaust gas treatment facilities	KRW million	380	319
	Installation of oxidation / carbonization, exhaust gas heat exchanger	KRW million	240	-
	Dredging work of holding tank and screen tank of wastewater treatment plant / Replacement of chemical reactor/ Replacement of fillings in non-point pollution prevention facilities/ Replacing the Tarpaulin at the Waste Storage	KRW million	30	30
Environment management system	Environmental Management Certification Cost Assurance and consulting service expenses for calculating CO2 by product	KRW million	-	45
	Establishment of an electronic chemical management system	KRW million	26	26
	Establishment of a computer system for calculating CO2 LCA by product	KRW million	56	55
	Expenses related to participation in, reporting, and verification of carbon information disclosures and responding to ETS	KRW million	14	11
Energy efficiency	Introduction of a high-speed tufting machine	KRW million	395	488
	Introduction of new air compressors	KRW million	350	337
	Improvement of automatic pressure control equipment for compressed air	KRW million	48	46
	Upgrading Co/W pump motor for refrigeration system to high-efficiency model	KRW million	15	22
	Replacement of cooling water pumps for air compressors and inverter control	KRW million	35	-

HYOSUNG TNC

Governance and Economic Performance

Reporting Scope

The ESG Performance section in this report encompasses the subsidiary companies listed below, which collectively contribute to over 92% of Hyosung TNC Corporation's consolidated revenue. The data for Hyosung TNC and its subsidiaries are presented separately, with subsidiary data provided only for the year of 2022. The cases in which specific items may not include data from certain subsidiaries are indicated in the footnotes.

Subsidiaries	Country of operation
Hyosung Chemicals (Jiaxing) Co., Ltd	China
Hyosung International Trade (Jiaxing) Co., Ltd	China
Hyosung Spandex (GuangDong) Co., Ltd	China
Hyosung Spandex (Jiaxing) Co., Ltd	China
Hyosung Spandex (Zhuhai) Co., Ltd	China
Hyosung Spandex (Quzhou) Co., Ltd	China

Subsidiaries	Country of operation
Hyosung Spandex (Ningxia) Co., Ltd	China
Hyosung DongNai Co., Ltd	Vietnam
Hyosung India Pvt. Ltd	India
Hyosung Istanbul TEKSTIL LTD.STI	Türkiye(Turkey)
Hyosung Brasil industria e comericio de fibras LTDA	Brazil

Consolidated Statements of Comprehensive Income

(Unit: KRW million)

Category	2020	2021	2022
Sales	5,161,617	8,596,030	8,882,730
Cost of sales	4,663,097	6,896,953	8,450,585
Gross profit	498,520	1,699,077	432,145
SG&A	217,078	257,369	287,364
R&D expenses	14,882	18,057	21,187
Operating income	266,560	1,423,651	123,594
Other gain	29,740	50,725	80,204
Other loss	23,321	20,248	63,580
Finance income	179,241	117,523	387,062
Finance expenses	228,665	167,423	496,632
Profit(Loss) of associates	-	-	11
Profit before tax	223,554	1,404,228	30,659
Corporate tax expenses	55,282	396,325	11,475
Net profit	168,272	1,007,903	19,183
Other comprehensive gain(loss)	-18,680	96,350	23,149
Total comprehensive income	**149,592**	**1,104,252**	**42,332**

Financial Statements (Consolidated)

(Unit: KRW million)

Category	2020	2021	2022
Current assets	1,245,072	2,605,431	2,143,068
Cash and cash equivalents	122,242	143,763	103,107
Trade and other receivables	713,180	1,359,913	1,061,002
Inventories	354,691	1,009,135	885,375
Other current assets	54,959	92,620	93,584
Non-current assets	1,553,283	1,921,038	2,176,811
Long-term trade and other receivables	13,594	434	174
Tangible assets	1,248,720	1,556,634	1,755,821
Investment in properties	125,063	123,726	122,388
Intangible assets	30,621	26,570	23,911
Other non-current financial assets	135,285	213,674	274,517
Non-current assets held for sale	25,772	-	-
Total assets	**2,824,127**	**4,526,469**	**4,319,879**
Current liabilities	1,681,903	2,249,513	2,184,964
Trade and other payables	551,994	1,083,946	902,574
Borrowings	1,053,683	899,433	1,187,670
Other current liabilities	76,226	266,134	94,720
Non-current liabilities	426,869	513,360	619,391
Long-term trade and other payables	28,818	13,624	15,764
Long-term borrowings	298,035	333,883	409,771
Other non-current liabilities	100,016	165,853	193,856
Total liabilities	**2,108,772**	**2,762,873**	**2,804,356**
Capital stock	21,638	21,638	21,638
Retained earnings	228,149	971,280	779,977
Other components of equity	351,187	427,600	421,078
Non-controlling interest	114,382	343,079	292,831
Total equities	**715,356**	**1,763,597**	**1,515,524**

HYOSUNG TNC

Governance and Economic Performance

Corporation Tax by Country

Country	Items	Unit	2020	2021	2022
Korea	Sales	KRW million	3,143,280	4,560,799	5,364,506
	Profit before tax	KRW million	79,552	382,683	303,616
	Corporate tax expense	KRW million	17,200	106,696	13,910
	Tax rate	%	24.0	24.0	28.0
	Effective tax rate	%	21.6	27.9	4.6
China	Sales	KRW million	1,551,718	3,703,984	2,957,361
	Profit before tax	KRW million	85,265	505,482	(112,607)
	Corporate tax expense	KRW million	6,216	124,857	(40,318)
	Tax rate	%	25.0	25.0	25.0
	Effective tax rate	%	14.5	24.7	-
Hongkong	Sales	KRW million	92,808	41,024	16,324
	Profit before tax	KRW million	(2,804)	2,602	269
	Corporate tax expense	KRW million	(559)	(430)	121
	Tax rate	%	12.0	17.0	8.0
	Effective tax rate	%	-	-	45.1
Japan	Sales	KRW million	438,536	565,683	705,525
	Profit before tax	KRW million	248	5,270	5,139
	Corporate tax expense	KRW million	224	1,830	1,974
	Tax rate	%	31.0	35.0	31.0
	Effective tax rate	%	90.3	34.7	38.4
Taiwan	Sales	KRW million	2,264	2,297	3,073
	Profit before tax	KRW million	173	3	551
	Corporate tax expense	KRW million	53	26	140
	Tax rate	%	20.0	20.0	20.0
	Effective tax rate	%	30.7	751.7	25.5
Singapore	Sales	KRW million	-	-	-
	Profit before tax	KRW million	(98)	(115)	(89)
	Corporate tax expense	KRW million	(5)	2	-
	Tax rate	%	17	17	17
	Effective tax rate	%	-	-	-
Vietnam	Sales	KRW million	886,351	1,742,871	1,653,364
	Profit before tax	KRW million	31,456	347,050	138,070
	Corporate tax expense	KRW million	2,126	19,066	12,589
	Tax rate	%	5.0	5.0	5.0
	Effective tax rate	%	6.8	5.5	9.1

Country	Items	Unit	2020	2021	2022
India	Sales	KRW million	24,323	250,474	200,060
	Profit before tax	KRW million	(11,682)	87,202	(37,171)
	Corporate tax expense	KRW million	420	15,409	(3,963)
	Tax rate	%	28.0	25.0	25.0
	Effective tax rate	%	-	17.7	-
Indonesia	Sales	KRW million	-	-	16,080
	Profit before tax	KRW million	-	-	(7,078)
	Corporate tax expense	KRW million	-	-	-
	Tax rate	%	-	-	22.0
	Effective tax rate	%	-	-	-
Italy	Sales	KRW million	50,186	69,015	97,132
	Profit before tax	KRW million	(52)	2,793	2,564
	Corporate tax expense	KRW million	134	789	782
	Tax rate	%	28.0	28.0	28.0
	Effective tax rate	%	-	28.2	30.5
Türkiye(Turkey)	Sales	KRW million	159,966	389,641	322,244
	Profit before tax	KRW million	55,405	248,225	111,493
	Corporate tax expense	KRW million	10,761	59,420	21,147
	Tax rate	%	22.0	25.0	23.0
	Effective tax rate	%	19.4	23.9	19.0
Mexico	Sales	KRW million	3,279	1,835	1,848
	Profit before tax	KRW million	5	496	173
	Corporate tax expense	KRW million	9	118	52
	Tax rate	%	30.0	30.0	30.0
	Effective tax rate	%	175.2	23.8	30.0
Brazil	Sales	KRW million	99,169	211,326	216,827
	Profit before tax	KRW million	34,081	62,964	13,763
	Corporate tax expense	KRW million	11,337	16,396	1,968
	Tax rate	%	34.0	34.0	34.0
	Effective tax rate	%	33.3	26.0	14.3

* The revenue and profit before tax figures for Korea have been adjusted to match the data in the separate income statement presented in the 2022 annual report.
* In instances where corporate tax expenses turn negative due to profit before tax losses, the effective tax rate is adjusted to 0 in accordance with auditor validation, and this adjustment is accurately incorporated, with the effective tax rate rounded to the first decimal place.

HYOSUNG TNC

Governance and Economic Performance

Current Status of Board of Directors

Category		Unit	2022
Diversity	Male	Person	6
	Female	Person	-
No. of outside directors within the BoD		Person	3
Outside director's attendance rate at the Outside Director Recommendation Committee		%	100.0
No. of meetings of the Audit Committee		Times	7
Outside director's attendance rate at the Audit Committee		%	100.0

* Data only include the BoD of Hyosung TNC

Ethical and Compliance Management

Category		Unit	Hyosung TNC	Subsidiaries
			2022	2022
Employee discrimination	No. of cases reported	Case	-	-
	No. of cases reviewed	Case	-	-
Anti-corruption	No. of cases reported	Case	1	1
	No. of individuals subject to disciplinary actions	Person	-	-
Fair trade	No. of violations	Case	1	-
	Fines for violations	KRW million	-	-
Violation of laws and regulations	Cases of fines imposed	Case	2	-
	Cases of non-monetary sanctions	Case	-	-
	No. of violations of legal and voluntary regulations regarding product and service information and labeling	Case	-	
	Total amount of fines	KRW million	16	-
	Fines for violations of financial regulations, including insider trading, monopoly, and anticompetitive behaviors	KRW million	-	-
	Fines incurred by the violations of environmental regulations, such as pollutant emissions	KRW million		-
Anti-corruption				
Ratio of employees and executives who received anti-corruption training and notice	Ratio of executives who received anti-corruption training and notice	%	25.0	-
	Ratio of employees who received anti-corruption training and notice	%	93.6	59.9
No. of business sites that assessed risks of anti-corruption		Site	1	9

Production Output by Business Sector

Category		Unit	2020	2021	2022
Production output by business sector	Textiles	KRW million	1,752,382	4,408,553	3,667,979
	Trading and others		308,277	449,694	673,323

* Production volume is based on consolidated data.

R&D Expenses

Category	Unit	Hyosung TNC			Subsidiaries
		2020	2021	2022	2022
Total R&D Expenses	KRW million	14,882	18,057	21,187	924
R&D Expenses in environmental sector	KRW million	-	-	606	-

* R&D expenses for subsidiary data include only Hyosung DongNai Co., Ltd.

Patent Registrations and Applications

Category		Unit	2020	2021	2022
Patent registration (accumulated)	Domestic	Case	584	591	591
	Overseas		195	198	206
Patent application (accumulated)	Domestic	Case	1,216	1,219	1,224
	Overseas		352	362	374

* The figures may differ from business report due to variations in the consolidation and compilation of existing patent rights resulting from the split.

HYOSUNG TNC

Social Performance

Employee Status

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Total employees (Permanent and Temporary)		Person	1,528	1,501	1,435	5,453
Employment type	Permanent (male)	Person	1,113	1,188	1,106	3,873
	Permanent (female)		238	252	256	1,491
	Subtotal		**1,351**	**1,440**	**1,362**	**5,364**
	Temporary (male)	Person	123	43	44	65
	Temporary (female)		54	18	29	24
	Subtotal		**177**	**61**	**73**	**89**
	Part-time (male)	Person	3	6	2	-
	Part-time (female)		4	2	7	-
	Subtotal		**7**	**8**	**9**	**-**
Age	Under 30	Person	271	231	206	2,329
	30-50		793	790	795	2,977
	51 and above		471	488	443	147
Gender	Male	Person	1,239	1,237	1,152	3,938
	Female		296	272	292	1,515
Job category (based on permanent employment)	Salary	Person	766	743	760	1,315
	Hourly		585	697	602	4,049
Diversity	Employees with disability	Person	40	49	45	25
	Veterans		22	19	17	-
	Foreigner		2	2	4	85
	Subtotal		**49**	**58**	**66**	**110**
Fostering Female Talent	Female employee ratio	%	19.1	18.0	19.9	27.8
	Female managerial positions ratio (manager and above)		11.7	12.1	13.5	22.2

New Recruitment and Turnover

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
New recruits	Male	Person	73	93	131	1,547
	Female		35	41	73	509
	Subtotal		**108**	**134**	**204**	**2,056**
	Under 30		72	**81**	68	**1,410**
	30-50		20	49	119	637
	51 and above		16	4	17	9
	Subtotal		**108**	**134**	**204**	**2,056**
Turnover (voluntary turnover of permanent)	Male	Person	59	67	110	739
	Female		20	51	49	312
	Subtotal		**79**	**118**	**159**	**1,051**
	Under 30		47	64	78	674
	30-50		25	40	61	369
	51 and above		7	14	20	8
	Subtotal		**79**	**118**	**159**	**1,051**
	Voluntary turnover rate	%	5.2	7.9	11.1	19.6

Total Compensation and Remuneration

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Total compensation for entry-level employees		KRW million	43	51	47	9
Ratio of entry-level employee compensation to legal minimum wage	Male	%	171.5	202.4	175.6	223.5
	Female		171.5	202.4	175.6	236.6
Rate of total compensation for female compared to male	Executive	%	-	101.8	71.4	16.7
	Manager level or higher		89.4	90.8	89.9	42.6
	Non-manager level		63.0	65.7	65.2	60.9
Average total compensation		KRW million	64	76	69	11
Total annual compensation for C-level executives		KRW million	289	428	310	-
Median employee compensation (excluding C-level executives)[1]		KRW million	63	76	68	43
Ratio of C-level executives' compensation to that of employees[1]		Times	4.62	5.65	4.57	-

1) Total annual compensation for top executives and the ratio of top executives' compensation to that of employees: Due to unavailability of data for certain subsidiaries, figures have been omitted for 2022 Sustainability Report.

HYOSUNG TNC

Social Performance

Maternity and Childcare Leave

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Maternity leave (male)	No. of employees under maternity leave	Person	19	24	27	168
	Returning ratio to work after maternity leave	%	100.0	100.0	100.0	100.0
Maternity leave (female)	No. of employees under maternity leave	Person	10	6	9	100
	Returning ratio to work after maternity leave	%	100.0	100.0	100.0	82.6
Childcare leave (male)	No. of employees entitled to childcare leave	Person	186	162	140	-
	No. of employees on childcare leave	Person	3	2	2	211
	No. of employees returning to work after childcare leave	Person	-	4	-	209
	No. of employees with over 12 months of service after childcare leave	Person	-	-	3	204
Childcare leave (female)	No. of employees entitled to childcare leave	Person	36	28	26	-
	No. of employees on childcare leave	Person	13	10	9	131
	No. of employees returning to work after childcare leave	Person	12	13	7	125
	No. of employees with over 12 months of service after childcare leave	Person	2	12	8	122

* Data are unavailable for the no. of employees eligible for childcare leave in subsidiaries.

Labor Union Membership and Retirement Pension

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Labor Union Membership Status	No. of employees covered by collective bargaining agreements	Person	585	579	493	4,575
	Ratio of employees covered by collective bargaining agreements among total employees	%	38.3	38.6	34.4	83.4
	No. of union workers	Person	523	520	438	1,639
	Ratio of union workers	%	89.4	89.8	88.8	35.8
Retirement pension	Total operation fund for retirement pension	KRW million	89,582	x99,555	96,883	547
	Operation fund of DB pension	KRW million	88,002	97,828	95,227	-
	Operation fund of DC pension*	KRW million	2,170	2,209	5,167	-
	Total number of members	Person	1,668	1,659	1,587	2,065
	No. of DB pension members		1,353	1,330	1,284	-
	No. of DC pension members		315	329	303	-

* AUM for DC pension fund: The figures for 2020 and 2021 have been adjusted to be aligned with the 'amounts recognized as expenses related to the DC pension fund' in the footnotes of the financial statements in the 2022 business report.
* Subsidiaries data for retirement pension: Limited to DongNai and Brazil Corporation

Employee Training Status

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
No. of training participants		Person	20,109	23,931	20,066	16,062
Total training expenses		KRW	582,597,000	773,020,000	832,587,000	225,026,467
Total training hours		Hours	41,535	59,609	57,933	114,922
Average training hours per employee		Hours	27	40	40	21
Average training expenses per employee		KRW	381,281	515,003	580,200	41,267
Average training hours per employee by gender	Male	Hours	27	39	39	17
	Female		22	27	47	10
Average training hours per employee by employee category	Executive		45	42	25	0
	Manager level or higher		33	38	62	3
	Non-manager level		24	36	34	23
No. of participants in environmental training		Person	1,981	1,238	1,350	1,837
No. of participants in ethics and anti-corruption training			1,266	1,028	1,343	3,148
No. of participants in fair trade training			645	773	1,412	136
No. of participants in safety and health training			4,337	8,201	3,156	5,359
No. of participants in human rights training (sexual harassment / disability awareness / discrimination prevention)			4,408	4,224	5,829	1,330
No. of participants in information security training			1,362	512	1,941	1,671
No. of participants in sustainability management training			17	1,417	1,119	792
No. of participants in retiree training			26	40	54	231

Regular Performance Evaluation

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
No. of employees subject to performance evaluation		Person	1,351	1,440	1,362	4,625
Performance evaluation rate		%	88.0	96.0	94.9	91.0
Regular performance and career development review rate by gender	Male	%	90.0	96.5	96.2	70.0
	Female		81.5	93.3	89.8	37.4
Regular performance and career development review rate by employee category	Executive		100.0	100.0	100.0	10.6
	Manager level or higher		100.0	100.0	100.0	51.5
	Non-manager level		87.7	95.7	94.6	87.9

HYOSUNG TNC

Social Performance

Supplier Status

Category	Unit	Hyosung TNC			Subsidiaries
		2020	2021	2022	2022
No. of suppliers	Company	161	212	245	835
Total purchase from suppliers	KRW million	414,215	661,257	838,304	2,875,922
Local purchase ratio in key business regions	%	-	86.5	72.1	86.0

ESG Risk Assessment in Supply Chain

Category	Unit	2022
Total number of suppliers	Company	245
No. of suppliers who signed the Pledge of Compliance with the Code of Conduct for Hyosung Suppliers	Company	144
No. of key suppliers	Company	22
No. of suppliers assessed for ESG impact	Company	13
No. of suppliers identified as having significant actual and potential negative ESG impacts	Company	8
No. of suppliers that agreed improvement based on the negative results of assessment	Company	6
Ratio of suppliers that agreed improvement based on the negative results of assessment (suppliers agreed improvement / suppliers implemented assessment)	%	46.2
No. of suppliers whose contracts were terminated due to the significant ESG impacts	Company	-

* Key suppliers refer to the companies within the scope of 95% total purchase amount
* Data of ESG impacts assessment in supply chain only include Hyosung TNC(exclude Subsidiary)

Compliant Handling Process for Suppliers

Category	Unit	2022
No. of complaints submissions	Case	1
No. of complaints processed	Case	1
Processing rate	%	100.0

* Integrated management item for Hyosung TNC, with no applicable subsidiaries.

CSR Activities

Category	Unit	Hyosung TNC			Subsidiaries
		2020	2021	2022	2022
CSR investment	KRW million	585	413	785	72
No. of CSR programs	Program	4	27	36	14

Occupational Accidents and Injuries

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Occupational accident rate(rate of injured individuals due to work-related accidents and diseases)		%	0.13	0.83	0.47	0.40
Total recordable incident rate (TRIR)		Per 200,000 hours	0.10	0.35	0.45	0.34
Process Safety Incidents Count (PSIC)		Case	-	-	-	2
Process Safety Total Incident Rate (PSTIR)		Per 200,000 hours	-	-	-	0.03
Employees	No. of fatalities	Person	-	-	-	-
	Fatality rate	Per 200,000 hours	-	-	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	-	-	-	1
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 hours	-	-	-	0.05
	No. of work-related accidents or work-related diseases	Case	1	6	3	20
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	1	1	5	1
Partners	No. of fatalities	Person	-	-	-	-
	Fatality rate	Per 200,000 hours	-	-	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	-	-	-	-
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 hours	-	-	-	-
	No. of work-related accidents or work-related diseases	Case	1	1	1	-
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	1	-	-	-

* The incident rate for the years 2020 to 2021 was recalculated due to the previous calculation errors.

Products and Services Subject to Product Information Labeling and Product Safety and Health Assessment

Category		Unit	2022
Ratio of products and services subject to product information labeling and associated assessment	Total	%	36.0
	Spandex products	%	13.3
	Nylon polyester products	%	46.0

* The combined figures of Hyosung TNC and its subsidiary

HYOSUNG TNC

Environmental Performance

GHG emissions

Category		Unit	Hyosung TNC				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct GHG emissions (Scope 1)	Stationary combustion	tCO_2eq	82,822	93,808	93,398	82,923	269,811
	Mobile combustion		695	437	17	361	2,593
	Process emissions		-	-	0	-	-
	Waste disposal		5,664	506	0	826	-
	Subtotal		**89,181**	**94,751**	**93,414**	**84,110**	**272,404**
Indirect GHG emissions (Scope 2)	Electricity	tCO_2eq	236,033	263,867	257,738	209,295	610,519
	Steam		3,550	6,518	3,047	4,285	110,759
	Subtotal		**239,583**	**270,385**	**260,785**	**213,581**	**721,278**
Total GHG emissions (Scope 1 & 2)		tCO_2eq	328,764	365,136	354,199	297,691	993,682
GHG emissions intensity [1]	Scope 1	tCO_2eq/ KRW 100 million	8.72	5.74	5.66	5.24	0.0840
	Scope 2		23.42	16.37	15.79	13.30	0.2225
	Subtotal		**32.14**	**22.11**	**22.05**	**18.53**	**0.306**
	Revenue	KRW 100 million	**10,229**	**16,514**	**16,063**	**16,063**	

1) When calculating intensity, only the revenue from the textile sector is included, excluding the trading portion from the total revenue of Hyosung TNC.

Air Pollutants Emissions

Category		Unit	Hyosung TNC				Subsidiaries	
			2020	2021	2022		2022	
					Plan	Performance	Plan	Performance
General air pollutants	Nitrogen oxides (NOx)	Ton	47.8	58.9	-	59.6	177.8	164.4
	Sulfur oxides (SOx)		1.2	3.1	-	6.3	39.6	82.7
	Particulate matter (PM)		5.0	4.0	-	3.8	56.7	84.6
Volatile Organic Compounds (VOCs)		Ton	-	-	-	0.002	42.0	53.4
Hazardous. Air Pollutants (HAPs)		Ton	-	-	-	-	-	1.2
Ozone depleting substances	CFD(R-11)	Ton	0.8	0.3	-	0.2	-	-
	HCFC(R-123)		-	-	-	-	-	-
	HCFC(R-22)		-	-	-	-	-	-

Chemical Substances Management

Category	Unit	Hyosung TNC				Subsidiaries	
		2020	2021	2022		2022	
				Plan	Performance	Plan	Performance
Hazardous chemicals consumption	Ton	7,510	7,619	8,000	7,174	120,252	3,269,911
Hazardous chemicals intensity	Ton / KRW 100 million	0.73	0.46	0.50	0.45	0.01	0.35
Chemical substance emissions	Ton	0.4	0.3	0.2	0.2	3.0	2.9

Energy Consumption

Category		Unit	Hyosung TNC				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct energy consumption	Diesel (for vehicles)	TJ	6.42	4.09	0.21	2.88	1.38
	Diesel (excluding vehicles)		6.42	4.09	0.00	0.01	4.24
	Kerosene		0.35	0.34	0.00	0.37	-
	LNG		823.57	956.71	1,200.92	855.58	2,296.51
	Gasoline (for vehicles)		1.64	1.39	0.03	1.33	16.50
	Gasoline (excluding vehicles)		1.64	1.39	0.00	0.01	-
	Propane		681.98	766.81	751.78	670.80	0.01
	BC oil		19.67	11.08	22.93	8.47	-
	Hard coal		-	-	0.00	-	1,416.98
	Other solid fuels		-	-	0.00	-	44.38
	LPG (for vehicles)		2.24	0.96	0.00	1.17	20.11
	LPG (excluding vehicles)		2.24	0.96	0.00	-	4.67
	Biogas		48.93	36.28	-	2.80	13.31
	Subtotal		**1,584.81**	**1,777.67**	**1,975.86**	**1543.42**	**3,818.08**
Indirect energy consumption	Electricity	TJ	4,859.88	5,513.85	5,385.78	4,373.50	4,023.96
	Steam		658.22	783.22	813.03	931.39	3,300.67
	Waste heat from industrial process		-	-	0.00	-	-
	Heat from waste incineration		397.41	332.03	403.70	405.64	-
	Subtotal		**5,915.51**	**6,629.10**	**6,602.51**	**5,304.89**	**7,324.63**
Total			**7,500.32**	**8,406.77**	**8,578.37**	**6,848.29**	**11,142.71**
Energy intensity [1]		TJ / KRW 100 million	0.73	0.51	-	0.43	0.34
Renewable energy usage	PPA	TJ			-	-	-
	Green Premium				-	-	-
	REC				-	-	-
	Self-generated (waste energy)		397	332	403.70	328	-
	Self-generated (bioenergy)		49	36	30	22	-
	Subtotal		**446**	**368**	**434**	**350**	**-**
	Renewable energy usage ratio	%	5.94	4.38	5.06	3.04	-

1) When calculating intensity, only the revenue from the textile sector is included, excluding the trading portion from the total revenue of Hyosung TNC.

HYOSUNG TNC

Environmental Performance

Waste Treatment

Category		Unit	Hyosung TNC				Subsidiaries	
			2020	2021	2022		2022	
					Plan	Performance	Plan	Performance
Non-hazardous waste (ordinary waste)								
Self-treatment		Ton	-	-	-	-	-	-
Outsourced treatment	Recycling		13,455	13,002	8,620	11,836	3,020	9,397
	Incineration		1,475	1,605	700	1,220	3,838	3,693
	Landfill		593	451	300	330	2,377	1,545
	Others		-	-	-	-	-	-
Subtotal			15,523	15,058	9,620	13,387	9,235	14,635
Hazardous waste (designated waste)								
Self-treatment		Ton	597	598	-	439	-	-
Outsourced treatment	Recycling		434	486	200	308	210	123
	Incineration		1,558	1,650	150	1,622	13,417	11,162
	Landfill		1	2	1	1	49	42
	Others		-	-	-	-	-	-
Subtotal			2,590	2,737	351	2,369	13,675	11,327
Total waste generated		Ton	18,123	17,770	9,971	15,756	22,910	25,962
Total waste recycled		Ton	13,899	13,488	8,820	12,583	3,230	9,520
Total ratio of waste recycled		%	76.7	75.9	88.5	79.9	14.1	36.7

Use, Reuse and Recycling of Materials

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Raw (subsidiary) materials	Total use	Ton	522,270	650,221	560,799	846,137
	Recycled amount (recovery of DMAc in manufacturing spandex)	Ton	22,159	30,488	22,004	358,425
Usage of recycled materials (PET bottle recycle chips and flakes)		Ton	3,943	6,816	11,894	6,060

Water Resources

Category		Unit	Hyosung TNC				Subsidiaries	
			2020	2021	2022		2022	
					Plan	Performance	Plan	Performance
Water consumption by water source	Municipal water	Ton	80,725	80,589	81,725	80,647	2,505,869	2,381,844
	Groundwater		-	-	-	-	689,714	632,457
	Industrial water		6,276,576	6,756,354	6,655,686	7,009,847	2,681,941	2,584,296
	River water		-	-	-	-	-	-
Total water consumption		Ton	6,357,301	6,836,943	6,737,411	7,090,494	5,877,524	5,598,597
Water reused (including internal use + reused industrial water)		Ton	4,665,190	4,498,213	5,065,941	5,152,144	529,723	397,178
Water reuse rate (including internal use + reused industrial water)		%	73.0	66.0	75.0	73.0	9.0	7.1
Total water consumption		Ton	6,357,301	6,836,943	6,737,411	7,090,494	5,877,524	5,598,597

Wastewater and Water Treatment

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
Wastewater discharge by location	Wastewater treatment	Ton	547,317	555,740	701,025	1,196,920
	Seawater discharge				-	-
	Outsourced treatment				-	474,850
Total Wastewater discharge		Ton	1,227,242	1,297,689	1,187,291	1,671,770
Biochemical Oxygen Demand (BOD)		Ton	3.65	5.01	4.34	22.40
Chemical Oxygen Demand (COD)			33.44	36.11	21.12	24.52
Suspended Solids (SS)			6.98	6.43	8.60	40.92
Total Nitrogen (T-N)			10.33	11.97	9.61	26.14
Total Phosphorus (T-P)			0.46	0.39	0.29	0.21

HYOSUNG TNC

Environmental Performance

Energy Savings and Emissions Reduction

Site	Project	Date of installation	Investment (KRW million)	Energy savings (kWh / year)	Energy savings (TJ / year)	GHG emissions reductions (CO_2 ton eq / year)
Gumi	Upgrading to high-efficiency cooler (800RT)	Oct. 2019	240	1,152,000	11.06	529
	Replacing with new air compressors (to optimize supply pressure)	Oct. 2019	330	1,190,000	11.42	547
	Q6-2 lower heat medium pump inverter reduction	Sep. 2021	9.32	14,030	0.13	6
	Energy (electricity cost) savings through STA air pressure optimization	Dec. 2021	90.0	1,250,928	12.01	575
Daegu	Lighting improvement for fabric inspection machines	Mar. 2017	6	9,712	0.09	4
	LED lighting replacement	Mar. 2018	14.91	46,116	0.44	21
	Increasing efficiency of waste heat recovery system - Inverter installment for raw water conveying pump, replacement of a calorimeter, and pipe cleaning	Oct. 2022	2	31,586		69
Ulsan	Replacing extruder BL motors (BL Motor -> Induction Motor)	Oct. 2019	99.9	1,103,760	10.60	507
	Replacing outdated dewatering equipment	Dec. 2019	393	219,600	2.11	101
	Improving the efficiency of distributing returned cooling water (electricity) - Replacing a faulty valve in the cooling tower to enhance the efficiency of distributing returned cooling water and shutting down one cooling tower	Oct. 2022	6	396,000	3.80	182
	Reducing air loss through dryer facility enhancement (electricity) - Replacing the existing purge type dryer with non-purge type to prevent air loss	Aug. 2022	210	426,673	4.10	196
	Improving back washing frequency through replacement of sand filter media	Jan. 2022	50	427,680	4.11	196
Total			1,451	6,268,085	59.87	2,934

Site		Project	Energy savings (TJ / year)	GHG emissions reductions (CO_2 ton eq / year)
Subsidiaries	Hyosung Chemicals (Jiaxing) Co., Ltd	Steam savings through compressor	47.76	1,602.82
	Hyosung Spandex (Jiaxing) Co., Ltd	LED lighting replacement	0.45	71.88
	Hyosung Spandex (GuangDong) Co., Ltd	Replacing C6 #1 HTM boiler air preheater to enhance efficiency	1.75	276.87
		Integrating C3-3 and C6 operations	23.13	3,664.47
		Installing 2 high-efficiency motors for P8080 (CH/W Pump)	0.82	130.06
		Power savings through temperature adjustment of CH/W system	2.12	336.28
		Installing automatic control device for steam condensate cooling fan	0.01	1.98
		Changing operation mode of N2 generator and reducing air purge	1.13	179.51
		Upgrading motors for dope tank AG and AG4010	0.33	52.16
		Installing LED lighting at the polymerization site	0.01	2.25
	Hyosung India Pvt. Ltd	Maintaining indoor temperature and humidity in the Take Up area and stopping AHU 1B supply fan	0.25	50.37
		Maintaining indoor temperature and humidity in the Take Up area while stopping AHU 1B return fan	0.96	191.09
		Maintaining temperature in the Spinning Room and stopping AHU 3B return fan	0.01	2.91
		Installing cooling pads in AHU 3A and 3B for pre-cooling of fresh air	0.04	7.87
		Optimizing motor current of LP compressor and maintaining air pressure	0.15	29.40
		Optimizing HP air pressure	0.26	51.29
	Hyosung Istanbul TEKSTIL LTD.STI	Installing AHU coolers		21.59
		Stopping polymerization pumps and agitator mixers	0.47	48.59
		Changing pump types	0.31	32.38
		Building TVR system	3.91	131.29
		Installing boiler preheaters	4.61	154.74
Total			88.72	7,039.79

Sales and Purchase of Low Environmental Impact Products and Services

Category	Unit	Hyosung TNC			Subsidiaries
		2020	2021	2022	2022
Revenue from products and services designed for a low-carbon economy (sales of products and services)	KRW million	31,515	61,413	50,957	3,907
Target net income from products and services designed for a low-carbon economy	KRW million	-	-	74,367	11,192
Purchase of products and services	KRW million	11,226	16,403	28,800	9,342

* Data for 2020 and 2021 have been corrected due to changes in calculation criteria.

Pollution-free Vehicles

Category		Unit	Hyosung TNC			Subsidiaries
			2020	2021	2022	2022
On-road vehicles	EVs	vehicle	-	-	-	1
	Hydrogen vehicles		-	-	-	-
Off-road vehicles	EVs	vehicle	69	74	66	25
	Hydrogen vehicles		-	-	-	-
Ratio of pollution-free vehicles		%	48	51	48	21.0

* On-road vehicles: Passenger cars, vans, trucks, special vehicles, two-wheeled vehicles (excluding electric bicycles)
* Off-road vehicles: Include non-specified vehicles such as construction machinery, agricultural machinery, etc. E.g., forklifts, tool cars, and carts used in workplaces.

Biodiversity within Areas of Business Impact

Category	Unit	Hyosung TNC	Subsidiaries
IUCN Red List of Threatened Species	종	213	2,196
Nationally designated endangered species	종	23	-

* IUCN Red List of Threatened Species: Included species categorized as Critical (CR), Endangered (EN), and Vulnerable (VU) within a 25 km radius of the business site.
* Nationally designated endangered species: Data have been collected based on major administrative areas according to the national distribution survey of endangered wildlife by the National Institute of Biological Resources.

Environmental Investments

Category	Unit	Hyosung TNC				Subsidiaries	
		2020	2021	2022		2022	
				Plan	Performance	Plan	Performance
Waste treatment and environment restoration expenses	KRW million	1,699	1,749	1,535	2,617	6,851	5,085
Pollution prevention and environmental management expenses		1,056	1,406	354	374	437	507
Investment in facilities for environmental improvement		205	527	983	960	531	2,707
Total		2,960	3,682	2,872	3,951	7,819	8,298

1) Figures have been aligned to changes in the combined environmental investments for 2020 and 2021 compared to the previous year.

Hyosung Heavy Industries

Governance and Economic Performance

Reporting Scope

This report's ESG Performance section includes data from the subsidiaries listed below, which together account for over 92.3% of Hyosung Heavy Industries' consolidated revenue. The data for Hyosung Heavy Industries and its subsidiaries are presented separately, with data for the subsidiaries only provided for the year 2022. Any instances where data for specific items may not include information from certain subsidiaries are indicated in the footnotes.

Subsidiaries	Country of operation
Jinheung Enterprise.co.,ltd	Korea
Nantong Hyosung Transformer Co., Ltd.	China
HYOSUNG T&D INDIA Pvt Ltd	India
Hyosung HICO, Ltd.	USA
Hyosung Vina Industrial Machinery Co., Ltd.	Vietnam

Consolidated Statements of Comprehensive Income

(Unit: KRW million)

Category	2020	2021	2022
Sales	2,983,971	3,094,699	3,510,144
Cost of sales	2,588,586	2,690,410	3,075,122
Gross profit	395,385	404,289	435,022
SG&A	317,808	250,724	253,025
R&D expenses	33,503	33,499	38,748
Operating income	44,075	120,066	143,249
Other gain	25,831	47,754	16,089
Other loss	37,070	39,234	23,424
Finance income	118,355	89,204	395,239
Finance expenses	169,167	122,401	469,564
Gain(loss)of associates	(4)	(1,032)	(1,747)
Profit before tax	(17,980)	94,357	59,842
Corporate tax expenses	1,278	17,840	30,712
Net profit	(19,258)	76,517	29,130
Other comprehensive gain(loss)	(2,989)	(8,861)	33,042
Total comprehensive income	(22,247)	67,656	62,172

Financial Statements (Consolidated)

(Unit: KRW million)

Category	2020	2021	2022
Current assets	1,238,408	1,561,558	2,221,500
Cash and cash equivalents	52,294	81,009	212,740
Trade and other receivables	542,936	651,997	841,772
Inventories	318,971	413,135	628,721
Other current assets	324,207	415,417	538,267
Non-current assets	2,465,046	2,461,143	2,471,971
Long-term trade and other receivables	514,552	478,571	448,621
Tangible assets	1,134,914	1,256,151	1,288,100
Investment in properties	547,335	441,018	437,787
Intangible assets	145,920	147,943	145,106
Investments in subsidiaries and affiliates	48	22,709	30,703
Others	122,277	114,751	121,654
Total assets	3,703,454	4,022,701	4,693,471
Current liabilities	1,740,041	1,944,011	2,504,911
Trade and other payables	633,275	805,864	790,343
Borrowings	598,704	630,641	950,163
Other current liabilities	508,062	507,506	764,405
Non-current liabilities	995,163	1,041,548	1,085,349
Long-term trade and other payables	237,838	236,750	251,227
Long-term borrowings	575,801	631,281	659,765
Other non-current liabilities	181,524	173,517	174,357
Total liabilities	2,735,204	2,985,559	3,590,260
Capital stock	46,623	46,623	46,623
Retained earnings	-19,648	28,987	68,905
Other components of equity	856,607	856,614	859,041
Non-controlling interest	84,668	104,918	128,642
Total equities	968,250	1,037,142	1,103,211

Hyosung Heavy Industries

Governance and Economic Performance

Corporation Tax by Country

Country	Items	Unit	2020	2021	2022
Korea	Sales	KRW million	2,905,631	2,822,339	3,241,315
	Profit before tax	KRW million	1,045	161,005	115,815
	Corporation tax expense	KRW million	3,587	26,209	33,023
	Tax rate	%	22.0	22.0	24.2
	Effective tax rate	%	34.3	20.0	28.5
China	Sales	KRW million	111,719	107,934	162,823
	Profit before tax	KRW million	2,662	18	5,569
	Corporation tax expense	KRW million	-	0	0
	Tax rate	%	25.0	25.0	25.0
	Effective tax rate	%	-	-	-
India	Sales	KRW million	32,548	82,740	61,136
	Profit before tax	KRW million	(6,531)	(1,925)	(5,203)
	Corporation tax expense	KRW million	2,272	234	0
	Tax rate	%	33.0	33.0	25.2
	Effective tax rate	%	-	-	-
Vietnam	Sales	KRW million	11,213	35,477	50,660
	Profit before tax	KRW million	217	1,323	2,592
	Corporation tax expense	KRW million	43	284	483
	Tax rate	%	20.0	20.0	20.0
	Effective tax rate	%	20.0	20.0	18.6
USA	Sales	KRW million	10,151	223,641	311,420
	Profit before tax	KRW million	-16,885	-28,785	-47,611
	Corporation tax expense	KRW million	-	-2,996	3,314
	Tax rate	%	26.0	26.0	21.0
	Effective tax rate	%	-	-	-
South Africa	Sales	KRW million	484	758	1,066
	Profit before tax	KRW million	50	24	32
	Corporation tax expense	KRW million	4.0	14.0	32.0
	Tax rate	%	28.0	28.0	28.0
	Effective tax rate	%	8.0	6.0	101.4

* Values may differ from those in the consolidated financial statements due to internal transactions among consolidated companies, as well as unrealized gains or losses.

Current Status of Board of Directors

Category		Unit	2022
Diversity	Male	Person	7
	Female	Person	1
No. of outside directors within the BoD		Person	4
Outside director's attendance rate at the Outside Director Recommendation Committee		%	100.0
No. of meetings of the Audit Committee		Times	7
Outside director's attendance rate at the Audit Committee		%	100.0

Ethical and Compliance Management

Category		Unit	Hyosung Heavy Industries	Subsidiaries
			2022	2022
Employee discrimination	No. of cases reported	Case	-	2
	No. of cases reviewed	Case	-	2
Anti-corruption	No. of cases reported	Case	1	-
	No. of individuals subject to disciplinary actions	Person	-	-
Fair trade	No. of violations	Case	-	-
	Fines for violations	KRW	-	-
Violation of laws and regulations	Cases of fines imposed	Case	1	N/A
	Cases of non-monetary sanctions	Case	-	N/A
	Fines imposed by legal proceedings associated with bribery or corruption	KRW million	-	N/A
	Fines imposed by legal proceedings related to product safety	KRW million	-	N/A
	Fines imposed by legal proceedings related to anti-competitive behaviors	KRW million	-	N/A
	Fines imposed by legal proceedings related to environmental law breaches such as pollutant emissions	KRW million	7	N/A
Prevention of corruption risks				
Rate of employees that received an anti-corruption notification and related education		%	81.4	30.0
No. of business sites assessed on corruption risks		ea	2	2

* Hyosung HICO is excluded from the rate of employees that received an anti-corruption notification and related education.

Hyosung Heavy Industries

Governance and Economic Performance

Production Output by Business Sector

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Production output	Transformers	KRW million	516,202	445,463	466,574	210,654
	GIS	KRW million	393,530	529,374	354,975	46,966
	Motors	KRW million	266,505	222,957	269,115	48,048
	Others	KRW million	200,290	172,905	249,866	6,192

* Subsidiaries' production volume include data from subsidiaries of the Power & Industrial Systems division including Nantong Hyosung Transformer, HYOSUNG T&D INDIA, Hyosung HICO, and Hyosung Vina Industrial Machinery

Construction Projects

Category	Unit	Hyosung Heavy Industries			Subsidiaries
		2020	2021	2022	2022
No. of projects underway	Case	31	40	39	40
No. of outsourced projects received	Case	16	16	13	24
Total backlog	KRW million	3,814,690	4,352,735	4,591,878	2,791,327
No. of projects operated in accordance with sustainability standards and certifications	Case	6	3	1	-
No. of pending projects related to hydrocarbon and renewable energy	Case	-	-	-	-

* Subsidiaries' construction project data include data from its subsidiary, Jinheung Enterprise.

R&D Expenses

Category	Unit	2020	2021	2022
R&D Expenses	KRW million	33,503	33,498	38,748

Patent Registration and Application

Category		Unit	2020	2021	2022
Patent registration (accumulated)	Domestic	Case	341	334	351
	Overseas		81	115	147
Patent application (accumulated))	Domestic	Case	363	386	398
	Overseas		216	249	279

* Values in this report may differ from those in the business report due to the transfer of existing special rights and changes in the starting points for data collection after the spin-off.

Sales from Products Conducive to Resource Use Efficiency

Category	Unit	Hyosung Heavy Industries			Subsidiaries
		2020	2021	2022	2022
Sales from products related to renewable energy and energy efficiency	KRW million	473,714	279,143	318,500	40,824

Hyosung Heavy Industries

Social Performance

Employee Status

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Total employees (Permanent and Temporary)		Person	3,154	3,125	3,192	1,995
Employment type	Permanent (male)	Person	2,769	2,708	2,689	1,376
	Permanent (female)		222	213	219	226
	Subtotal		**2,991**	**2,921**	**2,908**	**1,602**
	Temporary (male)	Person	75	101	129	361
	Temporary (female)		88	103	155	32
	Subtotal		**163**	**204**	**284**	**393**
	Part-time (male)	Person	-	-	-	40
	Part-time (female)		-	-	-	24
	Subtotal		**-**	**-**	**-**	**64**
Age	Under 30	Person	213	222	301	596
	30-50		2,284	2,194	2,151	1,075
	51 and above		657	709	740	388
Gender	Male	Person	2,844	2,809	2,818	1,777
	Female		310	316	374	282
Job category (based on permanent employment)	Salary	Person	2,262	2,228	2,251	720
	Hourly		729	693	657	882
Diversity	Employees with disability	Person	92	90	96	6
	Veterans		68	66	67	2
	Foreigner		19	16	19	21
	Subtotal		**179**	**172**	**182**	**29**
Fostering Female Talent	Female employee ratio	%	9.8	10.1	11.7	12.9
	Female managerial positions ratio (manager and above)		6.5	7.2	7.0	21.4

* Hyosung HICO is excluded from the data regarding the rate of female employees and diversity.

New Recruitment and Turnover

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
New recruits	Male	Person	154	179	222	607
	Female		70	89	138	96
	Subtotal		**224**	**268**	**360**	**703**
	Under 30		65	**112**	195	**354**
	30-50		73	119	147	277
	51 and above		86	37	18	72
	Subtotal		**224**	**268**	**360**	**703**
Turnover (voluntary turnover of permanent)	Male	Person	72	96	132	269
	Female		12	17	20	41
	Subtotal		**84**	**113**	**152**	**310**
	Under 30		9	17	35	145
	30-50		69	85	110	147
	51 and above		6	11	7	18
	Subtotal		**84**	**113**	**152**	**310**
	Voluntary turnover rate	%	2.8	3.9	5.2	19.4

Total compensation and Remuneration

Category		Unit	Hyosung Heavy Industries		
			2020	2021	2022
Total compensation for entry-level employees		KRW million	48	48	54
Rate of entry-level compensation to legal minimum wage	Male	%	189.8	190.5	201.8
	Female		189.8	190.5	201.8
Rate of total compensation for female compared to male	Executive	%	93.5	98.3	91.7
	Manager level or higher		73.5	81.1	79.5
	Non-manager level		57.4	58.4	64.9
Average total compensation		KRW million	58	65	75
Total annual compensation for C-level executives		KRW million	300	376	380
Median employee compensation (excluding C-level executives)		KRW million	62	67	75
Ratio of C-level executives' compensation to that of employees		Times	5.2	5.8	5.1

Hyosung Heavy Industries

Social Performance

Maternity and Childcare Leave

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Maternity leave (male)	No. of employees under maternity leave	Person	71	77	58	26
	Returning ratio to work after maternity leave	%	100	100	100	100
Maternity leave (female)	No. of employees under maternity leave	Person	13	19	14	5
	Returning ratio to work after maternity leave	%	92	89	93	100
Childcare leave (male)	No. of employees entitled to childcare leave	Person	693	627	587	83
	No. of employees on childcare leave	Person	69	64	56	17
	No. of employees returning to work after childcare leave	Person	55	59	48	17
	No. of employees with over 12 months of service after childcare leave	Person	125	55	56	17
Childcare leave (female)	No. of employees entitled to childcare leave	Person	26	27	22	9
	No. of employees on childcare leave	Person	19	19	15	10
	No. of employees returning to work after childcare leave	Person	16	14	17	10
	No. of employees with over 12 months of service after childcare leave	Person	13	14	12	8

Labor Union Membership and Retirement Pension

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Labor Union Membership Status	No. of employees covered by collective bargaining agreements	Person	785	693	660	1,127
	Ratio of employees covered by collective bargaining agreements among total employees	%	24.9	22.2	21.1	56.5
	No. of union workers	Person	682	657	628	1,005
	Ratio of union workers	%	89.9	94.8	95.2	89.2
Retirement pension	Total operation fund for retirement pension	KRW million	217,734	189,752	195,734	10,073
	Operation fund of DB pension	KRW million	182,154	150,689	163,933	9,879
	Operation fund of DC pension	KRW million	35,580	39,063	31,800	193
	Total no. of members	Person	2,967	3,083	3,279	581
	No. of DB pension members		2,256	2,404	2,486	437
	No. of DC pension members		711	679	793	144

Employee Training Status

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
No. of training participants		Person	125,299	117,002	111,480	68,111
Total training expenses		KRW 1,000	1,067,897	1,434,366	1,877,658	123,958
Total training hours		Hour	147,849	169,968	177,385	89,773
Average training hours per employee		Hour	47	54	56	45
Average training expenses per employee		KRW	338,585	458,997	588,239	62,134
Average training hours per employee by gender	Male	Hour	48	56	57	42
	Female		37	48	40	
Average training hours per employee by employee category	Executive		31	38	15	11
	Manager level or higher		37	44	47	29
	Non-manager level		49	57	59	48
No. of participants in environmental training		Person	3,430	1,931	1,773	5,820
No. of participants in ethics and anti-corruption training			1,494	1,134	2,601	1,057
No. of participants in fair trade training			1,477	1,099	1,327	454
No. of participants in safety and health training			50,321	44,942	46,548	57,841
No. of participants in human rights training (sexual harassment / disability awareness / discrimination prevention)			7,260	6,796	7,923	914
No. of participants in information security training			1,917	481	1,661	906
No. of participants in sustainability management training			11	2,975	3,335	563
No. of participants in retiree training			-	-	12	70

Regular Performance Evaluation

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
No. of employees subject to performance evaluation		Person	2,991	2,921	2,908	1,504
Performance evaluation rate		%	95.0	93.0	91.1	75.4
Regular performance and career development review rate by gender	Male	%	99.4	97.4	95.3	Non-disclosure
	Female		73.5	71.6	58.2	
Regular performance and career development review rate by employee category	Executive		94.5	95.5	97.8	
	Manager level or higher		97.4	98.5	98.5	
	Non-manager level		95.0	93.0	91.1	

Hyosung Heavy Industries

Social Performance

Supplier Status

Category	Unit	Hyosung Heavy Industries			Subsidiaries
		2020	2021	2022	2022
No. of suppliers	Company	3,962	4,004	3,585	1,325
Total purchase from suppliers	KRW million	1,868,226	1,695,648	2,119,258	439,306
Local purchase ratio in key business regions	%	86.0	84.0	80.0	99.8

Social and Environmental Assessment of Supply Chain

Category	Unit	Hyosung Heavy Industries
Ratio of new suppliers that conducted social and environmental assessment	%	9.0
No. of suppliers that conducted social and environmental assessment	Company	428
No. of suppliers having practical and potential negative impact	Company	7
Ratio of suppliers that agreed improvement based on the results of social and environmental assessment	%	100.0
Ratio of suppliers whose contracts were terminated based on the results of social environmental assessment	%	-

Compliant Handling Process for Suppliers

Category	Unit	2022
No. of complaints submissions	Case	-
No. of complaints processed	Case	-
Processing rate	%	-

* Based on the cases reported through the procurement channel

CSR Activities

Category	Unit	Hyosung Heavy Industries			Subsidiaries
		2020	2021	2022	2022
CSR investment	KRW million	858	560	612	9
No. of CSR programs	Program	12	19	33	3

Occupational Accidents and Injuries

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Occupational accident rate(rate of injured individuals due to work-related accidents and diseases)		%	0.70	0.83	0.72	1.85
Process Safety Total Incident Rate (PSTIR)		Per 200,000 Hour	-	3.20	-	-
Employees	No. of fatalities	Person	-	1	-	-
	Fatality rate	Per 200,000 Hour	-	0.03	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	-	-	-	4
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 Hour	-	-	-	0.00
	No. of work-related accidents or work-related diseases	Case	16	20	19	8
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	6	5	4	0
Partners	No. of fatalities	Person	1	1	-	-
	Fatality rate	Per 200,000 Hour	0.01	0.01	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	0	0	12	0
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 Hour	0.00	0.00	0.00	0.00
	No. of work-related accidents or work-related diseases	Case	44	51	33	-
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	3	2	10	-

* The incident rate of the previous report was based on the figures released by the Korea Occupational Safety and Health Agency, but the data in this report have been changed due to the change in data collection (incident rate = no. of employees injured / no. of employees * 100)

Hyosung Heavy Industries

Environmental Performance

* The scope of GHG emissions and energy usage includes all facilities of Hyosung Heavy Industries. Meanwhile, other environmental data is collected from the headquarters, Changwon Plant, and construction sites.

GHG emissions

Category		Unit	Hyosung Heavy Industries				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct GHG emissions (Scope 1)	Stationary combustion	tCO_2eq	7,599	7,177	6,889	8,638	3,843
	Mobile combustion		815	772	778	840	815
	Process emissions		1,107	614	-	524	-
	Waste disposal		38	443	-	41	-
	Subtotal		**9,558**	**9,005**	**7,667**	**10,043**	**4,658**
Indirect GHG emissions (Scope 2)	Electricity	tCO_2eq	47,794	44,442	50,544	41,796	16,307
	Steam		114	663	663	-	7,819
	Subtotal		**47,908**	**45,105**	**51,207**	**41,796**	**24,125**
Total GHG emissions (Scope 1 & 2)		tCO_2eq	57,466	54,110	58,874	51,839	28,784
GHG emissions intensity	Scope 1	tCO_2eq / KRW 100 million	0.38	0.38	0.38	0.39	0.49
	Scope 2		1.91	1.91	1.91	1.61	2.56
	Subtotal		**2.29**	**2.30**	**2.30**	**2.00**	**3.05**

Air Pollutants Emissions

Category		Unit	Hyosung Heavy Industries			
			2020	2021	2022	
					Plan	Performance
General air pollutants	Nitrogen oxides (NOx)	Ton	1.1	1.3	1.2	1.0
	Sulfur oxides (SOx)		-	-	-	0.0
	Particulate matter (PM)		8.90	5.80	5.70	4.2
Ozone depleting substances	CFD(R-11)	Ton	-	-	-	-
	HCFC(R-123)		-	-	-	-
	HCFC(R-22)		-	-	-	-

Chemical Substances Management

Category	Unit	Hyosung Heavy Industries				Subsidiaries
		2020	2021	2022		2022
				Plan	Performance	
Hazardous chemicals consumption	Ton	127	34	20.00	2.47	138.69
Hazardous chemicals intensity	Ton/KRW 100 million	0.01	0.00	-	0.00	0.01
Chemical substance emissions	ton	254.10	194.00	30.00	29.20	2.23

Energy Consumption

Category		Unit	Hyosung Heavy Industries				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct energy consumption	Diesel	TJ	10.21	9.54	8.72	9.32	9.80
	Kerosene		21.88	21.68	21.69	33.93	36.99
	LNG		109.71	94.12	91.65	97.10	0.12
	NG		-	-	-	-	5.83
	Gasoline		2.50	2.31	2.31	2.66	2.04
	Propane		8.00	5.51	4.11	7.19	0.05
	B-C oil		-	-	-	-	-
	Anthracite		-	0.46	0.46	2.83	-
	Other solid fuels		-	7.28	7.28	10.33	13.82
	LPG		0.38	0.50	0.32	0.68	1.03
	Biogas		-	-	-	-	-
	Subtotal		**152.68**	**141.39**	**136.55**	**164.03**	**71.08**
Indirect energy consumption	Electricity	TJ	984.06	928.67	1,056.19	873.39	188.17
	Steam		3.34	17.60	18.43	-	71.08
	Waste heat from processes		-	-	-	-	-
	Heat from waste incineration		60.53	51.50	50.00	53.06	-
	Subtotal		**1,047.93**	**997.78**	**1,124.62**	**926.45**	**259.25**
Total		**TJ**	**1,200.61**	**1,139.17**	**1,261.17**	**1,090.48**	**328.93**
Energy intensity		TJ / KRW 100 million	0.05	0.05	0.04	0.04	0.24

Hyosung Heavy Industries

Environmental Performance

Waste Treatment

Category		Unit	Hyosung Heavy Industries				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	Performance
Non-hazardous waste (ordinary waste)							
Outsourced treatment	Recycling	Ton	4,178	5,037	4,950	4,120	2,873
	Incineration		1,229	148	150	-	-
	Landfill		370	278	280	301	-
	Others		-	-	-	-	-
Subtotal			5,777	5,463	5,380	4,422	2,873
Hazardous waste (designated waste)							
Outsourced treatment	Recycling	Ton	288	216	225	297	64
	Incineration		177	125	167	215	-
	Landfill		1	5	5	1	-
	Others		-	-	-	-	53
Subtotal			466	347	397	513	117
Construction waste							
Outsourced treatment	Recycling	Ton	6,586	2,987	2,987	3,433	7,885
	Incineration		-	-	-	-	-
	Landfill		-	-	-	-	30,858
	Others		264,118	185,465	185,465	78,596	5,114
Subtotal			270,705	188,452	188,452	82,029	43,857
Total waste generated		Ton	276,947	194,261	194,229	86,962	46,848
Total waste recycled		Ton	11,052	8,240	8,162	7,850	10,821
Total ratio of waste recycled		%	4.0	4.2	4.2	9.0	23.1

* Data updated due to the absence of construction waste data in the total waste generation and waste recycling figures for 2020 and 2021.

Use, Reuse and Recycling of Materials

Category		Unit	Hyosung Heavy Industries		
			2020	2021	2022
Raw (subsidiary) materials	Total use	Ton	101,791	98,698	163,612
	Recycling amount	Ton	-	-	-

Water Resources

Category		Unit	Hyosung Heavy Industries				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Water consumption by water source	Municipal water	Ton	3,715	157,968	157,968	100,415	172,650
	Groundwater		-	-	-	-	36,844
	Industrial water		347,318	361,867	428,500	406,955	21,316
	River water		-	-	-	-	-
Total water consumption		Ton	351,033	519,835	586,468	507,370	230,810
Water withdrawal by water source	Municipal water	Ton	3,715	157,968	157,968	100,415	172,650
	Groundwater		-	-	-	-	36,844
	Industrial water		347,318	361,867	428,500	406,955	21,316
	River water		-	-	-	-	-
Total water withdrawal		Ton	351,033	519,835	586,468	507,370	230,810

Wastewater and Water Treatment

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Wastewater discharge by location	Wastewater treatment	Ton	-	-	-	119,172
	Seawater discharge		-	-	-	-
	Outsourced treatment		8,873	8,880	7,774	34,090
Total Wastewater discharge		Ton	8,873	8,880	7,774	153,262
Biochemical Oxygen Demand (BOD)		Ton	0.02	0.03	0.02	Non-disclosure
Chemical Oxygen Demand (COD)			0.11	0.25	0.50	
Suspended Solids (SS)			0.03	0.01	0.13	
Total Nitrogen (T-N)			0.22	0.04	0.07	
Total Phosphorus (T-P)			0.03	0.02	0.01	

Hyosung Heavy Industries

Environmental Performance

Sales and Purchase of Low Environmental Impact Products and Services

Category		Unit	Hyosung Heavy Industries			Subsidiaries
			2020	2021	2022	2022
Sales of products and services	Power systems (ESS, STATCOM, solar PCS, low environmental impact transformer and GIS	KRW million	221,011	91,550	206,283	17,027
	Industrial machinery (high-efficiency premium motor)	KRW million	100,333	107,213	94,981	40,824
	Industrial machinery (hydrogen fueling station)	KRW million	14,820	27,464	24,417	-
	Construction (contract amount for green-certified construction projects for the year)	KRW million	1,162,062	497,669	273,588	-
Purchase of products and services		KRW million	61,436	12,823	24,706	7,341

Pollution-free Vehicles

Category		Unit	Hyosung Heavy Industries		Subsidiaries
			2021	2022	2022
On-road vehicles	Electric vehicles	Vehicle	1	-	-
	Hydrogen vehicles		1	-	-
Off-road vehicles	Electric vehicles	Vehicle	165	163	38
	Hydrogen vehicles		-	-	-
Ratio of pollution-free vehicles		%		49.1	34.5

Energy Savings and GHG Emissions Reduction

Category	Business	Date of installation	Investment (KRW million)	Hyosung Heavy Industries	
				Energy usage reduction (TJ / year)	Emissions reductions (tCO_2eq / year)
Electricity	Investments in air conditioner for the transformer assembly line at Changwon Plant 1	Dec. 2022	87	1.25	60
Electricity	Investments in GIS replacing chillers and heaters at Changwon Plant 1	Jun. 2022	42	0.32	15

Environmental Investments

Category	Unit	Hyosung Heavy Industries				Subsidiaries
		2020	2021	2022		2022
				Plan	Performance	Performance
Waste treatment and environment restoration expenses	KRW million	408	373	420	3,112	1,832
Pollution prevention and environmental management expenses		265	206	330	250	341
Total		**673**	**580**	**750**	**3,362**	**2,173**

Hyosung Advanced Materials

Governance and Economic Performance

Reporting Scope

This report's ESG Performance section includes data from the subsidiaries listed below, which together account for over 98.5% of Hyosung Advanced Materials' consolidated revenue. The data for Hyosung Advanced Materials and its subsidiaries are presented separately, with data for the subsidiaries only provided for the year 2022. Any instances where data for specific items may not include information from certain subsidiaries are indicated in the footnotes.

Financial Statements (Consolidated)

(Unit: KRW million)

Category	2020	2021	2022 (Actual)
Current assets	842,036	1,355,009	1,331,264
Cash and cash equivalents	47,128	33,590	23,869
Trade and other receivables	442,619	703,260	592,665
Inventories	324,696	563,967	652,295
Other current assets	27,594	54,192	62,435
Non-current assets	1,437,304	1,473,388	1,603,438
Long-term trade and other receivables	5,216	5,236	4,905
Tangible assets1)	1,204,360	1,224,325	1,344,551
Investment in properties	151,387	155,310	153,517
Intangible assets1)	36,615	36,625	32,738
Other non-current financial assets	39,726	51,892	67,727
Non-current assets held for sale1)	97,253	80,285	11
Total assets	**2,376,593**	**2,908,682**	**2,934,713**
Current liabilities	1,574,912	1,744,511	1,624,968
Trade and other payables	335,239	508,575	417,068
Borrowings	1,223,496	1,160,771	1,143,825
Other current liabilities	16,177	75,165	64,075
Non-current liabilities	420,571	442,582	510,188
Long-term trade and other payables	12,573	7,086	6,431
Long-term borrowings	376,233	380,039	487,012
Other non-current liabilities	31,765	55,457	16,745
Total liabilities	**1,995,483**	**2,187,093**	**2,135,156**
Capital stock	22,400	22,400	22,400
Retained earnings	(101,357)	147,307	236,054
Other components of equity	391,796	434,294	449,017
Non-controlling interest	68,272	117,588	92,086
Total equities	**381,111**	**721,589**	**799,557**

1) Data changed from the reports released in 2020 and 2021 based on the business report

Consolidated Statements of Comprehensive Income

(Unit: KRW million)

Category	2020	2021	2022 (Actual)
Sales	2,394,623	3,597,777	3,841,373
Cost of sales	2,185,965	2,961,805	3,319,361
Gross profit	208,658	635,972	522,012
SG&A	146,524	167,707	173,011
R&D expenses	27,926	30,955	33,931
Operating income	34,208	437,310	315,070
Other gain	11,371	19,113	12,754
Other loss	9,455	12,365	43,129
Finance income	47,731	35,266	101,233
Finance expenses	82,750	67,525	172,766
Profit before tax	1,105	411,799	213,162
Corporate tax expenses	(5,705)	81,776	52,924
Net profit	6,810	330,023	160,238
Other comprehensive gain(loss)	(12,940)	48,522	29,306
Total comprehensive income	**(6,130)**	**378,545**	**189,544**

Hyosung Advanced Materials

Governance and Economic Performance

Corporation Tax by Country[1)]

Country	Items	Unit	2020	2021	2022 (Actual)
Korea	Sales	KRW million	722,534	963,266	858,081
	Profit before tax	KRW million	41,775	170,154	259,023
	Corporation tax expense	KRW million	(5,802)	17,923	46,474
	Tax rate	%	24.2	24.2	24.2
	Effective tax rate	%	-	10.5	17.9
Vietnam	Sales	KRW million	1,091,823	2,108,160	2,319,107
	Profit before tax	KRW million	15,309	288,468	160,463
	Corporation tax expense[2)]	KRW million	4,999	5,305	28,854
	Tax rate	%	5.0, 15.0	0.0, 5.0	0.0, 10.0
	Effective tax rate	%	32.7	1.8	18.0
China	Sales	KRW million	351,871	518,724	514,005
	Profit before tax	KRW million	9,901	75,325	2,324
	Corporation tax expense	KRW million	2,608	31,760	3,847
	Tax rate	%	25.0	25.0	25.0
	Effective tax rate	%	26.3	42.2	165.5
Germany[3)]	Sales	KRW million	380,715	352,568	416,786
	Profit before tax	KRW million	(19,041)	(10,415)	252
	Corporation tax expense	KRW million	(1,487)	2,678	4,816
	Tax rate	%	28.1	28.1	28.1
	Effective tax rate	%	-	-	1,911.1
Luxembourg	Sales	KRW million	185,114	260,123	369,407
	Profit before tax	KRW million	1,147	5,516	8,051
	Corporation tax expense	KRW million	501	2,008	2,054
	Tax rate	%	28.5	27.2	27.2
	Effective tax rate	%	43.7	36.5	25.5

1) Amount before adjusting consolidation
2) Data corrected due to errors in the figures for corporate taxes of two subsidiaries in Vietnam from 2020 to 2021
3) It refers to all combined taxes paid by GST Global GmbH (GST) in Rumania, Mexico, and the Republic of South Africa in addition to Germany

Production Output by Business Sector[1)]

Category		Unit	2020	2021	2022 (Actual)
Production output	Industrial yarn and fabric including tire cords and steel cords[2)]	KRW million	1,474,299	2,045,997	2,579,102
	Spandex & polyester yarn, and nylon films	KRW million	341,385	826,727	635,452

1) Data regarding sectoral production volume corrected due to errors in the figures from 2020 to 2021
2) Tire cords and steel cords, bead wires, industrial yarn, carpets, car mats, airbag fabrics, and cushions

Patent Registration and Application

Category		Unit	2020	2021	2022 (Actual)
R&D expenses		KRW million	27,926	30,954	33,931
Patent registration (accumulated)[1)]	Domestic	Case	652	674	679
	Overseas		284	289	292
Patent application (accumulated))[1)]	Domestic	Case	1,269	1,272	1,275
	Overseas		436	437	444

1) It refers to the total number of patents registered and applied for since 1984, which is different from the number of patents registered and applied for since 2012 as stated in the business report.

Ethical and Compliance Management

Category		Unit	2022 (Actual)
Employee discrimination	No. of cases reported	Case	-
	No. of measures taken after the investigation into discrimination	Case	-
Violation of the Code of Ethics	Sexual harassment / workplace bully	Case	-
	Embezzlement / bribe taking	Case	2
	Data leak	Case	-
	False documentation	Case	-
Violation of laws and regulations[1)]	Cases of fines imposed	Case	1
	Cases of non-monetary sanctions	Case	-
	No. of breaches of laws and our own regulations regarding the data and labeling of products and services	Case	
	Total amount of fines	KRW million	0.8
	Fines incurred by the breaches of financial laws, such as internal trading, monopoly, or anticompetitive behaviors	KRW million	-
	Fines incurred by environmental law violations, such as the emission of pollutants[2)]	KRW million	0.8

1) Main violation data from 2020 to 2021 have been adjusted based on the business report.
2) In 2020, the company failed to submit a document stating the reason for allocation in accordance with the 'Act on The Allocation And Trading Of GHG emissions carbon credits,' resulting in a fine of KRW 800,000. To prevent a recurrence, the company clarified its R&R regarding the closure and transfer of business sites and educated the personnel in charge.

Hyosung Advanced Materials

Social Performance

Employee Status

Category		Unit	2020	2021	2022 (Actual)
Total employees (Permanent and Temporary)		Persons	10,877	10,350	10,491
Employment type	Permanent (male)	Persons	7,332	7,235	7,407
	Permanent (female)		2,459	2,523	2,471
	Subtotal		**9,791**	**9,758**	**9,878**
	Temporary (male)	Persons	638	349	350
	Temporary (female)		448	243	263
	Subtotal		**1,086**	**592**	**613**
Age	Under 30	Persons	4,123	3,960	3,638
	30-50		5,863	5,565	6,011
	51 and above		891	825	843
Gender	Male	Persons	7,970	7,584	7,757
	Female		2,907	2,766	2,734
Job category (based on permanent employment)	Salary	Persons	1,883	1,915	1,936
	Hourly		8,382	7,903	7,989
Board diversity	Male	Persons	13	11	11
	Female		-	-	-
Diversity	Employees with disability	Persons	56	63	60
	Veterans		30	33	28
	Foreigners		148	136	166
	Subtotal		**234**	**232**	**254**
Fostering Female Talent	Female employee ratio	%	27	27	26
	Female managerial positions ratio (manager and above)		16	17	18

Regular Performance Evaluation

Category		Unit	2020	2021	2022 (Actual)
No. of employees subject to performance evaluation		Persons	10,219	9,646	9,915
Performance evaluation rate		%	95.0	94.0	95.0
Total employees by gender who received a regular performance and career development review	Male	Persons	6,795	6,268	6,451
	Female		3,425	3,378	3,464
No. of employees evaluated on their performance and career development by employee category	Executive		98	90	101
	Manager level or higher		887	964	961
	Non-manager level		9,235	8,592	8,853

New Recruitment and Turnover

Category		Unit	2020	2021	2022 (Actual)
New recruits	Male	Persons	1,800	2,222	2,806
	Female		654	821	758
	Subtotal		**2,454**	**3,043**	**3,564**
	Under 30		1,669	**1,943**	**2,243**
	30-50		726	1,035	1,240
	51 and above		59	65	81
	Subtotal		**2,454**	**3,043**	**3,564**
Turnover (voluntary turnover of permanent)	Male	Persons	2,348	1,941	1,762
	Female		570	616	593
	Subtotal		**2,918**	**2,557**	**2,355**
	Under 30		1,877	1,440	1,316
	30-50		963	1,089	959
	51 and above		78	28	80
	Subtotal		**2,918**	**2,557**	**2,355**
	Voluntary turnover rate	%	29	27	24

Maternity and Childcare Leave

Category			Unit	2020	2021	2022 (Actual)
Maternity leave	Male employees under maternity leave	Korea	Persons	27	29	28
		Overseas		444	360	271
	Returning rate	Korea	%	100	100	100
		Overseas		99	99	99
	Female employees under maternity leave	Korea	Persons	3	8	5
		Overseas		231	190	208
	Returning rate	Korea	%	100	100	100
		Overseas		90	97	89
Childcare leave (male)	Employees entitled to childcare leave	Korea	Persons	210	194	171
		Overseas[1]		N/A	N/A	N/A
	Employees on childcare leave	Korea	Persons	3	8	12
		Overseas		167	104	269
	Employees who returned to work after childcare leave	Korea	Persons	3	6	7
		Overseas		154	90	265
	Return rate	Korea	%	75	100	70
		Overseas		100	99	99
	No. of employees with over 12 months of service after parental leave	Korea	%	40	100	100
		Overseas		45	43	80
Childcare leave (female)	Employees entitled to childcare leave	Korea	Persons	12	10	10
		Overseas		N/A	N/A	N/A
	Employees on childcare leave	Korea	Persons	2	7	7
		Overseas		218	175	199
	Employees who returned to work after childcare leave	Korea	Persons	6	4	5
		Overseas		173	129	192
	Return rate	Korea	%	100	80	83
		Overseas		76	63	95
	No. of employees with over 12 months of service after parental leave	Korea	%	100	83	100
		Overseas		77	60	83

1) In case of overseas sites, data for employees entitled to childcare leave was not fully acquired

Hyosung Advanced Materials

Social Performance

Community Involvement

Category	Unit	2020	2021	2022 (Actual)
ICSR investment	KRW Mil.	1,216	1,362	1,014
No. of CSR programs	Programs	72	63	72

Labor Union Membership Status

Category		Unit	2020	2021	2022 (Actual)
Labor union membership	Employees covered by collective agreements	Persons	9,887	9,363	9,526
	Rate of employees subject to collective agreements	%	91	90	91
	Number of union workers	Persons	9,171	8,293	9,024
	Rate of union workers	%	93	95	95

Total Compensation

Category		Unit	2020	2021	2022 (Actual)
Total Compensation[1]					
Total compensation for entry-level employees	Korea	KRW 1,000	49,014	50,484	53,508
	Vietnam	VND 1,000	118,038	166,303	144,606
	China	RMB	42,408	45,744	48,806
	Europe	EUR	18,052	17,274	18,722
Rate of entry-level compensation to legal minimum wage [Male]	Korea	%	282	286	275
	Vietnam	%	394	497	427
	China	%	183	182	186
	Europe	%	129	114	112
Rate of entry-level compensation to legal minimum wage [Female]	Korea	%	282	286	275
	Vietnam	%	394	497	427
	China	%	183	182	186
	Europe	%	124	102	105
Average total compensation	Korea	KRW 1,000	76,319	101,227	95,635
	Vietnam	VND 1,000	177,828	220,403	206,855
	China	RMB	5,689	6,024	6,520
	Europe	EUR	27,093	26,826	30,913
Ratio of total female compensation to male					
Executive	Korea	%	106	106	104
	Vietnam	%	N/A	N/A	N/A
	China	%	75	84	85
	Europe	%	100	100	100
Manager level or higher	Korea	%	114	110	113
	Vietnam	%	50	50	50
	China	%	77	79	76
	Europe	%	100	100	100
Non-manager level	Korea	%	104	103	104
	Vietnam	%	50	50	50
	China	%	72	70	71
	Europe	%	100	100	100

1) Numbers reported are based on total compensation composed of renumeration compensation such as base salary, vacation fee, bonus, etc., and may differ from numbers in our previous sustainability reports which excluded certain benefits

Occupational Accidents and Injuries

Category		Unit	2020	2021	2022 (Actual)
Employee	Occupational fatality	Persons	-	1	-
	Fatality rate per ten thousand employees	bp	-	0.98	-
	Occupational accidents(Employees injured by work-related accidents or affected by work-related diseases)	Persons	28	48	60
	Rate of occupational accidents[1]	%	0.26	0.47	0.60
Supplier	Occupational fatality	Persons	-	-	-
	Fatality rate per ten thousand employees	bp	-	-	-
	Occupational accidents(Employees injured by work-related accidents or affected by work-related diseases)	Persons	-	2	4
	Rate of occupational accidents	%	-	0.50	2.65

1) Revision of the accident rates for 2020-2021 due to previous errors

Retirement Pension

Category		Unit	2020	2021	2022 (Actual)
Retirement pension					
Total operation fund for retirement pension	Korea	KRW Mil.	68,521	74,269	72,329
	Vietnam	VND 10,000	687,299	646,172	760,511
	China	RMB 1,000	500	6,929	5,295
	Europe	EUR	4,433	4,020	3,761
Operation fund of DB pension[1]	Korea	KRW Mil.	66,328	72,206	69,839
	Europe	EUR	4,433	4,020	3,761
Operation fund of DC pension[2]	Korea	KRW Mil.	2,193	2,063	2,490
Total number of members	Korea	Person	1,126	1,070	1,007
	Overseas	Person	8,344	7,846	8,607
Number of DB pension members	Korea	Person	930	871	826
	Overseas	Person	1,420	1,294	1,253
Number of DC pension members	Korea	Person	196	199	181

1,2) Sites that don't have DB or DC are excluded. China and Vietnam, we don't operate retirement pension because the national social insurance covers pensions

Hyosung Advanced Materials

Social Performance

Training Status

Category	Unit	Korea (KRW 1,000)	Vietnam (VND 10,000)	China (RMB)	Europe (EUR)
Total employees	Persons	951	5,423	2,764	1,353
Total hours completed	Hours	35,539	444,027	76,041	241,129
General training	Hours	20,974	353,854	34,266	234,574
Social/Environment training	Hours	14,565	90,173	41,775	6,555
Total number of participants	Persons	12,194	58,183	39,686	3,932
Total training expense	-	650,230	4,925,680	479,110	162,527
Average training hours per employee	Hours	37	82	28	17
Average training expenses per employee	-	684	908	173	120

Supplier Management (2022)

Category	Unit	Korea	Overseas
Totalkey suppliers	ea	77	175
Signing the supplier code of conduct	ea	77	158
Signing contracts that include ESG-related clauses	ea	41	150
Rate of signing contracts that include ESG-related clauses	%	53	86
Preliminary risk evaluation for new suppliers (e.g. ESG-related checklist before regular evaluation)	ea	14	128
Rate of preliminary risk evaluation for new suppliers (e.g. ESG-related checklist before regular evaluation)	%	100	82
No. of written regular evaluations of suppliers conducted (e.g. evaluation of environmental / social issues for written evaluation)	ea	23	96
Ratio of written regular evaluations of suppliers conducted (e.g. evaluation of environmental / social issues for written evaluation)	%	100	70
On-site audit of supplier (e.g. evaluation of environmental / social issues for on-site evaluation)	ea	N/A	18

Social, Environment Training Participants

Social, Environment training status		Unit	Korea	Vietnam	China	Europe
Sustainability awareness training		Persons	994	-	127	-
Human rights	Sexual harassment	Persons	917	335	1,292	1,342
	Diversity training	Persons	1,545	378	2,780	11
	Anti-discrimination	Persons	947	4,307	2,975	-
Ethical management	Ethics and anti-corruption	Persons	937	6,920	5,687	61
	Fair trade	Persons	986	-	59	-
Information security		Persons	967	7,141	2,893	31
Sustainable procurement		Persons	9	3	3	-
Environment training	General environment	Persons	954	-	531	1
	Energy saving & climate change	Persons	56	14	3,318	-
	Water	Persons	1	33	2,780	-
	Chemical management	Persons	314	78	3	-
Safety & Health(S&H) training	S&H training	Persons	1,118	6,827	6,168	737
	Risk assessment	Persons	20	-	13	-
	Emergency simulation	Persons	470	2,479	4,048	14

Hyosung Advanced Materials

Environmental Performance

GHG emissions[1)~7)]

Category				Uni	2020	2021[10)]	2022 (Actual)
GHG emissions by type	CO_2		Korea	tCO_2eq	190,748	201,543	177,725
			Overseas	tCO_2eq	720,273	1,133,011	1,053,498
			Total	**tCO_2eq**	**911,021**	**1,334,554**	**1,231,223**
	CH_4		Korea	tCO_2eq	62	54	45
			Overseas	tCO_2eq	2,267	3,808	3,003
			Total	**tCO_2eq**	**2,329**	**3,862**	**3,048**
	N_2O		Korea	tCO_2eq	292	921	778
			Overseas	tCO_2eq	2,251	3,506	3,114
			Total	**tCO_2eq**	**2,543**	**4,427**	**3,892**
Emissions by activity	Direct (Scope 1)	Subtotal	Korea	tCO2eq	43,956	44,442	44,196
			Overseas	tCO2eq	95,812	104,067	106,614
			Total	**tCO2eq**	**139,768**	**148,509**	**150,810**
		Stationary combustion	Korea	tCO_2eq	34,988	34,713	39,848
			Overseas	tCO_2eq	90,762	97,429	101,545
		Mobile combustion	Korea	tCO_2eq	352	132	129
			Overseas	tCO_2eq	5,050	3,373	2,475
		Process emissions	Korea	tCO_2eq	-	-	-
			Overseas	tCO_2eq	-	-	-
		Air pollutant / waste disposal	Korea	tCO_2eq	8,617	9,597	4,220
			Overseas	tCO_2eq	N/A	3,265	2,594
	Indirect (Scope 2)	Subtotal	Korea	tCO_2eq	147,146	158,076	134,352
			Overseas	tCO_2eq	628,978	1,036,258	953,002
			Total	**tCO_2eq**	**776,125**	**1,194,334**	**1,087,354**
		Electricity	Korea	tCO_2eq	146,002	155,560	130,297
			Overseas[8)]	tCO_2eq	608,971	985,969	914,134
		Steam	Korea	tCO_2eq	1,144	2,516	4,054
			Overseas	tCO_2eq	20,007	50,288	38,868
Emission intensity[9)]	Total (Scope 1, 2)		Korea	tCO_2eq / KRW 100 million	26.45	21.02	20.81
			Overseas	tCO_2eq / KRW 100 million	40.20	36.23	30.28
			Total	**tCO_2eq / KRW 100 million**	**36.26**	**32.67**	**28.41**
	Direct (Scope 1)		Korea	tCO_2eq / KRW 100 million	6.08	4.61	5.15
			Overseas	tCO_2eq / KRW 100 million	5.31	3.31	3.05
			Total	**tCO_2eq / KRW 100 million**	**5.53**	**3.61**	**3.46**
	Indirect (Scope 2)		Korea	tCO_2eq / KRW 100 million	20.37	16.41	15.66
			Overseas	tCO_2eq / KRW 100 million	34.88	32.92	27.23
			Total	**tCO_2eq / KRW 100 million**	**30.73**	**29.05**	**24.95**

1) Depending on the rounding method used for each facility, there may be a difference of less than ±1tCO_2e.
2) Reporting boundary
- Korea : Jeonju, Daejeon, Ulsan, headquarters, and other buildings owned by HAMC
- Overseas : Vietnam, Quang Nam, Jiaxing, Qingdao, Changshu, Luxembourg, Romania (Jiaxing and Qingdao are excluded from third-party verification in 2022 as they report data based on Chinese local government reporting)

3) GHGs criteria & protocols used for verification
- Korea : Guideline for Reporting and Certification of Emissions in the Greenhouse Gas Emissions Trading Scheme (Ministry of Environment Notice No. 2021-278)
- Overseas : ISO 14064-3:2019 (Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions)

4) Verification approach
- Korea : The third-party assurance provider reviewed and verified HAMC's GHG inventory report, energy usage, process to generate/aggregate/report emissions data
- Overseas : The third-party assurance provider reviewed and verified HAMC's GHG inventory report, the process to generate/aggregate/report emissions data

5) Correction of renewable energy consumption in Changshu and mobile combustion consumption in Vietnam in 2021 and completion of third party re-verification
6) GHG emissions due to leakage of refrigerants used in refrigeration and air conditioning and GHG emissions due to leakage of SF6 used in gas insulated switches are excluded from the scope of reporting
7) There are no NF3 emission facilities within the sites subject to reporting
8) Romania's Scope 2 (electricity) from 2021 are zero as 100% renewable energy (wind power) is purchased and used
9) Intensity = Total amount of GHG emissions ÷ Sales, sales according to the general financial statement of each site within the scope of publication of the sustainability report, not on a consolidated basis
10) Correction of data where reports based on Chinese local government

Energy Consumption

Energy Consumption[1)]			Unit	2020	2021[7)]	2022 (Actual)
Total consumption[2)]		Korea	TJ	3,889.47	4,215.63	3,999.16
		Overseas	TJ	6,594.14	8,206.57	7,839.34
		Total	TJ	10,483.62	12,422.20	11,838.50
Intensity of total energy consumption[3)]		Korea	TJ / KRW 100 million	0.54	0.44	0.47
		Overseas	TJ / KRW 100 million	0.37	0.26	0.22
		Total	TJ / KRW 100 million	0.42	0.30	0.27
Direct energy	LNG (stationary)	Korea	TJ	467.92	483.24	698.8
		Overseas	TJ	1,750.40	1,781.20	1,800.13
	LPG (stationary)	Korea	TJ	193.81	176.18	76.38
		Overseas	TJ	22.93	117.07	171.76
	Diesel (stationary)	Korea	TJ	-	-	-
		Overseas	TJ	0.03	0.02	4.13
	Kerosene (stationary)	Korea	TJ	-	0.01	0.01
		Overseas	TJ	-	-	-
	LPG (mobile)	Korea	TJ	0.08	0.13	0.16
		Overseas	TJ	24.92	29.53	30.14
	Diesel (mobile)	Korea	TJ	4.23	0.85	0.99
		Overseas	TJ	48.02	22.75	5.34
	Gasoline (mobile)	Korea	TJ	0.72	0.95	0.74
		Overseas	TJ	2.72	1.12	0.83
Indirect energy	Electricity	Korea	TJ	3,006.15	3,250.64	2,722.74
		Overseas	TJ	4,409.91	5,437.10	5,176.45
	Steam	Korea	TJ	216.53	303.62	499.32
		Overseas	TJ	335.21	727.26	549.13
Renewable energy	Self-generation (solar power)	Korea[4)]	TJ	0.03	0.02	0.02
		Overseas[5)]	TJ	N/A	23.64	37.16
	Purchase (wind power)	Overseas[6)]	TJ	N/A	66.88	64.25

1) Correction of energy consumption according to overseas greenhouse gas emission verification in 2022.
Correction of renewable energy use and mobile combustion in 2021 and completion of third-party re-verification (not reflected in 2020)
2) Total energy consumption = Direct energy consumption + Indirect energy consumption + Renewable energy consumption
3) Total energy consumption intensity = Total energy consumption ÷ Sales, sales according to the general financial statement of each site within the scope of publication of the sustainability report, not on a consolidated basis
4) Installed at Songpa S Tower
5) Installed in Jiaxing and Changshu
6) Romania purchased and used 100% renewable energy (wind power)
7) Correction of data where reports based on Chinese local government

Hyosung Advanced Materials

Environmental Performance

Air Pollutants Emissions

Air Pollutants Emissions[1),2),3)]		Unit	2020	2021	2022 (Actual)
NOx	Korea	Ton	94.4	99.5	170.0
	Overseas	Ton	23.2	18.5	18.1
	Total	**Ton**	**117.6**	**118.0**	**188.2**
SOx	Korea	Ton	1.3	0.5	6.6
	Overseas	Ton	7.8	5.1	4.4
	Total	**Ton**	**9.0**	**5.6**	**10.9**
PM, Particulate Matter	Korea	Ton	15.1	11.2	8.7
	Overseas	Ton	99.5	78.4	85.4
	Total	**Ton**	**114.6**	**89.6**	**94.1**

1) Correction of data error of air pollutant emission in overseas in 2020~2021
2) Correction of Jeonju site data error of NOx and SOx emissions in 2020 and PM in 2021
3) EU sites do not collect air pollutant emissions, but all the sites undergo 3rd-party external audit once a year

Ozone Depleting Substances

Consumptions		Unit	2020	2021	2022 (Actual)
Total amount of ODS consumption	Korea	Ton	0.9	0.4	0.1
	Overseas	Ton	2.3	0.8	0.8
	Total	**Ton**	**3.2**	**1.2**	**0.8**
CFC(Chloro Fluoro Carbon; R11)	Korea	Ton	0.9	0.4	0.1
	Overseas	Ton	-	-	-
HFC(Hydro Fluoro Carbon; R134a, R410A)[1),2)]	Korea	Ton	-	-	-
	Overseas	Ton	2.2	0.7	0.7
Etc.(R407C)	Korea	Ton	-	-	-
	Overseas	Ton	0.1	0.1	0.1

1) Correction of ODS type in Romania in 2022
2) Correction of Romania data in 2021

Chemicals

Consumptions		Unit	2020	2021	2022 (Actual)
Hazardous chemicals[1)]	Korea	Ton	16,688	21,056	33,032
	Overseas[2)]	Ton	29,031	27,590	17,849
	Total	**Ton**	**45,719**	**48,646**	**50,881**

Emissions		Unit	2020	2021	2022 (Actual)
Hazardous chemicals[1)]	Korea	Ton	26	29	22

1) Hazardous chemicals including prohibited substances, substances requiring preparation for accidents, cancer/mutagenicity substances, restricted substances, and key management substances, etc.
2) Correction of unit of overseas

2022 Key Energy & GHG Emissions Reduction Activities

Business site	Project[1)]	Date of introduction	Energy usage reduction (TJ / year)	GHG reduction (tCO_2e / year)
Daejeon	Refrigeration dryer replacement	2022.01	1	53
Ulsan	Optimization of exhaust fan operation	2022.01	4	210
Ulsan	Process cycle improvement	2022.01	4	196
Ulsan	Condensate recycling	2022.01	24	181
Jeonju	Facility operation optimization improvement	2022.03	5	249
Qingdao	Reducing power consumption by improving the dust collector	2022.05	4	1,009
Jeonju	Reducing energy use by optimizing process operating conditions	2022.05	6	282
Ulsan	AHU facility efficiency improvement	2022.07	0	22
Jeonju	Waste heat recycling	2022.07	1	60
Ulsan	Improve energy loss reduction	2022.08	4	174
Ulsan	Improved transformer loss savings	2022.08	3	144
Ulsan	Coolant use efficiency improvement	2022.01	1	34
Ulsan	Facility efficiency improvement	2022.12	0	16
Ulsan	Reduce steam usage	2023.01	3	25
Ulsan	Reduce energy consumption by lowering the temperature of the boiler	2023.01	-	5
Ulsan	Improving the use method of the pump	2023.01	0	21
Jeonju	Energy use reduction through waste heat recovery	2023.05	24	1,214

1) Major projects that can be disclosed have been included in this table

Safety-Health-Environment-Energy Improvements

CAPEX for improvement		Unit	2020	2021	2022 (Actual)	2022 (Plan)
Safety and health[2)]	Korea	KRW million	2,941	1,879	1,635	875
	Overseas	KRW million	N/A	N/A	1,790	812
	Total	**KRW million**	**2,941**	**1,879**	**3,425**	**1,687**
Environment[3)]	Korea	KRW million	846	897	2,804	1,023
	Overseas	KRW million	N/A	N/A	3,242	2,173
	Total	**KRW million**	**846**	**897**	**6,046**	**3,196**
Energy[4)]	Korea	KRW million	70	65	274	-
	Overseas	KRW million	N/A	N/A	1,737	1,923
	Total	**KRW million**	**70**	**65**	**2,011**	**1,923**

1) Operating costs are excluded from CAPEX calculation, and all amount has been converted to KRW Mil. using exchange rate of designated year
2) 2020 Korea and overseas : Supplementation of safety accident prevention facilities for each process, supplementation of fire safety reinforcement facilities, etc.
3) 2021 Korea : Air pollution prevention facility, wastewater treatment plant and waste storage facility supplementation, prevention of physical risks related to climate change, etc.
2021 Overseas : Air pollution prevention facility, supplementation of wastewater treatment plant facilities, additional installation of dust collectors, noise prevention for local residents, prevention of physical risks related to climate change, etc.
4) 2022 Korea : Establishment of energy remote monitoring system, investment for waste heat and steam recycling, etc.
2022 Overseas : Renovation of productivity enhancing facilities, high-efficiency parts, installation of solar power generators and ESS facilities, etc.

Sales and Purchases of Eco-friendly Products and Services

Amount of sales and purchases		Unit	2020	2021	2022
Resource-efficient products	Korea	KRW million	203,693	218,052	298,552
	Overseas	KRW million	103,142	156,650	193,523
Sales of eco-friendly products and services		KRW million	248,992	281,113	330,813
Purchases of eco-friendly products and services (Korea)		KRW million	813	1,141	1,079

Hyosung Advanced Materials

Environmental Performance

Water Resource Management

Category			Unit	2020	2021	2022 (Actual)
Water withdrawal[1]	Total amount of withdrawal	Korea	1,000 tons	3,464	4,083	3,884
		Overseas	1,000 tons	4,083	4,593	4,303
		Total	**1,000 tons**	**7,546**	**8,676**	**8,186**
	Municipal water (water supplies, other public or private sources)	Korea	1,000 tons	15	18	24
		Overseas	1,000 tons	310	273	355
	Industrial water (water supplies, other public or private sources)	Korea	1,000 tons	3,448	4,065	3,859
		Overseas	1,000 tons	3,773	4,320	3,948
Wastewater discharge[2]	Total wastewater discharge	Korea	1,000 tons	1,066	1,153	1,361
		Overseas	1,000 tons	2,127	2,073	2,600
		Total	**1,000 tons**	**3,193**	**3,226**	**3,960**
	Direct discharge to fresh surface water	Korea	1,000 tons	306	311	540
		Overseas	1,000 tons	139	150	134
	Treatment and discharge by 3rd party	Korea	1,000 tons	760	842	821
		Overseas	1,000 tons	1,988	1,923	2,466
Reused water[3]	Total reused water	Korea	1,000 tons	555	551	338
		Overseas	1,000 tons	980	961	906
		Total	**1,000 tons**	**1,535**	**1,511**	**1,244**
	Rate of water reuse[4]	Korea	%	16.0	13.5	8.7
		Overseas	%	24.0	20.9	21.1
		Total	**%**	**20.3**	**17.4**	**15.2**

1) According to the environmental information system registration guide, water intake (usage) is the water resource used for product production and service provision, and is the value confirmed by bills or payment confirmations
2) Correction of data in 2020~2021 (Jeonju, Jiaxing, and Romania) 3) Correction of data in 2021 (Jeonju)
4) Rate of water reuse = Total amount of reused water ÷ Water withdrawal × 100

Water Pollutants

Water pollutant emissions[1]		Unit	2020	2021	2022 (Actual)
Biochemical Oxygen Demand (BOD)	Korea	Ton	1.7	2.0	2.5
	Overseas[1]	Ton	42.8	53.2	53.3
	Total	**Ton**	**44.5**	**55.2**	**55.8**
Chemical Oxygen Demand (COD)	Korea	Ton	9.0	10.3	15.0
	Overseas	Ton	201.9	178.3	203.0
	Total	**Ton**	**210.9**	**188.6**	**218.1**
Suspended Solid (SS)	Korea	Ton	3.3	2.8	6.1
	Overseas	Ton	146.3	121.1	115.8
	Total	**Ton**	**149.6**	**123.9**	**121.9**
Total Nitrogen (T-N)	Korea	Ton	9.5	13.1	29.9
	Overseas	Ton	46.8	52.8	38.8
	Total	**Ton**	**56.3**	**65.8**	**68.6**
Total Phosphorus (T-P)	Korea	Ton	0.1	0.2	0.1
	Overseas	Ton	3.3	3.0	3.1
	Total	**Ton**	**3.4**	**3.2**	**3.2**

1) Correction of 2020 and 2021 data error of BOD emission in overseas 2) Correction of typos in COD and SS emissions in 2020~2021

Waste Treatment

Waste generated		Unit	2020	2021	2022 (Actual)
Total waste generated	Korea	Ton	6,102	6,238	6,421
	Overseas	Ton	47,756	53,343	57,419
	Total	**Ton**	**53,858**	**59,582**	**63,840**
Non-hazardous waste (ordinary waste)[1]	Korea	Ton	5,168	5,195	5,177
	Overseas	Ton	24,854	26,909	28,579
Hazardous waste (designated waste)[1]	Korea[2]	Ton	933	1,043	1,244
	Overseas	Ton	22,903	26,435	28,839

Waste treated		Unit	2020	2021	2022 (Actual)
Total waste treated	Korea	Ton	6,102	6,238	6,421
	Overseas	Ton	47,756	53,343	57,419
	Total	**Ton**	**53,858**	**59,582**	**63,840**
Total waste recycled	Korea	Ton	5,123	4,536	4,880
	Overseas	Ton	31,239	36,460	40,279
	Total	**Ton**	**36,362**	**40,996**	**45,159**
Total ratio of waste recycled[3]	Korea	%	84.0	72.7	76.0
	Overseas	%	65.4	68.3	70.1
	Total	**%**	**67.5**	**68.8**	**70.7**
Non-hazardous waste (ordinary waste)[1]	Outsourced treatment – Landfill	Korea	Ton	154	735	502
		Overseas	Ton	1,382	1,305	1,906
	Outsourced treatment – Incineration	Korea	Ton	776	902	884
		Overseas	Ton	2,195	1,641	1,772
	Outsourced treatment – Others	Korea	Ton	-	-	-
		Overseas	Ton	796	1,341	1,714
	Outsourced treatment – Recycled	Korea[4]	Ton	4,238	3,558	3,791
		Overseas	Ton	20,152	22,241	22,803
	Self-treatment – Landfill	Korea	Ton	-	-	-
		Overseas	Ton	287	321	320
	Self-treatment – Others	Korea	Ton	-	-	-
		Overseas	Ton	43	60	64
Hazardous waste (designated waste)[1]	Outsourced treatment – Landfill	Korea	Ton	5	-	-
		Overseas	Ton	3,381	3,533	2,752
	Outsourced treatment – Incineration	Korea	Ton	43	65	154
		Overseas	Ton	7,989	8,410	8,288
	Outsourced treatment – Others	Korea	Ton	-	-	-
		Overseas	Ton	445	272	324
	Outsourced treatment – Recycled	Korea	Ton	885	978	1,089
		Overseas	Ton	10,555	13,609	17,363
	Self-treatment – Recycled	Korea	Ton	-	-	-
		Overseas	Ton	532	611	113

1) Waste recycling rate = total recycled amount ÷ total amount of waste processed × 100
2) Waste is classified as hazardous or nonhazardous waste according to local regulations
3) 2020 Daejeon data added and correction of HQ data in 2021
4) Correction of HQ data in 2021

Hyosung Chemical

Governance and Economic Performance

Reporting Scope

This report's ESG Performance section includes data from the subsidiaries listed below, which together account for Hyosung Chemical' consolidated revenue. The data for Hyosung Chemical and its subsidiaries are presented separately, with data for the subsidiaries only provided for the year 2022. Any instances where data for specific items may not include information from certain subsidiaries are indicated in the footnotes.

Subsidiaries	Country of operation
Vina Chemical	Vietnam

Financial Statements (Consolidated)

(Unit: KRW million)

Items	2020	2021	2022
Current assets	435,749	788,985	819,924
Cash and cash equivalents	10,181	34,797	106,319
Trade and other current receivables	222,339	327,974	333,403
Inventories	143,162	392,368	353,083
Other current assets	60,067	33,846	27,119
Non-current assets	1,981,616	2,255,064	2,311,194
Long-term trade and other receivables	3,467	3,409	3,716
Tangible assets	1,923,348	2,184,604	2,187,083
Intangible assets	23,126	33,971	32,207
Investments in affiliated companies	15,716	16,189	14,570
Others	15,959	16,891	73,618
Total assets	**2,417,365**	**3,044,049**	**3,131,118**
Current liabilities	627,538	1,083,164	1,715,749
Trade and other payables	295,090	438,810	406,595
Borrowings	303,764	582,592	1,281,879
Other current liabilities	28,684	61,762	27,275
Non-current liabilities	1,387,474	1,471,585	1,300,753
Long-term trade and other payables	13,186	13,270	13,594
Long-term borrowings	1,356,429	1,437,382	1,254,294
Other non-current liabilities	17,859	20,933	32,865
Total liabilities	**2,015,012**	**2,554,749**	**3,016,502**
Capital stock	15,951	15,951	15,951
Retained earnings	67,607	126,224	(271,424)
Other components of equity	318,795	347,125	370,090
Non-controlling interest	-	-	-
Total equities	**402,353**	**489,300**	**114,617**

Consolidated Statements of Comprehensive Income

(Unit: KRW million)

Items	2020	2021	2022
Sales	1,817,190	2,519,965	2,878,558
Cost of sales	1,664,137	2,282,689	3,108,714
Gross profit	153,053	237,276	(230,156)
SG&A	71,922	78,919	85,688
R&D expenses	20,203	21,783	20,883
Operating income	60,928	136,574	(336,727)
Other gain	7,007	7,431	6,420
Other loss	17,879	3,067	5,519
Finance income	47,307	31,026	129,528
Finance expenses	95,611	69,917	240,262
Gain(loss) of associates	1,669	325	(1,691)
Profit before tax	3,421	102,372	(448,251)
Corporate tax expenses	15,037	43,956	(39,384)
Net profit	(11,616)	58,416	(408,867)
Other comprehensive gain(loss)	(24,850)	28,532	34,183
Total comprehensive income	**(36,466)**	**86,948**	**(374,684)**

Corporation Tax by Country

Country	Items	Unit	2020	2021	2022
Korea	Sales	KRW million	1,643,262	2,108,872	2,287,412
	Profit before tax	KRW million	56,663	173,976	-130,533
	Corporation tax expense	KRW million	13,881	43,956	-35,379
	Tax rate	%	24.2	24.2	24.2
	Effective tax rate	%	24.5	25.2	-
Vietnam	Sales	KRW million	176,680	345,048	592,546
	Profit before tax	KRW million	(54,395)	(60,504)	(313,721)
	Corporation tax expense	KRW million	-	-	-
	Tax rate	%	-	-	-
	Effective tax rate	%	-	-	-

Hyosung Chemical

Governance and Economic Performance

Current Status of Board of Directors

Category		Unit	2022
Diversity	Male	Person	4
	Female	Person	-
No. of outside directors within the BoD		Person	2
Outside director's attendance rate at the Outside Director Recommendation Committee		%	100
No. of meetings of the Audit Committee		Times	6
Outside director's attendance rate at the Audit Committee		%	100

Ethical and Compliance Management

Category		Unit	Hyosung Chemical	Subsidiaries
			2022	2022
Employee discrimination	No. of cases reported	Case	-	-
	No. of cases reviewed	Case	-	-
Anti-corruption	No. of cases reported	Case	1	-
	No. of individuals subject to disciplinary actions	Person	-	-
Fair trade	No. of violations	Case	-	-
	Fines for violations	KRW	-	-
Violation of laws and regulations	No. of breaches of laws and its own regulations regarding the data and labeling of products and services	Case	-	-
	Fines incurred by the breaches of financial laws, such as internal trading, monopoly, or anticompetitive behaviors	KRW million	-	-
	Fines incurred by environmental law violations, such as the emission of pollutants	KRW million	1	129
Prevention of corruption risks				
Rate of employees that received an anti-corruption notification and related education	Rate of executives that received an anti-corruption notification and related education	%	25.0	-
	Rate of employees that received an anti-corruption notification and related education	%	99.0	-
No of business sites assessed on corruption risks		Count	2	-
Rate of business sites assessed on corruption risks		%	15.0	-

* Cases reported to HR Counseling Center = Zero
** See our business report for more details

Production Output by Business Sector

Category	Unit	2020	2021	2022
Production output	KRW million	1,581,337	2,098,665	3,212,749

Sales and Purchase of Eco-Friendly Products and Services

Category	Unit	Hyosung Chemical		
		2020	2021	2022
Revenues generated from products and services designed for a low carbon economy	KRW million	27,745	58,272	67,055
Target sales amount from products and services designed for a low carbon economy	KRW million	43,259	41,864	96,739
Sales from eco-friendly products and services	KRW million	173,131	211,823	188,578
Purchases from eco-friendly products and services	KRW million	206	315	366

※ Eco-friendly items included in the calculation of sales and purchases include environmental label products, GR products, low-carbon certified products, green-certified products, and GRS-certified products.

R&D Expenses

Category	Unit	2020	2021	2022
R&D Expenses	KRW million	20,203	21,783	20,883

Patent Registration and Application

Category		Unit	2020	2021	2022
Patent registration (accumulated)	Domestic	Case	895	916	922
	Overseas		182	193	199
Patent application (accumulated))	Domestic	Case	1,757	1,758	1,761
	Overseas		361	363	364

* Values in this report may differ from those in the business report due to the transfer of existing special rights and changes in the starting points for data collection after the spin-off.

Hyosung Chemical

Social Performance

Employee Status

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
Total employees (Permanent and Temporary)		Person	1,183	1,213	1,272	429
Employment type	Permanent (male)	Person	1,020	1,019	1,069	51
	Permanent (female)		118	113	119	21
	Subtotal		**1,138**	**1,132**	**1,188**	**72**
	Temporary (male)	Person	30	65	51	283
	Temporary (female)		15	16	33	74
	Subtotal		**45**	**81**	**84**	**357**
Age	Under 30	Person	246	251	255	281
	30-50		699	712	765	129
	51 and above		238	250	252	19
Gender	Male	Person	1,050	1,084	1,120	334
	Female		133	129	152	95
Job category (based on permanent employment)	Salary	Person	542	532	541	53
	Hourly		596	600	647	19
Diversity	Employees with disability	Person	27	26	27	-
	Veterans		22	23	24	-
	Foreigner		1	1	5	-
	Subtotal		**50**	**50**	**56**	-
Fostering Female Talent	Female employee ratio	%	11.2	10.6	11.9	29.2
	Female managerial positions ratio (PM and above)		8.3	7.7	8.4	14.7

Regular Performance Evaluation

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
No. of employees subject to performance evaluation		Person	1,138	1,132	1,188	396
Performance evaluation rate		%	96.2	93.3	93.4	92.3
Regular performance and career development review rate by gender	Male	%	89.6	90	90	76.8
	Female		10.4	10.0	10.0	23.2
Regular performance and career development review rate by employee category	Executive		1.8	1.5	1.3	1.5
	Manager level or higher		21.1	21.6	19.8	13.9
	Non-manager level		77.1	76.9	78.9	84.6

New Recruitment and Turnover

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
New recruits	Male	Person	57	116	121	76
	Female		12	17	47	14
	Subtotal		**69**	**133**	**168**	**90**
	Under 30		39	**98**	119	**82**
	30-50		22	33	46	8
	51 and above		9	5	3	-
	Subtotal		**70**	**136**	**168**	**90**
Turnover (voluntary turnover of permanent)	Male	Person	46	54	76	1
	Female		4	15	12	2
	Subtotal		**50**	**69**	**88**	**3**
	Under 30		5	15	31	-
	30-50		33	45	50	3
	51 and above		12	9	7	-
	Subtotal		**50**	**69**	**88**	**3**
	Voluntary turnover rate	%	4.4	6.1	7.4	4.2

Total compensation and Remuneration

Category		Unit	Hyosung Chemical			Subsidiaries	
			2020	2021	2022	2022 (Expatriates)	2022 (Local staff)
Total compensation for entry-level employees		KRW million	43	51	48	-	8
Ratio of entry-level employee compensation to legal minimum wage	Male	%	173	199	179	-	248
	Female		173	199	179	-	248
Rate of total compensation for female compared to male	Manager level or higher	%	75.4	74.3	82.6	93.2	71.5
	Non-manager level		60.5	66.9	62.0	-	101
Average total compensation		KRW million	68	77	73	113	16
Total annual compensation for C-level executives		KRW million	514	622	276	229	-
Median employee compensation (excluding C-level executives)		KRW million	61	69	67	121	12
Ratio of C-level executives' compensation to that of employees		Times	8.4	9.1	4.1	1.9	-

※ Data for expatriates and local staff are presented separately because they are subject to Korea's Labor Law and the labor laws of their respective countries.

Hyosung Chemical

Social Performance

Maternity and Childcare Leave

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
Maternity leave (male)	No. of employees under maternity leave	Person	49	24	35	15
	Returning ratio to work after maternity leave	%	100	100	100	100
Maternity leave (female)	No. of employees under maternity leave	Person	4	3	8	10
	Returning ratio to work after maternity leave	%	100	100	100	90
Childcare leave (male)	No. of employees entitled to childcare leave	Person	257	248	249	15
	No. of employees on childcare leave	Person	-	6	4	-
	No. of employees returning to work after childcare leave	Person	-	2	2	-
	No. of employees with over 12 months of service after childcare leave	Person	1	-	2	-
Childcare leave (female)	No. of employees entitled to childcare leave	Person	18	20	22	-
	No. of employees on childcare leave	Person	5	5	5	-
	No. of employees returning to work after childcare leave	Person	7	3	5	-
	No. of employees with over 12 months of service after childcare leave	Person	3	6	2	-

Labor Union Membership

Category	Unit	Hyosung Chemical			Subsidiaries
		2020	2021	2022	2022
No. of employees covered by collective bargaining agreements	Person	596	600	648	369
Ratio of employees covered by collective bargaining agreements among total employees	%	50.4	49.5	50.9	86.0
No. of union workers	Person	578	591	637	369
Ratio of union workers	%	97.0	98.5	98.3	100

Retirement Pension

Category	Unit	2020	2021	2022
Total operation fund for retirement pension	KRW million	69,625	74,731	72,104
Operation fund of DB pension	KRW million	68,528	73,530	70,819
Operation fund of DC pension	KRW million	1,097	1,201	1,336
Total number of members	Person	1,231	1,262	1,315
No. of DB pension members	Person	1,035	1,060	1,109
No. of DC pension members		196	202	206

Employee Training Status

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
No. of training participants		Person	13,245	10,423	16,307	1,655
Total training expenses		KRW 1,000	541,605	679,770	840,309	14,087
Total training hours		Hours	27,606	30,638	43,536	8,872
Average training hours per employee		Hours	23	25	34	21
Average training expenses per employee		KRW 1,000	458	560	661	33
Average training hours per employee by gender	Male	Hour	23	25	32	21
	Female		27	31	55	15
Average training hours per employee by employee category	Executive		18	75	26	-
	Manager level or higher		40	53	62	15
	Non-manager level		19	17	28	21
No. of participants in environmental training		Person	1,106	514	1,289	-
No. of participants in ethics and anti-corruption training			1,139	544	1,273	85
No. of participants in fair trade training			502	492	1,356	-
No. of participants in safety and health training			206	533	1,320	1,358
No. of participants in human rights training (sexual harassment / disability awareness / discrimination prevention)			3,336	3,390	5,126	85
No. of participants in information security training			740	137	1,452	85
No. of participants in sustainability management training			14	1,101	808	-
No. of participants in retiree training			15	20	18	-

Hyosung Chemical

Social Performance

Supplier Status

Category	Unit	Hyosung Chemical			Subsidiaries
		2020	2021	2022	2022
No. of suppliers	Company	773	790	745	271
Total purchase from suppliers	KRW million	1,009,500	1,387,200	1,771,300	487,103
Local purchase ratio in key business regions	%	87.9	90.1	91.2	3.2

Social and Environmental Impact Assessment of Supply Chain

Category		Unit	2022
Social impact assessment	Ratio of new suppliers that conducted social impact assessment	%	-
	No. of suppliers that conducted social impact assessment	Company	17
	No. of suppliers having practical and potential negative impact	Company	-
	Ratio of suppliers that agreed improvement based on the results of social impact assessment	%	-
	Ratio of suppliers whose contracts were terminated based on the results of social impact assessment	%	-
Environmental impact assessment	Ratio of new suppliers that conducted environmental impact assessment	%	-
	No. of suppliers that conducted environmental impact assessment	Company	17
	No. of suppliers having practical and potential negative impact	Company	-
	Ratio of suppliers that agreed improvement based on the results of environmental impact assessment	%	-
	Ratio of suppliers whose contracts were terminated based on the results of environmental impact assessment	%	-

Compliant Handling Process for Suppliers

Category	Unit	2022
No. of complaints submissions	Case	220
No. of complaints processed	Case	209
Processing rate	%	95.0

CSR Activities

Category	Unit	2020	2021	2022
CSR investment	KRW million	481	427	492
No. of CSR programs	Program	5	32	41

Occupational Accidents and Injuries

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
Occupational accident rate(rate of injured individuals due to work-related accidents and diseases)		%	0.67	0.56	0.42	-
Total Recordable Incident Rate (TRIR)		Per 200,000 Hour	0.06	0.08	0.05	-
Process Safety Incidents Count (PSIC)		Case	-	1	-	-
Process Safety Total Incident Rate (PSTIR)		Per 200,000 Hour	-	0.07	-	-
Employees	No. of fatalities	Person	-	-	-	-
	Fatality rate	Per 200,000 Hour	-	-	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	-	-	-	-
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 Hour	-	-	-	-
	No. of work-related accidents or work-related diseases	Case	6	5	4	-
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	-	-	-	-
Partners	No. of fatalities	Person	-	-	-	-
	Fatality rate	Per 200,000 Hour	-	-	-	-
	No. of high-consequence occupational accidents (excluding fatalities)	Case	1	-	-	-
	High-consequence occupational accidents rate (excluding fatalities)	Per 200,000 Hour	0.03	-	-	-
	No. of work-related accidents or work-related diseases	Case	1	7	4	-
	No. of fatalities due to work-related diseases	Person	-	-	-	-
	No. of injuries due to work-related diseases	Person	-	-	-	-
No. of transport accidents related to chemical substances	Road accident	Case	-	-	-	-
	Railroad accident	Case	-	-	-	-
	Ship accident	Case	-	-	-	-

Key Products and Services Evaluated for Health and Safety Impacts

Category	Unit	2022
Ratio of products and services evaluated for health and safety impacts	%	100

Hyosung Chemical

Environmental Performance

GHG Emissions

Category		Unit	Hyosung Chemical				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct GHG emissions (Scope 1)	Stationary combustion	tCO_2eq	272,684	271,239	284,949	261,614	133,677
	Mobile combustion		628	636	667	589	853
	Processing emissions		24,526	24,765	26,017	24,126	927
	Waste disposal		672	1,049	1,098	1,028	7,597
	Subtotal		**298,511**	**297,689**	**312,731**	**287,357**	**143,053**
Indirect GHG emissions (Scope 2)	Electricity	tCO_2eq	563,009	567,422	596,105	574,879	407,190
	Steam Scope 1		-	-	-	-	-
	Subtotal		**563,009**	**567,422**	**596,105**	**574,879**	**407,190**
Total GHG emissions (Scope 1 & 2)		tCO_2eq	861,520	865,111	908,836	862,236	550,243
GHG emissions intensity	Scope1	tCO_2eq/ KRW 100 million	18.17	14.12	13.67	12.56	24.14
	Scope2		34.26	26.91	26.06	25.13	68.72
	Subtotal		**52.43**	**41.02**	**39.73**	**37.69**	**92.86**

* Data for 2020 and 2021 changed due to the change in data collection method

Air Pollutants Emissions

Category		Unit	Hyosung Chemical		
			2020	2021	2022
General air pollutants	Nitrogen oxides (NOx)	Ton	219.7	230.9	240.0
	Sulfur oxides (SOx)		17.4	13.5	25.9
	Particulate matter (PM)		6.9	10.2	14.4
Volatile Organic Chemicals (VOCs)		Ton	1.6	0.8	0.5
Hazardous Air Pollutants (HAPs)		Ton	6.3	12.5	45.6
Ozone depleting substances	CFD(R-11)	Ton	-	-	-
	HCFC(R-123)		-	-	-
	HCFC(R-22)		0.1	0.1	0.1

* Data for 2020 and 2021 changed due to the change in data collection method

Chemical Substances Management

Category	Unit	Hyosung Chemical				Subsidiaries
		2020	2021	2022		2022
				Plan	Performance	
Hazardous chemicals consumption	Ton	285,570	300,785	300,803	328,321	856
Hazardous chemicals intensity	Ton / KRW 100 million	17.38	14.26	13.15	14.35	0.14
Chemical substance emissions	Ton	304	573	563	476	N/A

* Data for 2020 and 2021 changed due to the change in data collection method

Energy Consumption

Category		Unit	Hyosung Chemical				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Direct energy consumption	Diesel	TJ	8.47	8.32	8.64	8.19	0.01
	Kerosene		-	0.04	0.02	0.02	-
	LNG		455.83	742.73	672.34	637.86	609.28
	Gasoline		1.03	0.85	0.79	0.75	0.58
	Propane		54.28	50.02	52.78	50.07	36.36
	BC oil		-	-	-	-	-
	Anthracite		-	-	-	-	-
	Other solid fuels		-	-	-	-	-
	Off-gas		5,541.80	5,698.64	5,893.36	5,591.13	2,143.29
	LPG		0.61	0.89	0.84	0.80	0.25
	Biogas		-	-	-	-	-
	Subtotal		**6,062.02**	**6,500.60**	**6,628.77**	**6,288.83**	**2,789.76**
Indirect energy consumption	Electricity	TJ	11,592.25	11,857.04	12,662.22	12,012.87	2,247.60
	Steam		-	-	-	-	-
	Waste heat from industrial process		-	-	-	-	-
	Heat from waste incineration		562.83	496.27	480.39	455.76	-
	Subtotal		**12,155.07**	**12,353. 31**	**13,142.61**	**12,468.63**	**2,247.60**
Total		**TJ**	**18,217.10**	**18,854.80**	**19,771.38**	**18,757.46**	**5,037.37**
Energy intensity		TJ / KRW 100 million	1.11	0.89	0.86	0.82	0.01
Renewable energy consumption	PPA	TJ	-	-	-	-	-
	Green premium		-	-	-	-	-
	REC		-	-	-	-	-
	Waste energy		562.83	496.27	480.39	455.76	-
	Self-generation (solar energy)		1.84	1.65	1.69	1.60	-
	Total renewable energy consumption	TJ	564.67	497.92	482.08	457.36	-

* Data for 2020 and 2021 changed due to the change in data collection method

Hyosung Chemical

Environmental Performance

Waste Treatment

Category		Unit	Hyosung Chemical				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Non-hazardous waste (ordinary waste)							
Self-treatment		Ton	-	-	-	-	-
Outsourced treatment	Recycling		14,731	14,624	15,814	18,202	108
	Incineration		642	748	844	682	-
	Landfill		5,870	5,435	4,367	4,455	499
	Others		1,633	2,304	1,847	1,248	-
Subtotal			22,876	23,112	22,873	24,587	608
Hazardous waste (designated waste)							
Self-treatment		Ton	-	-	-	-	-
Outsourced treatment	Recycling		620	756	1,375	458	-
	Incineration		332	396	421	374	539
	Landfill		19	12	5	3	-
	Others		5,645	4,329	4,696	4,738	423
Subtotal			6,616	5,492	6,496	5,574	961
Total waste generated		Ton	29,492	28,604	29,369	30,161	1,569
Total waste recycled		Ton	15,352	15,380	17,189	18,660	108
Total ratio of waste recycled		%	52.1	53.8	58.5	61.9	6.9

Raw Material Consumption and Recycling Amount

Category		Unit	Hyosung Chemical		
			2020	2021	2022
Raw (subsidiary) materials	Total consumption	Ton	8,797,032	1,017,462	979,665
	Recycling amount	Ton	44,573	40,461	38,133
Consumption of recycled raw materials		Ton	6,759	7,717	5,172

Water Resources

Category		Unit	Hyosung Chemical				Subsidiaries
			2020	2021	2022		2022
					Plan	Performance	
Water consumption by water source	Municipal water	Ton	85,628	88,933	79,226	73,714	3,012,966
	Groundwater		82,398	34,980	117,150	77,964	-
	Industrial water		6,760,888	6,840,039	7,332,179	6,926,571	-
	River water		-	-	-	-	-
Total water consumption		Ton	6,928,914	6,963,952	7,528,554	7,078,249	3,012,966
Total reused water		Ton	279,431	225,067	225,067	222,275	701,135
Rate of water reuse		%	4.0	3.2	3.0	3.1	23.4
Water withdrawal by water source	Municipal water	Ton	85,628	88,933	79,226	73,714	3,012,966
	Groundwater		82,398	34,980	117,150	77,964	-
	Industrial water		6,760,888	6,840,039	7,332,179	6,926,571	-
	River water		-	-	-	-	-
Total water withdrawal		Ton	6,928,914	6,963,952	7,528,554	7,078,249	3,012,966

* Data for 2020 and 2021 changed due to the change in data collection method

Wastewater and Water Treatment

Category		Unit	Hyosung Chemical			Subsidiaries
			2020	2021	2022	2022
Wastewater discharge by location	Wastewater treatment	Ton	1,684,891	1,692,789	1,727,196	976,231
	Seawater discharge		-	-	-	-
	Outsourced treatment		188	389	59	-
Total Wastewater discharge		Ton	1,685,079	1,693,178	1,606,815	976,231
Biochemical Oxygen Demand (BOD)		Ton	10.0	6.6	6.0	14.4
Chemical Oxygen Demand (COD)			16.1	16.8	16.6	27.6
Suspended Solids (SS)			15.2	11.9	7.5	5.9
Total Nitrogen (T-N)			8.7	4.6	4.5	5.9
Total Phosphorus (T-P)			0.5	0.2	0.2	0.7

* Data for 2020 and 2021 changed due to the change in data collection method

Hyosung Chemical

Environmental Performance

Pollution-free Vehicles

Category		Unit	Hyosung Chemical	Subsidiaries
			2022	2022
On-road vehicles	EVs	Vehicle	-	-
	Hydrogen vehicles		1	-
Off-road vehicles	EVs	Vehicle	51	-
	Hydrogen vehicles		-	-
Ratio of pollution-free vehicles		%	42.3	-

Energy Savings and GHG Emissions Reduction

Category	Project	Hyosung Chemical				
		Date of installation	Investment (KRW million)	Energy usage reduction (TJ / year)	Energy usage reduction (TJ)	GHG emissions reductions (tCO_2eq / year)
Yongyeon 2	Sand fiter pump replacement	Apr. 2020	42	151,110	1.45	70
Oksan	Optimized management of adsorption tower steam usage (reduction of steam usage)	Jan. 2021	18	555,778	5.34	259
Oksan	Optimization of SR distillation column reboiler steam usage	May. 2021	0	459,375	4.41	248

Internal Carbon Pricing

Category	Unit	Hyosung Chemical
		2022
Internal carbon pricing	KRW / tCO_2eq	25,700

Biodiversity within Areas of Business Impact

Category	Unit	Hyosung Chemical	Subsidiaries
Endangered species designated by the International Union for Conservation of Nature (Red list)	Species	238	223
Nationally designated endangered species (domestic)	Species	10	-

* Endangered species designated by the International Union for Conservation of Nature (IUCN): Record only critical (CR), endangered (EN), and vulnerable (VU) within a radius of 25 km from the workplace
* Nationally designated endangered species: Based on major administrative districts by province according to the national distribution survey of endangered wildlife by the national institute of biological resources

Environmental Investments

Category	Unit	Hyosung Chemical				Subsidiaries
		2020	2021	2022		2022
				Plan	Performance	
Waste and discharge treatment and environmental restoration expenses	KRW 1,000	4,647,304	4,404,715	2,793,627	2,684,304	147,425
Environmental pollution prevention and environmental management expenses		781,027	991,618	227,170	210,675	-
Investment in environmental improvement facilities		2,001,334	4,890,550	140,000	127,000	-
Total		7,429,666	10,286,883	3,160,797	3,021,980	147,425

APPENDIX

Certifications and Association Memberships by Business Site

Certifications by Business Site

Company	Business site	Certification Name					
		PU / Business division	Environmental management	Quality	Safety and health	Eco-friendliness (GRS/Green Certification/ Environmental New Technology, etc.)	
Hyosung Corporation	HQs	Interior	ISO 14001	ISO 9001	-	-	
	Anyang		ISO 14001	ISO 9001	-	GRS (Fabrics, Dyed yarns, Greige yarns)	
			-	IATF 16949	ISO 45001		
Hyosung TNC	HQs	HQs	ISO 14001	ISO 9001	-	GRS (Dyed yarns, Greige yarns, Processed materials, Dyed Knitted Fabrics, Dyed Woven Fabrics)	OBP (Ocean Bound Plastic)
							SGS ECO PRODUCT
							ISCC EU ISCC PLUS
	Gumi	NPY	ISO 14001	ISO 9001	ISO 45001		OBP(Ocean Bound Plastic)
		Spandex	ISO 14001	ISO 9001	ISO 45001		-
	Ulsan	NPY	ISO 14001	ISO 9001	-		-
	Daegu	NPY	-	-	-		Oeko-Tex®
Hyosung Heavy Industries	Changwon	Power Systems & Industrial Machinery	ISO 14001	ISO 9001	ISO 45001	-	-
			Self-monitoring Business site (1)	ISO 3834-2	KOSHA 18001	-	
			Self-monitoring Business site (2)	KEPIC	-	-	
			Self-monitoring Business site (3)	ISO 17025	-	-	
			Self-monitoring Business site (4)	EX proof motor	-	-	
			-	ASME	-	-	
			-	KS	-	-	
			-	KR	-	-	
			-	Nuclear Performance Verification	-	-	
	Sejong1)	Power Systems	-	-	-	-	
	Hoehyeon2)	Construction	ISO 14001	ISO 9001	ISO 45001	Green Building	

1) As of May 2021, the Sejong Plant has moved its production facilities and personnel to the Changwon Plant. ISO certification tasks also were transferred starting from the date of relocation.
2) As of November 22, 2021, Hyosung Heavy Industries Construction PU has moved office from Bangbae to Hoehyeon.

***RCS BL(Recycle Claim Standard Blended)**
RCS certification is a standard for certifying the contents of recycled raw materials in finished products, and can be applied to products that contain at least 5% recycled raw materials. It is divided into two label grades according to recycled raw material content; 'RCS Blended': 5% ~ 95% and 'RCS 100': above 95%.

Company	Business site	Certification Name				
		PU / Business division	Environmental management	Quality	Safety and health	Eco-friendliness (GRS/Green Certification/ Environmental New Technology, etc.)
Hyosung Advanced Materials	Domestic	Tire Cord	ISO 14001	ISO 9001 IATF 16949	ISO 45001	ISCC Plus (22.12)
		Technical Yarn	ISO 14001	ISO 9001 IATF 16949	ISO 45001	GRS, Oeko-Tex®
		Aramid	ISO 14001	ISO 9001 IATF 16949	ISO 45001	Oeko-Tex®
		Interior	ISO 14001	-	ISO 45001	GRS
	Jeonju	Carbon Fiber	ISO 14001	ISO 9001 ISO 9100 IATF 16949	ISO 45001 ('22.11)	-
	Daejeon	Interior	ISO 14001	ISO 9001	-	Eco-label
Hyosung Chemical	HQs	HQs	ISO 14001	ISO 9001	ISO 45001	New Excellent Technology (NET) for the Environment
		R&D Center	-	ISO 9001	-	-
	Yongyeon 1	PP/DH	ISO 14001	ISO 9001	KOSHA MS	GRS (PCR-PP)
		Neochem	ISO 14001	ISO 9001	ISO 45001	-
	Yongyeon 2	TPA	ISO 14001	ISO 9001	KOSHA MS	-
		POK	ISO 14001	ISO 9001		Green Technology
				IATF 16949		Green Technology Product
	Yongyeon 3	Film	ISO 14001	ISO 9001	-	GRS (PCR-Film)
		Opt. Film	ISO 14001	ISO 9001	-	RCS BL USDA BioPreferred® program
		Neochem	ISO 14001	ISO 9001	ISO 45001	-
	Gumi	Film	ISO 14001	ISO 9001	ISO 45001	Ecovadis
					FSSC22000	GRS (PCR-Film)
	Daejeon	Film	-	ISO 9001	ISO 22000 (FSSC22000)	-
	Oksan	Opt. Film	ISO 14001	ISO 9001	-	RCS BL USDA BioPreferred® program
	Vina Chemical	PP/DH	ISO 14001	ISO 9001	-	-

New Excellent Technology (NET) for the Environment

Category	Certification code	Product Name	Certification date	Expiry date
Hyosung Chemical	534	Ultra-filtration membrane water treatment technology based on an automatic coagulant control system and effluent flushing	Oct. 17, 2017	Oct. 16, 2025
	538	Two-stage submerged membrane water filtration system with a suction-type sludge collector applied in the sedimentation pre-processing and filtration tank	Jan. 31, 2018	Oct. 16, 2026

Certifications and Association Memberships by Business Site

Association Membership

Category	Association
Hyosung	Korea Management Association
	Korea Mecenat Association
	Korean-American Association
	Korea-Japan Economic Association
	Asia Society
	World Economic Forum (WEF)
	WEF YGL (Young Global Leader)
	KOREA - U.S. Economic Council
	YPO Korea Chapter
	American Chamber of Commerce in Korea
	The Korea Society
	Federation of Korean Industries
	Korea Economic Research Institute
	Korea Enterprises Federation
	The Seoul Forum for International Affairs
	Korea H2 Business Summit
Hyosung Corporation	Korea Chamber of Commerce and Industry
	Korea International Trade Association
	Korea Listed Companies Association
	Federation of Korea Human Resource Development Representatives
	Korea Personnel Improvement Association
	HRD Forum
	Korea Association for Chief Financial Officers
	KOREA Investor Relations Service
	SETO Forum
	Korean Institute of Electrical Engineers
	The Korea Fiber Society
	Industry-Academic Cooperation at Seoul National University Electricity Power Research Institute
	International Council on Large Electric Systems (CIGRE)
	Korea Industrial Technology Association (KOITA)
	International Shipping Agencies Association of Korea
	Korea Plastic Pipe Research Society
	Korea International Freight Forwarders Association
	Korean Chemical Engineering Research
	Korea Industrial Safety Association

Category	Association
Hyosung Corporation	The Polymer Society of Korea
	Korea Intellectual Property Association
	Gyeonggi-do Environmental Engineers Association
	Carbon Composites Technology Research Association
	The Korean Institute of Power Electronics
	Korean Association for Industrial Technology Security
	The Korean Society for New and Renewable Energy
	The Korean Institute of Power Electronics
	Gyeonggi-do Environmental Engineers Association
	Anyang Electric Engineers Association
	Seoul Southern Immigration Office Social Integration Committee
Hyosung TNC	ICMC
	NY Bar Association
	Seoul Chamber of Commerce and Industry
	Seoul Bar Association
	Korea Textile Trade Association
	Federation of Korean Industries
	American Chamber of Commerce in Korea (AMCHAM)
	Global Business Alliance (GBA Korea)
	Korea Exchange
	Korea Enterprises Federation
	Korea Economic Research Institute
	Korea International Trade Association
	Korea Listed Companies Association
	Korea Textile Trade Association
	Korea Outdoor & Sport Industry Association
	Korea Personnel Improvement Association
	Korea Chemical Fibers Association
Hyosung Heavy Industries	Seoul Chamber of Commerce and Industry
	American Chamber of Commerce in Korea
	Gyeongnam Chamber of Commerce and Industry
	Korea International Trade Association
	Korea Listed Companies Association
	Federation of Korean Industries

Category	Association
Hyosung Heavy Industries	Korea Enterprises Federation
	Gyeongnam Enterprises Federation
	Korea Economic Research Institute
	Construction Association of Korea
	Korea Electrical Contractors Association
	Korea Fire Facility Association
	Korea Specialty Construction Association
	Korea Mechanical Construction Contractors Association
	International Contractors' Association of Korea
	Korea Information & Communication Contractors Association
	Korea Housing Association
	Korea Federation of Construction Contractors
	Korea Remodeling Association
	H2KOREA
	Korea Hydrogen Industry Association
	Korea Construction Engineers Association
	Korea Hydro Power Industry Association
	Korea Association of Machinery Industry
	Korea Smart Grid Association
	Korea Electrical Manufactures Association
	Korea Exchange
	The Korean Society of Rotating Engineers
	Korea Electric Association
	Korea Plant Industries Association
	Korea Atomic Industrial Forum
	Korea Electric Engineers Association
	Korea Engineering & Consulting Association
	Korean Nuclear Society
	Korea Wind Energy Industry Association
	Changwon Industrial Complex Factory Managers Association
	Korea Management Association
	Seoul Bar Association
	Energy Alliance
	Korea TCFD Alliance
	Korea Construction Safety Association
	CSOC

Category	Association
Hyosung Advanced Materials	Korea Chamber of Commerce and Industry
	Korea International Trade Association
	Korea Listed Companies Association
	Federation of Korean Industries
	Korea Enterprises Federation
Hyosung Advanced Materials	Korea Economic Research Institute
	Korea Chemical Fibers Association
	Korea Exchange
	Membership Society for the National Museum of Modern and Contemporary Art, Korea (New)
	Korea Carbon and Nano Industry Association
	Korea Carbon Society
	Korea Defense Industry Association
	Korea Bobsleigh Skeleton Federation
	UN Global Compact Network Korea
	Korea Fire Safety Association
	Jeonbuk Chemical Factory Council
	Environmental Preservation 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 Economic Research Institute
	Korea Semiconductor Industry Association
	Korea Industrial & Specialty Gases Association
	Korea Petrochemical Industry Association
	Korea Packaging Engineers Association
	Korean Institute of Chemical Engineers
	Korea Display Industry Association
	Korean Packaging Association
	Korea Personnel Improvement Association
	Korea Exchange

Independent Assurance Statement

To readers of HYOSUNG Sustainability Report 2022

Introduction

Korea Management Registrar (KMR) was commissioned by HYOSUNG to conduct an independent assurance of its Sustainability Report 2022 (the "Report"). The data and its presentation in the Report is the sole responsibility of the management of HYOSUNG. KMR's responsibility is to perform an assurance engagement as agreed upon in our agreement with HYOSUNG and issue an assurance statement.

Scope and Standards

HYOSUNG described its sustainability performance and activities in the Report. Our Assurance Team carried out an assurance engagement in accordance with the AA1000AS v3 and KMR's assurance standard SRV1000. We are providing a Type 2, moderate level assurance. We evaluated the adherence to the AA1000AP (2018) principles of inclusivity, materiality, responsiveness and impact, and the reliability of the information and data provided using the Global Reporting Initiative (GRI) Index provided below. The opinion expressed in the Assurance Statement has been formed at the materiality of the professional judgment of our Assurance Team.

Confirmation that the Report was prepared in accordance with GRI standards 2021 was included in the scope of the assurance. We reviewed the topic-specific disclosures of standards which were identified in the double materiality assessment process.

- GRI Sustainability Reporting Standards 2021
- Universal Standards
- Topic Specific Standards
  - GRI 205 : Anti-corruption
  - GRI 305 : Emissions
  - GRI 308 : Supplier Environmental Assessment
  - GRI 405 : Diversity and Equal Opportunity
  - GRI 406 : Non-discrimination
  - GRI 407 : Freedom of Association and Collective Bargaining
  - GRI 408 : Child Labor
  - GRI 409 : Forced or Compulsory Labor
  - GRI 414 : Supplier Social Assessment
  - GRI 416 : Customer Health and Safety

As for the reporting boundary, the engagement excludes the data and information of HYOSUNG's partners, suppliers and any third parties.

KMR's Approach

To perform an assurance engagement within an agreed scope of assessment using the standards outlined above, our Assurance Team undertook the following activities as part of the engagement:

- reviewed the overall Report;
- reviewed materiality assessment methodology and the assessment report;
- evaluated sustainability strategies, performance data management system, and processes;
- interviewed people in charge of preparing the Report;
- reviewed the reliability of the Report's performance data and conducted data sampling;
- assessed the reliability of information using independent external sources such as Financial Supervisory Service's DART and public databases.

Limitations and Recommendations

KMR's assurance engagement is based on the assumption that the data and information provided by HYOSUNG to us as part of our review are provided in good faith. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. To address this, we referred to independent external sources such as DART and National Greenhouse Gas Management System (NGMS) and public databases to challenge the quality and reliability of the information provided.

Conclusion and Opinion

Based on the document reviews and interviews, we had several discussions with HYOSUNG on the revision of the Report. We reviewed the Report's final version in order to make sure that our recommendations for improvement and revision have been reflected. Based on the work performed, it is our opinion that the Report with reference to the GRI Standards. Nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles. The Assurance Team's comments on the principles are as follows.

Inclusivity

HYOSUNG has developed and maintained different stakeholder communication channels at all levels to announce and fulfill its responsibilities to the stakeholders. Nothing comes to our attention to suggest that there is a key stakeholder group left out in the process. The organization makes efforts to properly reflect opinions and expectations into its strategies.

Materiality

HYOSUNG has a unique materiality assessment process to decide the impact of issues identified on its sustainability performance. We have not found any material topics left out in the process.

Responsiveness

HYOSUNG prioritized material issues to provide a comprehensive, balanced report of performance, responses, and future plans regarding them. We did not find anything to suggest that data and information disclosed in the Report do not give a fair representation of HYOSUNG's actions.

Impact

HYOSUNG identifies and monitors the direct and indirect impacts of material topics found through the materiality assessment, and quantifies such impacts as much as possible.

Reliability of Specific Sustainability Performance Information

In addition to the adherence to AA1000AP (2018) principles, we have assessed the reliability of economic, environmental, and social performance data related to sustainability performance. We interviewed the in-charge persons and reviewed information on a sampling basis and supporting documents as well as external sources and public databases to confirm that the disclosed data is reliable. Any intentional error or misstatement is not noted from the data and information disclosed in the Report.

Competence and Independence

KMR maintains a comprehensive system of quality control including documented policies and procedures in accordance with ISO/IEC 17021 2015 - Requirements for bodies providing audit and certification of management systems. This engagement was carried out by an independent team of sustainability assurance professionals. KMR has no other contract with HYOSUNG and did not provide any services to HYOSUNG that could compromise the independence of our work.

June 2023 Seoul, Korea

KMR SRV1000 Sustainability Committee Assurance AA1000 Licensed Report 000-129/V3-J087T

CEO E. J Hwang

GRI Standards Index

General Standards

GRI Standard 2021		Remarks
GRI 1 : Foundation 2021	Explanation	With reference t o the GRI Standards 2021, a newly revised version, Hyosung discloses its data from January 1, 2022 through December 31, 2022. Some data of key achievements in the first half of 2023 are included.
	Used GRI 1	GRI 1: Foundation 2021
	Applicable GRI Sector Standards	Not applicable (GRI Sector Standards for industries that Hyosung Corporation, Hyosung TNC, Hyosung Heavy Industries, Hyosung Advanced Materials, and Hyosung Chemical belong to were not announced as of June, 2023, the publication date of this report)

GRI Standard 2021		Indicators	Page	Remarks
Universal Standards				
GRI 2: Foundation 2021	2-1	Organizational details	5, 6, 7, 9, 11, 13	
	2-2	Entities included in the organization's sustainability reporting	2	
	2-3	Reporting period, frequency and contact point	2	
	2-4	Restatements of information	25, 42, 73, 75, 78, 81, 82, 85, 91, 95, 96, 98, 100, 101, 102, 108, 109	
	2-5	External assurance	114	
	2-6	Activities, value chain and other business relationships	5-14, 73, 82, 91, 99, 107	No significant changes in supply chain
	2-7	Employees	71, 80, 89, 97, 105	
	2-8	Workers who are not employees	71, 80, 89, 97, 105	
	2-9	Governance structure and composition	60, 61	
	2-10	Nomination and selection of the highest governance body	60, 61	
	2-11	Chair of the highest governance body	60, 61	
	2-12	Role of the highest governance body in overseeing the management of impacts	20, 60-62	
	2-13	Delegation of responsibility for managing impacts	20, 60-62	
	2-14	Role of the highest governance body in sustainability reporting	20, 68	
	2-15	Conflicts of interest	60, 61	
	2-16	Communication of critical concerns	20, 60, 67, 68	
	2-17	Collective knowledge of the highest governance body	60, 61	Business report page 436
	2-18	Evaluation of the performance of the highest governance body	60, 61	
	2-19	Remuneration policies	60	
	2-20	Process to determine remuneration	60	
	2-21	Annual total compensation ratio	71, 80, 89, 98, 105	
	2-22	Statement on sustainable development strategy	4	
	2-23	Policy commitments	41, 48, 52, 63	
	2-24	Embedding policy commitments	41, 48, 52, 63	
	2-25	Processes to remediate negative impacts	52, 62, 63, 67	
	2-26	Mechanisms for seeking advice and raising concerns	41, 52, 63	
	2-27	Compliance with laws and regulations	63, 70, 79, 87, 96, 104	
	2-28	Membership associations	112-113	
	2-29	Approach to stakeholder engagement	67	
	2-30	Collective bargaining agreements	72, 81, 90, 98, 106	

GRI Standards Index

Topic-Specific Standards

Topic	Index	Content	Page	Remarks
Material Topics				
GRI 3: Material Topics 2021	3-1	Process to determine material topics	68	
	3-2	List of material topics	68	
Climate Change Response				
GRI 3: Material Topics 2021	3-3	Management of material topics	20	
GRI 201: Economic Performance	201-2	Financial implications and other risks and opportunities due to climate change	21-23	
GRI 302: Energy	302-1	Energy consumption within the organization	74, 83, 92, 100, 108	
	302-2	Energy consumption outside of the organization	N/A	Energy consumption outside the organization not calculated
	302-3	Energy intensity	74, 83, 92, 100, 108	
	302-4	Reduction of energy consumption	24	
GRI 305: Emissions	305-1	Direct (Scope1) GHG emissions	74, 83, 92, 100, 108	
	305-2	Energy indirect (Scope 2) GHG emissions	74, 83, 92, 100, 108	
	305-3	Other indirect (Scope3) GHG emissions	N/A	Other indirect GHG emissions are disclosed to the CDP (excluding subsidiaries)
	305-4	GHG emissions intensity	74, 83, 92, 100, 108	
	305-5	Reduction of GHG emissions	74, 83, 92, 100, 108	
Green Business				
GRI 3: Material Topics 2021	3-3	Management of material topics	26	
GRI 201 : Economic Performance	201-1	Direct economic value generated and distributed	42, 76, 85, 94, 101	
Health and Safety at Business Sites				
GRI 3: Material Topics 2021	3-3	Management of material topics	32	
GRI 403: Occupational Health and Safety	403-1	Occupational health and safety management system	32-36	
	403-2	Hazard identification, risk assessment and incident investigation	32-36	
	403-3	Occupational health services	34, 55	
	403-4	Worker participation, consultation and communication on occupational health and safety	33-36	
	403-5	Worker training on occupational health and safety	33, 72, 81, 90, 99, 106	
	403-6	Promotion of worker health	34, 55	
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	32-36	
	403-9	Work-related injuries	73, 82, 91, 98, 107	
	403-10	Work-related ill health	73, 82, 91, 98, 107	

Topic	Index	Content	Page	Remarks
Economic Performance				
GRI 3: Material Topics 2021	3-3	Management of material topics	5, 6, 7, 9, 11, 13	
GRI 201 : Economic Performance	201-1	Direct economic value generated and distributed	69, 77, 86, 95, 103	
GRI 207 : Tax	207-4	Country-by-country	70, 78, 87, 96, 103	
Product Safety & Quality, and Customer Satisfaction				
GRI 3: Material Topics 2021	3-3	Management of material topics	43	
GRI 416: Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	73, 90	
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	70, 79, 87	
GRI 417: Marketing and Labeling	417-1	Requirements for product and service information and labeling	73, 82	
	417-2	Incidents of non-compliance concerning product and service information and labeling	70, 79, 96, 104	
Sustainable Supply Chain Establishment				
GRI 3: Material Topics 2021	3-3	Sustainable Supply Chain Establishment	37	
GRI 308: Supplier Environmental Assessment	308-1	New suppliers that were screened using environmental criteria	73, 82, 91, 99, 107	
	308-2	Negative environmental impacts in the supply chain and actions taken	42, 73, 82, 90, 99, 107	
GRI 414 : Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	73, 82, 91, 99, 107	
	414-2	Negative social impacts in the supply chain and actions taken	42, 73, 82, 90, 99, 107	

GRI Standards Index

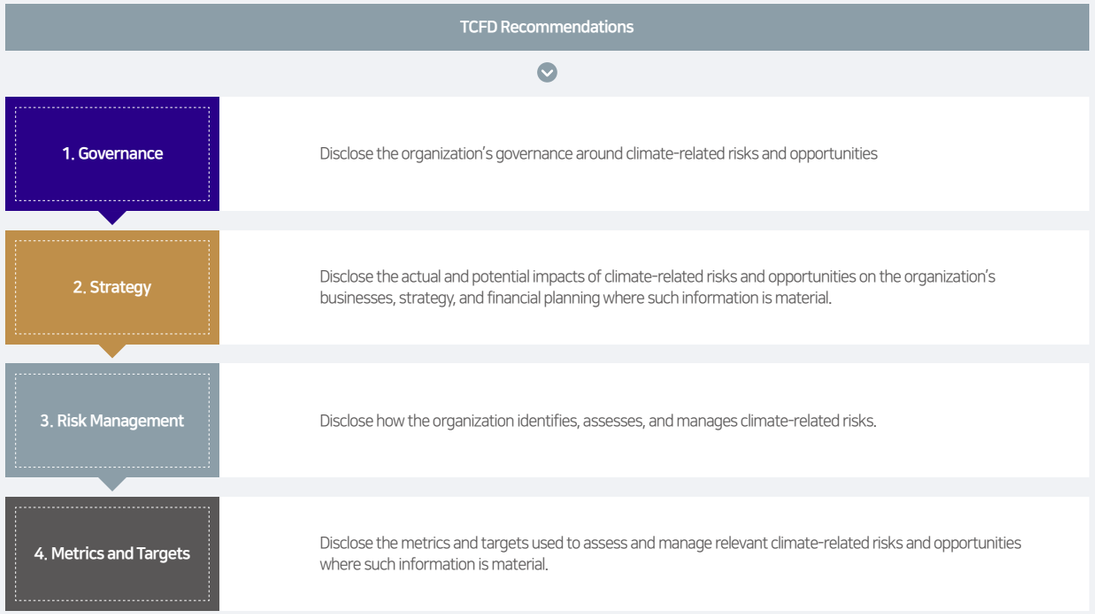
Topic-Specific Standards

Topic	Index	Content	Page	Remarks
Securing New Growth Engines & Business Diversification				
GRI 3: Material Topics 2021	3-3	Management of material topics	26	
GRI 201 : Economic Performance	201-1	Direct economic value generated and distributed	69, 77, 86, 95, 103	
Ethics / Compliance Management				
GRI 3: Material Topics 2021	3-3	Management of material topics	63	
GRI 205 : Anti-corruption	205-1	Operations assessed for risks related to corruption	63, 79, 87, 104	
	205-2	Communication and training about anti-corruption policies and procedures	63, 70, 72, 79, 81, 87, 90, 99, 106	
	205-3	Confirmed incidents of corruption and actions taken	63, 70, 79, 87, 96, 104	
Integrated Risk Management				
GRI 3: Material Topics 2021	3-3	Management of material topics	62	
NON-GRI		No standards for related topics		
Pollutant Management (Water, Air, Waste, and Soil)				
GRI 3: Material Topics 2021	3-3	Management of material topics	48	
GRI 303: Water and Effluents	303-3	Water withdrawal	75, 84, 93, 101, 109	
	303-4	Water discharge	75, 84, 93, 101, 109	
	303-5	Water consumption	75, 84, 93, 101, 109	
GRI 305 : Emissions	305-6	Emissions of ozone-depleting substances (ODS)	74, 83, 92, 100, 108	
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	74, 83, 92, 100, 108	
GRI 306 : Waste	306-3	Waste generated	75, 84, 93, 101, 109	
	306-5	Waste directed to disposal	75, 84, 93, 101, 109	

Topic	Index	Content	Page	Remarks
Human Rights Management Reinforcement				
GRI 3: Material Topics 2021	3-3	Management of material topics	52	
GRI 401: Employment	401-1	New employee hires and employee turnover	71, 80, 89, 97, 105	
	401-3	Parental leave	72, 81, 90, 97, 106	
GRI 404: Training and Education	404-1	Average hours of training per year per employee	72, 81, 90, 99, 106	
	404-2	Programs for upgrading employee skills and transition assistance programs	53-56	
GRI 405: Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	71, 80, 89, 97, 105	
	405-2	Ratio of basic salary and remuneration of women to men	71, 80, 89, 97, 105	
GRI 406: Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	52, 70, 79, 87, 96, 104	
GRI 407: Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	-	No business site subject to this index
GRI 408: Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	-	No business site subject to this index
GRI 409: Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	-	No business site subject to this index
Resource Use Mitigation and Circular Economy Establishment				
GRI 3: Material Topics 2021	3-3	Management of material topics	51	
GRI 301: Materials	301-1	Materials used by weight or volume	75, 84, 93, 109	
	301-2	Recycled input materials used	75, 84, 93, 109	
GRI 306 : Waste	306-4	Waste diverted from disposal	75, 84, 93, 101, 109	

TCFD

Since 2015, nearly all nations have endorsed the Paris Agreement to set an emission reduction target and declare the commitment to implement a reduction goal against global warming. Additionally, the FSB (Financial Stability Board) has established the TCFD (Task Force on Climate-related Financial Disclosures) in December 2015 and developed a global framework for information disclosure in recognition of importance in economic decision-making against climate change. Within the framework, the disclosure is structured around four thematic areas that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets. Companies may disclose their climate change-related financial information following the recommendations by TCFD, and the information is actively used for decision-making of stakeholders and investors. Hyosung and its four operating companies have overhauled their entire system to respond to climate change and have disclosed their climate data through the publication of a sustainability report in accordance with TCFD recommendations, leading the way in fulfilling their responsibility.



TCFD Index

Category	Index	Page
Governance	Describe the board's oversight of climate-related risks and opportunities.	20
	Describe management's role in assessing and managing climate-related risks and opportunities.	
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	21-22
	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	-
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks.	23
	Describe the organization's processes for managing climate-related risks.	
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	25
	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	

SASB

The Sustainability Accounting Standards Board (SASB) was established in 2011 to set up industry-specific sustainability accounting standards. SASB has identified financially relevant sustainability issues by taking into account the uniqueness and characteristics of each industry and published sustainability issues for 77 industries in 11 sectors in accordance with the Sustainable Industry Classification System (SICS). Hyosung and its four operating companies are following the SASB standards and the SICS industry classification to disclose relevant information through sustainability reports, and are engaging more actively with stakeholders.

Chemical

Sustainability Disclosure Topics & Accounting Metrics							
Topic	Code	Accounting Metric	Category	Page			Comments
				Hyosung TNC	Hyosung Advanced Material	Hyosung Chemical	
GHG Emissions	RT-CH-110a.1	Gross global Scope 1 emissions, percentage covered under emissions limiting regulations	Quantitative	25	25	25	
	RT-CH-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Qualitative	22-25	22-25	22-25	
Air Quality	RT-CH-120a.1	Air emissions of the following pollutants: (1) NOX (excluding N_2O), (2) SOX, (3) volatile organic compounds (VOCs), and (4) hazardous air pollutants (HAPs)	Quantitative	83	101	108	
Energy Management	RT-CH-130a.1	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	Quantitative	83	100	108	
Water Management	RT-CH-140a.1	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	84	102	109	
	RT-CH-140a.2	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	79	96	104	
	RT-CH-140a.3	Description of water management risks and discussion of strategies and practices to mitigate those risks	Qualitative	49	49	49	
Hazardous Waste Management	RT-CH-150a.1	Amount of hazardous waste generated, percentage recycled	Quantitative	84	102	109	
Community Relations	RT-CH-210a.1	Discussion of engagement processes to manage risks and opportunities associated with community interests	Qualitative	57-59	57-59	57-59	
Workforce Health & Safety	RT-CH-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Quantitative	82	98	107	
	RT-CH-320a.2	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long term (chronic) health risks	Qualitative	32-36	32-36	32-36	
Product Design for Use-phase Efficiency	RT-CH-410a.1	Revenue from products designed for use-phase resource efficiency	Quantitative	-	-	-	
Safety & Environmental Stewardship of Chemicals	RT-CH-410b.1	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances, (2) percentage of such products that have undergone a hazard assessment	Quantitative	-	-	-	Not applicable
	RT-CH-410b.2	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	Qualitative	48-49	48-49	48-49	
Genetically Modified Organisms	RT-CH-410c.1	Percentage of products by revenue that contain genetically modified organisms (GMOs)	Quantitative	-	-	-	Not applicable
Management of the Legal & Regulatory Environment	RT-CH-530a.1	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	Qualitative	48-49, 79	48-49, 96	48-49, 104	
Operational Safety, Emergency Preparedness & Response	RT-CH-540a.1	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	Quantitative	82	-	107	
	RT-CH-540a.2	Number of transport incidents	Quantitative	-	-	107	

Activity Metric						
Code	Accounting Metric	Category	Page			Comments
			Hyosung TNC	Hyosung Advanced Materials	Hyosung Chemical	
RT-CH-000.A	Production by reportable segment	Quantitative	79	96	104	

Electrical & Electronic Equipment

Sustainability Disclosure Topics & Accounting Metrics					
Topic	Code	Accounting Metric	Category	Page	Comments
				Hyosung Heavy Industries	
Energy Management	RT-EE-130a.1	(1) Total energy consumed, (2) percentage grid electricity and (3) percentage renewable	Quantitative	92	
Hazardous Waste Management	RT-EE-150a.1	Amount of hazardous waste generated, percentage recycled	Quantitative	93	
	RT-EE-150a.2	Number and aggregate quantity of reportable spills, quantity recovered	Quantitative	-	No significant spill cases
Product Safety	RT-EE-250a.1	Number of recalls issued, total units recalled	Quantitative	-	Not applicable
	RT-EE-250a.2	Total amount of monetary losses as a result of legal proceedings associated with product safety	Quantitative	87	
Product Lifecycle Management	RT-EE-410a.1	Percentage of products by revenue that contain IEC 62474 declarable substances	Quantitative	-	Not applicable
	RT-EE-410a.2	Percentage of eligible products, by revenue, that meet ENERGY STAR® criteria	Quantitative	-	Not applicable
	RT-EE-410a.3	Revenue from renewable energy-related and energy efficiency-related products	Quantitative	88	
Materials Sourcing	RT-EE-440a.1	Description of the management of risks associated with the use of critical materials	Qualitative	34-35	
Business Ethics	RT-EE-510a.1	Description of policies and practices for prevention of: (1) corruption and bribery and (2) anticompetitive behavior	Qualitative	63	
	RT-EE-510a.2	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Quantitative	87	
	RT-EE-510a.3	Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations	Quantitative	87	

Activity Metric					
Code	Accounting Metric	Category	Page	Comments	
			Hyosung Heavy Industries		
RT-EE-000.A	Number of units produced by product category	Quantitative	88		
RT-EE-000.B	Number of Employees	Quantitative	89		

Engineering & Construction

Sustainability Disclosure Topics & Accounting Metrics					
Topic	Code	Accounting Metric	Category	Page	Comments
				Hyosung Heavy Industries	
Environmental Impacts of Project Development	IF-EN-160a.1	Number of incidents of non-compliance with environmental permits, standards, and regulations	Quantitative	87	
	IF-EN-160a.2	Discussion of processes to assess and manage environmental risks associated with project design, siting, and construction	Qualitative	28	
Structural Integrity & Safety	IF-EN-250a.1	Amount of defect- and safety-related rework costs	Quantitative	-	Not applicable
	IF-EN-250a.2	Total amount of monetary losses as a result of legal proceedings associated with defect- and safety-related incidents	Quantitative	87	
Workforce Health & Safety	IF-EN-320a.1	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Quantitative	91	
Lifecycle Impacts of Buildings & Infrastructure	IF-EN-410a.1	Number of (1) commissioned projects certified to a third-party multi-attribute sustainability standard and (2) active projects seeking such certification	Quantitative	88	
	IF-EN-410a.2	Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	Qualitative	10, 24, 28	
Climate Impacts of Business Mix	IF-EN-410b.1	Amount of backlog for (1) hydrocarbon-related projects and (2) renewable energy projects	Quantitative	88	
	IF-EN-410b.2	Amount of backlog cancellations associated with hydrocarbon-related projects	Quantitative	88	
	IF-EN-410b.3	Amount of backlog for non-energy projects associated with climate change mitigation	Quantitative	88	
Business Ethics	IF-EN-510a.1	(1) Number of active projects and (2) backlog in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Quantitative	-	No related project available
	IF-EN-510a.2	Total amount of monetary losses as a result of legal proceedings associated with charges of (1) bribery or corruption and (2) anti-competitive practice	Quantitative	87	
	IF-EN-510a.3	Description of policies and practices for prevention of (1) bribery and corruption, and (2) anti-competitive behavior in the project bidding processes	Qualitative	63	

Activity Metric				
Code	Accounting Metric	Category	Page	Comments
			Hyosung Heavy Industries	
IF-EN-000.A	Number of active projects	Quantitative	88	
IF-EN-000.B	Number of commissioned projects	Quantitative	88	
IF-EN-000.C	Total backlog	Quantitative	88	

Asset Management & Custody Activities

Sustainability Disclosure Topics & Accounting Metrics					
Topic	Code	Accounting Metric	Category	Page	Comments
				Hyosung Corporation	
Transparent Information & Fair Advice for Customers	FN-AC-270a.1	(1) Number and (2) percentage of covered employees with a record of investment-related investigations, consumer-initiated complaints, private civil litigations, or other regulatory proceedings	Quantitative	-	*Not applicable
	FN-AC-270a.2	Total amount of monetary losses as a result of legal proceedings associated with marketing and communication of financial product-related information to new and returning customers	Quantitative	-	*Not applicable
	FN-AC-270a.3	Description of approach to informing customers about products and services	Discussion and Analysis	-	*Not applicable
Employee Diversity & Inclusion	FN-AC-330a.1	Percentage of gender and racial/ethnic group representation for (1) executive management, (2) non-executive management, (3) professionals, and (4) all other employees	Quantitative	71	
Incorporation of Environmental, Social, and Governance Factors in Investment Management & Advisory	FN-AC-410a.1	Amount of assets under management, by asset class, that employ (1) integration of environmental, social, and governance (ESG) issues, (2) sustainability themed investing, and (3) screening	Quantitative	-	*Not applicable
	FN-AC-410a.2	Description of approach to incorporation of environmental, social, and governance (ESG) factors in investment and/or wealth management processes and strategies	Discussion and Analysis	-	*Not applicable
	FN-AC-410a.3	Description of proxy voting and investee engagement policies and procedures	Discussion and Analysis	-	*Not applicable
Business Ethics	FN-AC-510a.1	Total amount of monetary losses as a result of legal proceedings associated with fraud, insider trading, anti-trust, anti-competitive behavior, market manipulation, malpractice, or other related financial industry laws or regulations	Quantitative	63	
	FN-AC-510a.2	Description of whistleblower policies and procedures	Discussion and Analysis	-	*Not applicable

Activity Metric				
Code	Accounting Metric	Category	Page	Comments
			Hyosung Corporation	
FN-AC-000.A	Total assets under management (AUM)	Quantitative	-	*Not applicable
FN-AC-000.B	Total assets under custody and supervision	Quantitative	-	*Not applicable

* Hyosung Corporation is the holding company of Hyosung. Since it is not a general financial holding company, financial indicators are not applicable.

UN SDGs (UN Sustainable Development Goals)

Hyosung aims to provide differentiated value by identifying the major interests of all internal and external stakeholders and developing a communication strategy. We select stakeholders who have a significant impact on our business and analyzes opportunities and threats through various communication channels established for each stakeholder. We are committed to demonstrating sincerity throughout our management, from offering products and services that balance economic and social values, to ensuring sustainable supply chain management, protecting human rights and the environment in its business sites, collaborating with suppliers, and engaging in social contribution activities that foster sharing with the local community. On the foundation of this, Hyosung listens attentively to the feedback of stakeholders and incorporates it into its management activities.

Material Issue	UN SDGs	Our Responses				
		Hyosung Corporation	Hyosung TNC	Hyosung Heavy Industries	Hyosung Advanced Materials	Hyosung Chemical
1) Climate Change Response		• Application of TCFD recommendations • Establishment of a climate change response system • Establishment of a climate change response strategy • Participation in Carbon Disclosure Project (CDP)	• Carbon footprint calculation of products • Expansion of facility investments for GHG mitigation	• Receiving orders for transmission and distribution system for new and renewable energy • Expansion of new and renewable energy business	• Expansion of products / regions subject to carbon labeling certification • Establishment of a climate change response system for global business sites • Deliberation on joining SBTi	• Expansion of facility investments for GHG mitigation
2) Green Business		• Building a green portfolio	• Development of regen Bio-Based Spandex • Expansion of regen recycled fiber portfolio	• Expansion of hydrogen fueling stations and development of supply technology • Development of eco-friendly power equipment	• Development of nature-derived materials (Bio-PET) • Development of recycled materials and expansion of supply	• Production of eco-friendly ENPLA new material polyketone
3) Health and Safety at Business Sites		• Reinforcing safety and health system	• Enhancing safety inspection activities • Expansion of safety education and training	• Establishment of 4 key tasks and 10 safety action items	• Reorganization of safety and health disaster system • Establishment of 5 implementation directions	• Establishment of the EHS Committee • Reinforcing safety and health of partner companies
4) Economic Performance		• Continuous overseas market development • Localization strategy targeting the global market and mass production strategy for key products • Securing differentiated competitiveness through global production system • Expansion of investment in equipment and facilities for global production bases				
5) Product Safety & Quality, and Customer Satisfaction		• Establishment of C-Cube execution system • C-Cube activity DNA	• Quality improvement and safety certifications acquisition • Brand launch reflecting Voice Of Customers (VOC)	• Establishment of the Global Management System (GMS) • Product development reflecting Voice Of Customers (VOC)	• Advancement of C-Cube activities • Acquisition of quality management certifications • Hazardous chemical analysis • Product development reflecting Voice Of Customers (VOC)	• Acquisition of certifications related to quality and safety • Product development reflecting Voice Of Customers (VOC)
6) Sustainable Supply Chain Establishment		• Reinforcing the risk management system of suppliers • Establishment of mutual growth promotion system	• Strengthen supplier registration evaluation and supply chain risk management • Supporting suppliers to strengthen their competitiveness	• Reinforcing the risk evaluation system of suppliers • Enhancing mutual growth programs	• Expanding the risk management scope of suppliers and strengthening regular evaluations • Enhancing mutual growth programs • Fostering small companies with carbon-related capabilities	• Registration and evaluation of suppliers and reinforcement of supply chain risk management • Enhancing mutual growth programs
7) Securing New Growth Engines & Business Diversification		• Expansion of global production bases • Reinforcing R&D organizational system	• Plant extension in Türkiye(Turkey) and Brazil, Expansion of investment in China • Research and development of green and new materials, various new technologies, etc.	• Expansion of entry into overseas markets for power equipment • Research and development of green and new materials, various new technologies, etc.	• Expansion of cooperation with major global automakers • Expansion of carbon fiber facilities • Research and development of green and new materials, various new technologies, etc.	• Expansion of Hyosung Vina Chemicals' production facilities • Research and development of green and new materials, various new technologies, etc.
8) Ethics / Compliance Management		• Enactment and revision of Ethical Policies, including the Code of Ethics and human rights management • Reinforcing company-wide ethical standards such as employee embezzlement and breach of trust, protection of whistleblowers	• Operation of ethical management communication channels, such as HR counseling center and reporting center • Strengthening internal monitoring and follow-up management • Conduct ethical management education for employees			
9) Integrated Risk Management		• Strengthening the risk management system • Identification of major risks and implementation of management activities • Regular measurement, evaluation, and hedging of financial risks • Non-financial risk assessment and reporting, and implementation of management activities				
10) Pollutant Management (Water, Air, Waste, and Soil)		• Establishment of environmental management policies	• Expansion of using new and renewable energy • Energy-saving efforts	• Development of GHG alternative technologies • Energy-saving efforts	• Expansion of overseas subsidiaries subject to GHG calculation • Energy saving and expansion of using renewable energy	• Expansion of using new and renewable energy • Energy-saving efforts
11) Human Rights Management Reinforcement		• Conducting of human rights impact assessment • Development and implementation of countermeasures for each potential risk type identified • Human rights education for employees				
12) Resource Use Mitigation and Circular Economy Establishment		• Establishment of company-wide resource circulation process	• Waste sludge recycling • Product development using waste resources such as waste PET bottles	• Development and demonstration of fusion hydrogen fueling station technologies using biogas generated from food waste treatment plants	• Consigned recycling of waste sludge, waste synthetic fibers, waste organic solvents, and waste wood • Expansion of products applied with green materials, such as recycled polyester and Bio-PET	• Implementation of the Post Consumer Recycled (PCR) business recycling discarded plastics