



**2022
HANSOL GROUP
SUSTAINABILITY
REPORT**

About this Report

Hansol Group has published a sustainability report since 2020. With the publication of this 2022 Hansol Group Sustainability Report, (hereinafter, "the Report"), our second such report, we disclose our sustainability activities and performance in the economic, social, and environmental areas with the aim of listening to our stakeholders and incorporating stakeholder feedback into our business management.

Reporting period

The Report covers the financial and non-financial outcomes of our key sustainability activities from Jan. 1 to Dec. 31, 2021. Some sections contain the latest (first half of 2022) data. In order to facilitate time series analysis, some quantitative data include statistics for the previous three years from Jan. 1, 2019 to Dec. 31, 2021.

Reporting scope

The Report contains the sustainability management activities undertaken by Hansol Group, including Hansol Holdings and nine affiliates, and the outcomes of their activities. Financial data contain exclusively the performance of Hansol Holdings on a consolidated basis in accordance with the Korean International Financial Reporting Standards (K-IFRS) criteria.

Reporting principles and Reporting standards

The Report has been prepared in accordance with the Core standards of the Global Reporting initiative (GRI) Standards, the international reporting guidelines for sustainability management. Hansol Holdings also complies with ISO 26000, a management system guideline for social responsibility.

Report assurance

The Report has undergone the verification process by a professional sustainability report verification organization to ensure the reliability of the Report. The assurance statement is found on p. 100 of this report.

Inquiries

For more detailed information on Hansol Group's sustainability management activities and outcomes included in the Report, please contact:

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CEO Message

Dear stakeholders,

On behalf of all Hansol Holdings employees, I would like to express my sincere gratitude to all of you for your unwavering support and interest in our company.



We are in the process of building the “Hansol ESG management system” by reflecting the core elements we have identified through comprehensive ESG management diagnosis, including stakeholder needs analysis, world-class business benchmarking, and ESG-related internal and external progress analysis — in order to take the systematization of our ESG activities to the next level.

Our mission is to continuously grow with you, our stakeholders from all walks of life, by maximizing value through unparalleled competitive advantage.

Above all, we strive to increase corporate value and create economic value. To that end, we will continue evolving to sharpen our competitive edge in current business activities, on the one hand, and discover promising new businesses based on customer-centric strategies, new value, new approaches, and unparalleled competitive advantage.

Each affiliate will push its limits and take on new challenges, upgrading existing business models, on the one hand, and designing new business models for further growth; and build a future-oriented business portfolio for sustainability.

At the same time, we will make our four organizational principles — namely, immersion; transparency; respect; and speed — second nature to all employees as a basis for our business activity as a whole; and create a sustainable corporate culture to ensure that all employees promptly respond to changes.

Hansol Holdings and all other affiliates of Hansol Group have implemented ESG management strategies for sustainability.

We have established an environment management system based on ISO 14001, an environmental management system certification. We also pursue safety and health management based on ISO 34001, an international standard for safety and health management certification, and international safety rating system (ISRS). In addition, we have pledged to practice ethical management by publicly announcing the firmwide ethical charter.

In order to improve corporate governance, we are initiating governance innovation by forming an audit committee for listed affiliates and voluntarily disclosing corporate governance reports. In addition, we have created an outside director nomination committee for the nomination of outside directors chosen by shareholders as part of our effort to communicate with stakeholders. As a result, we received an integrated grade A, including A in the governance sector, in the ESG evaluation conducted by the Korea Corporate Governance Service (KCGS) in 2021.

We are in the process of implementing the “Hansol ESG management system” by reflecting the core elements we have identified through comprehensive ESG management diagnoses, including stakeholder need analysis, world-class business benchmarking, and ESG-related internal and external progress analysis in order to take the systematization of our ESG activities to the next level. The “Hansol ESG Management System” consists of 28 strategic tasks, including climate action, virtuous resource cycling, safety and health, compliance, diversity and inclusiveness. Hansol Group will continue working hard to upgrade the ESG management system for efficiency by putting strategic goals into action.

We look forward to your continued support and interest in our sustainable growth.

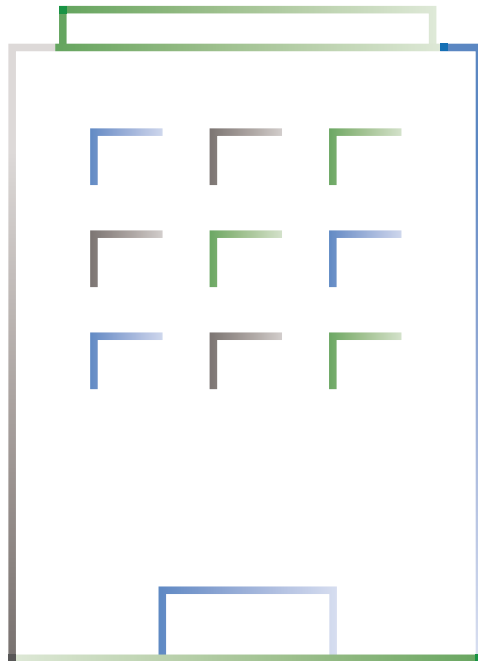
Thank you!

CEO of Hansol Holdings
Lee Jae-hee

Hansol Holdings at a Glance

The holding company of Hansol Group, Hansol Holdings, seeks to sharpen its competitive edge and create synergy for sustainable growth of all the affiliates of the group. Maximizing shareholder value is our top priority and, to that end, we strive to create a transparent business environment. We are committed to increasing Hansol's brand value through systematic brand value promotion, diversifying our business portfolio, and efficiently distributing resources. In addition, we provide business consulting services to affiliates to facilitate their business activities and sharpen their competitive edge. We will continue to focus on our resources and competence to create business models with an unparalleled competitive edge, and lead sustainable growth as the focal point of Hansol Group's ESG management.

HANSOL HOLDINGS



Founding date

Jan. 1965

Headquarters

25/F, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea

Business areas

Business consulting, investment and asset management, brand management, etc.

No. of employees

50

Credit rating

A- (NICE Investors Service)

ESG rating

A (KCGS)

FINANCIAL PERFORMANCE IN 2021

(*as of Dec. 2021)



Total assets

KRW **451.7** billion

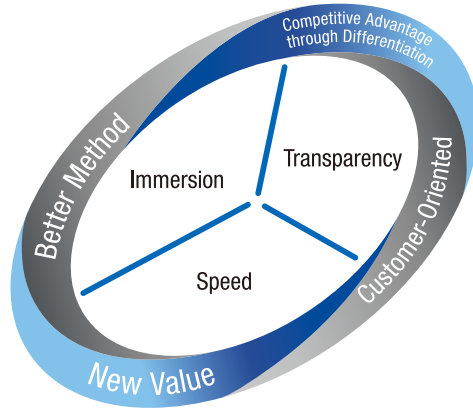
Sales

KRW **29.3** billion

Operating profit

KRW **13.3** billion

HANSOL MANAGEMENT SYSTEM (HMS)



Our mission

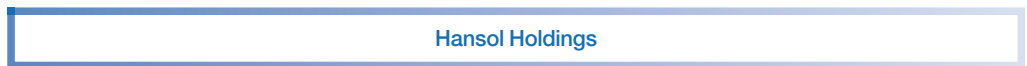
To maximize value by creating a competitive advantage through differentiation strategies.

Our principles

- We prioritise our customers.
- The future lies in new values.
- A better approach is our philosophy.
- Our survival depends on maintaining unparalleled competitive advantage.

HANSOL GROUP

Holding company



Affiliates

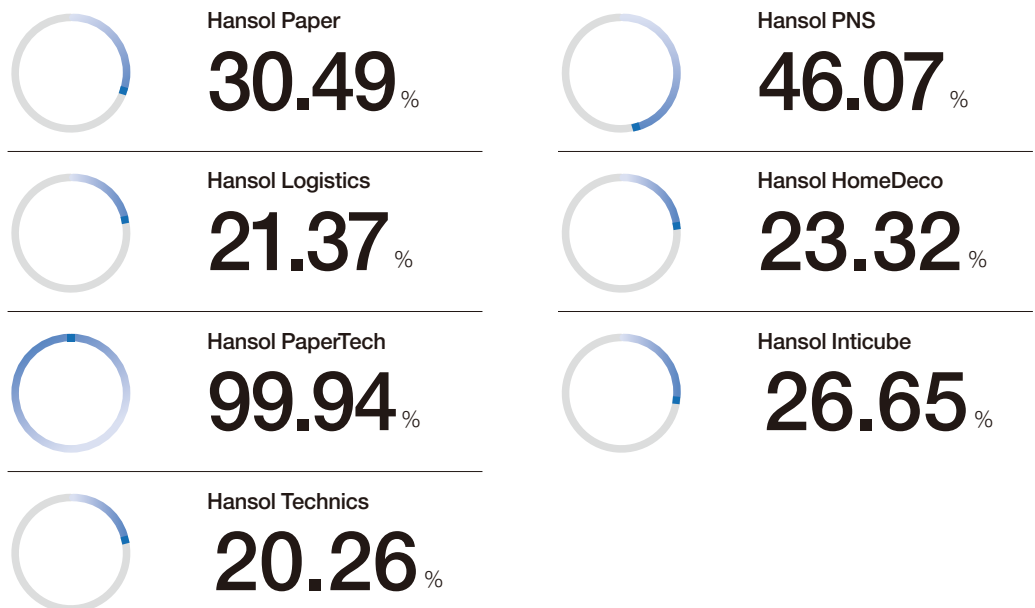


Subsidiaries



SHARE STRUCTURE OF HANSOL HOLDINGS

(as of Dec. 2021)



History

1972

- First Samsung Group affiliate to be listed on the Korea Exchange

1979

- An industry-first to launch a paper research institute



1970

1991

- Separated from the Samsung Group to declare independence
- Founded Hansol HomeDeco

1992

- Founded Hansol Chemicals
- Completed the construction of Hansol Paper Janghang Plant

1995

- Founded the Hansol Cultural Foundation
- Completed the construction of the Hansol Paper Daejeon Plant
- Completed the construction of the Hansol HomeDeco Iksan Plant
- Founded Hansol Technics and Hansol PNS

1990

1996

- Completed the construction of the Hansol Technics Jincheon Plant
- Hansol HomeDeco entered New Zealand's forestry market

1997

- Hansol HomeDeco launched laminated flooring Chammaru



1960

1965

- Saehan Paper was founded



- Saehan Paper taken over by the Samsung Group

1968

- Saehan Paper renamed Jeonju Paper

1980

1981

- First in the local industry to produce 1 million tons of paper

1982

- First in the local industry to reach 10,000ha of forestry

1987

- Korea's first to develop thermal paper



2000

2000

- Hansol Logistics started the global logistics platform business
- Hansol Paper declared its vision to become the best paper manufacturer in Asia

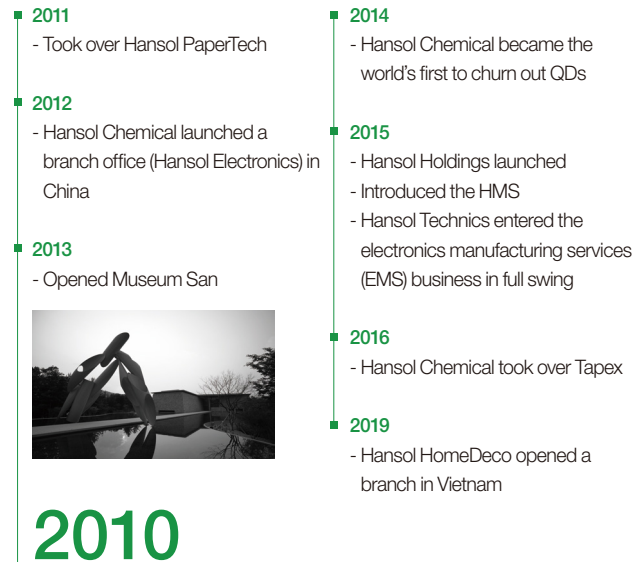
2001

- Hansol Logistics developed the world's first smart delivery system

2002

- Cho Dong-gil chosen as the CEO of Hansol Group

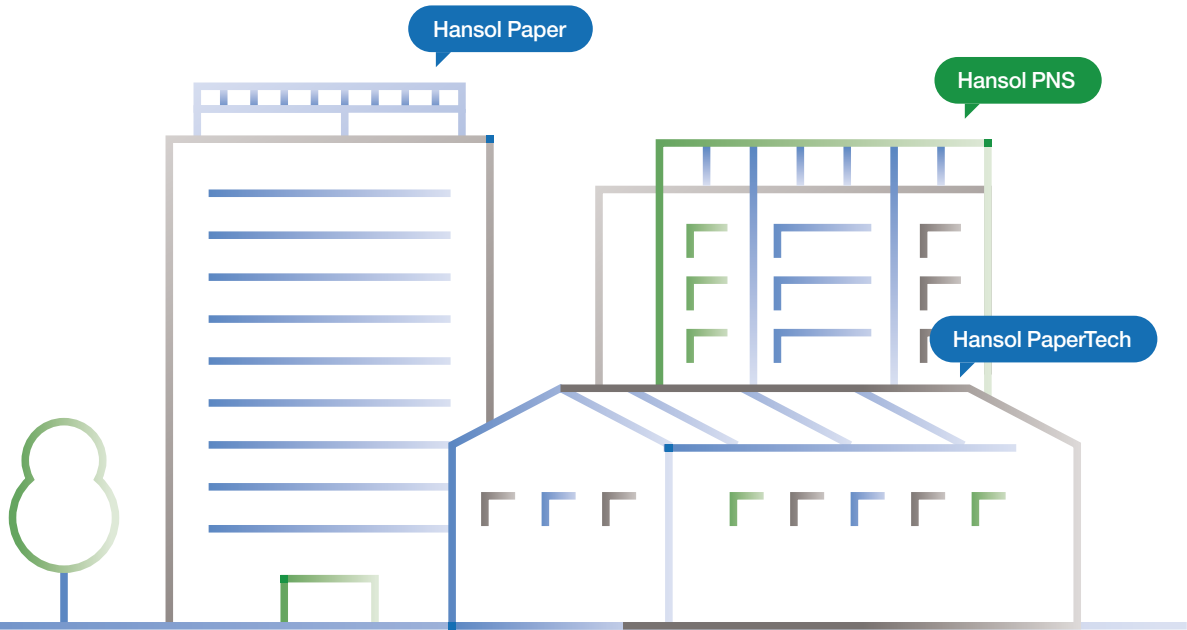
Starting as a paper manufacturer in 1965, Hansol has thrived and communicated with consumers by providing products and services in diverse areas, including distribution, chemicals, and logistics. Over the past 50 years, we have strived to push our limits and prepare ourselves for future challenges. We are now ready to become a global player beyond Korea, equipped with unparalleled competitiveness and expertise. We will continue to grow and evolve to meet changing needs in the future by making the most of our experience and capacity.



2020

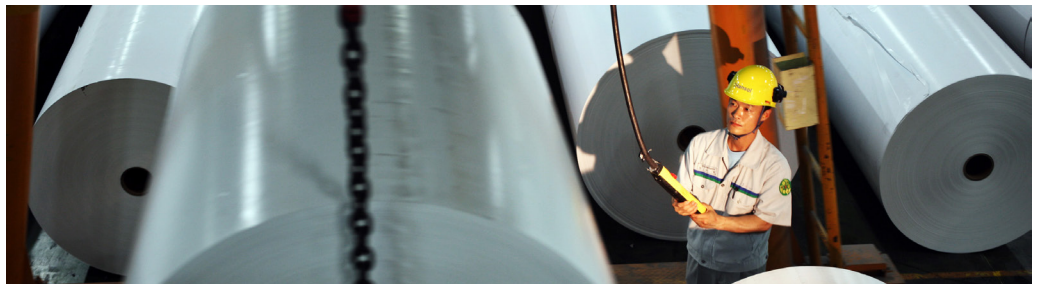


Group Business Portfolio



Hansol Paper boasts peerless competitiveness in the paper business, including the manufacturing and sales of industrial paper, printing paper, and specialty paper. It operates four plants in four locations, including Janghang, Daejeon, Cheonan, and Sintanjin, respectively. As Korea's only comprehensive paper manufacturer, Hansol Paper produces printing paper, industrial paper, specialty paper, and thermal paper. It exports paper to many nations around the world, including North America, Europe, South America, and Southeast Asia, advancing toward becoming a global paper manufacturer. We practice ESG management by increasing brand value through customer-centric quality control and R&D, on the one hand, and introducing a wide variety of eco-friendly paper materials.

Overview		Sales	(Unit: KRW million)
Founding date	Jan. 2015	2019	1,679,131
Headquarters	23rd & 24th Floors, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea	2020	1,509,871
Business areas	Manufacturing of printing paper, industrial paper, specialty paper, thermal paper	2021	1,834,223
No. of employees	1,202 (as of 2021)		
Credit rating	A (NICE Investors Service)		
ESG rating	A (KCGS)		





Hansol PaperTech manufactures corrugated board sheets, including outer and inner layers and flute, to sell at home and abroad. The corrugated cardboard sheets are used for packaging and shipping. Thanks to its excellent buffering effect for protection, corrugated cardboard is widely used to make packaging and shipping boxes for industrial and consumer goods including electronic and agricultural products. Hansol PaperTech saw stable sales growth amid the COVID-19 crisis thanks to excellent partnerships with its subcontractors. We continue to work hard to develop new technologies to produce green and high-quality products on the basis of our stable business management.

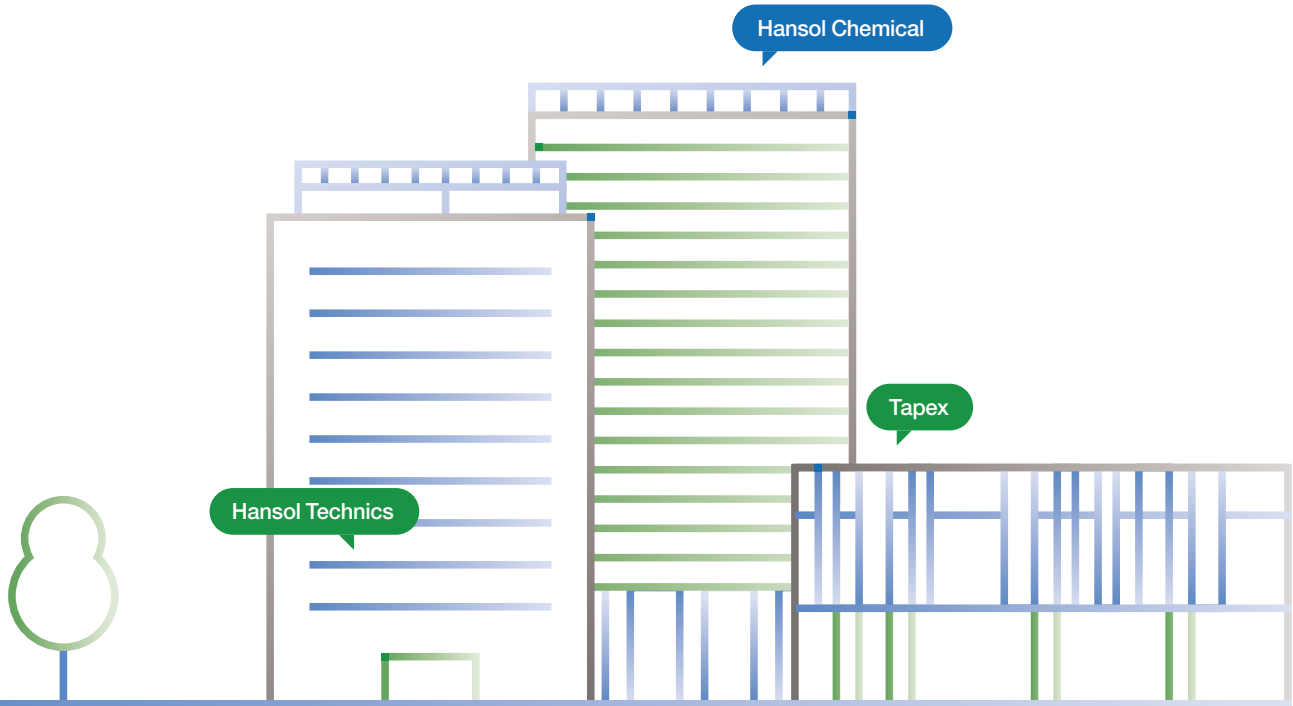
Overview		Sales		(Unit: KRW million)
Founding date	Feb. 2000	2019	99,509	
Headquarters	80 Daechi 7-gil, Daejeon-myeon, Damyang-gun, Jeollanam-do, Republic of Korea	2020	100,216	
Business areas	Manufacturing of corrugated cardboard sheets	2021	134,802	
No. of employees	142			
Credit rating	A+(CRETOP)			
ESG rating	N/A			



Hansol PNS is Korea's largest paper distributor. As a paper industry leader, we have undergone innovation and capacity-building continuously since our launch. Armed with extensive knowledge and expertise, we have built our own logistics system and one-stop supply system to provide clients with customized services and distribute all types of paper products, including printing paper, specialty paper, and industrial paper. Our IT service division designs corporate information systems and develop hardware, application software, and tailored solutions. In particular, the smart factory division is essential for digital transformation of the local corporate ecosystem and contribution to ESG integration.

Overview		Sales		(Unit: KRW million)
Founding date	Feb. 1975	2019	233,892	
Headquarters	5th Floor, Ilheung Building, 213 Toegye-ro, Jung-gu, Seoul, Republic of Korea	2020	244,823	
Specialization	Paper distribution, IT service	2021	262,943	
No. of employees	231			
Credit rating	BBB0			
ESG rating	A			





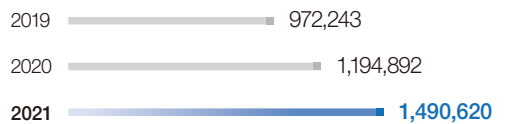
Hansol Technics specializes in manufacturing power modules, an essential part of LCD TVs, solar power modules, and cell phones and cell phone parts. We have plants in Korea and overseas, including Thailand, Vietnam, and China. We are growing consistently as a solution provider in the electric parts and future technology sectors based on unrivaled quality, capacity to develop top-notch products, and innovative cost competitiveness. We are also pursuing new businesses plus energy solution businesses including the manufacturing of power module device, solar power modules, UV LEDs. We are also striving to take our ESG commitments strategies to the next level in order to sharpen our competitive edge as a green business.

Overview

Founding date Aug. 1966
 Headquarters 5th Floor, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
 Business areas Power modules for electrical/electronic products, wireless charging, solar modules and solar power generation, LED material processing, and mobile phone components and EMS
 No. of employees 656
 Credit rating BBB+
 ESG rating A

Sales

(Unit: KRW million)





Since its establishment in 1980, Hansol Chemical has been engaged in manufacturing fine chemical products, ranging from raw materials to high value-added specialty products that increase the value of human life. We have expanded our business realm to include the electronic materials field, such as thin film materials and secondary battery materials, as well as the fine chemicals field, including hydrogen peroxide and latex used in paper, textiles, semiconductors, paper chemicals, polymer coagulant, sodium hyposulfite (SD), and benzoyl peroxide (BPO). We, at Hansol Chemical, will continue leading the electric vehicle market by developing secondary battery materials and expanding our business realm to include IT and the environment for sustainable growth.

Overview

Founding date	Mar. 1980
Headquarters	7th & 8th Floors, K-Tower, 513 Teheran-ro, Gangnam-gu, Seoul, Republic of Korea
Business areas	IT chemicals, precision chemicals, eco-friendly chemicals
No. of employees	632
Credit rating	A+
ESG rating	A

Sales

(Unit: KRW million)



TAPEX

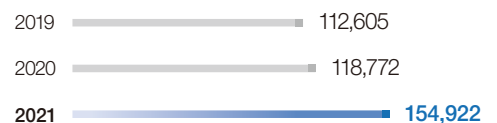
Established in 1994, Tapex specializes in the manufacture of industrial adhesive tapes. We have grown consistently by expanding our business areas to include the production of tapes that are essential for secondary batteries, display, and semiconductor manufacturing processes, and packaging wraps, and green consumer products. We have paid special attention to the efforts of the international community to fight global warming and focused on relevant business areas. In order to join the effort, we have increased the production of green products to keep up with the green electric vehicle (EV) market and reduction of single-use products, laying the foundation for sustainable management from mid- and long-term perspectives.

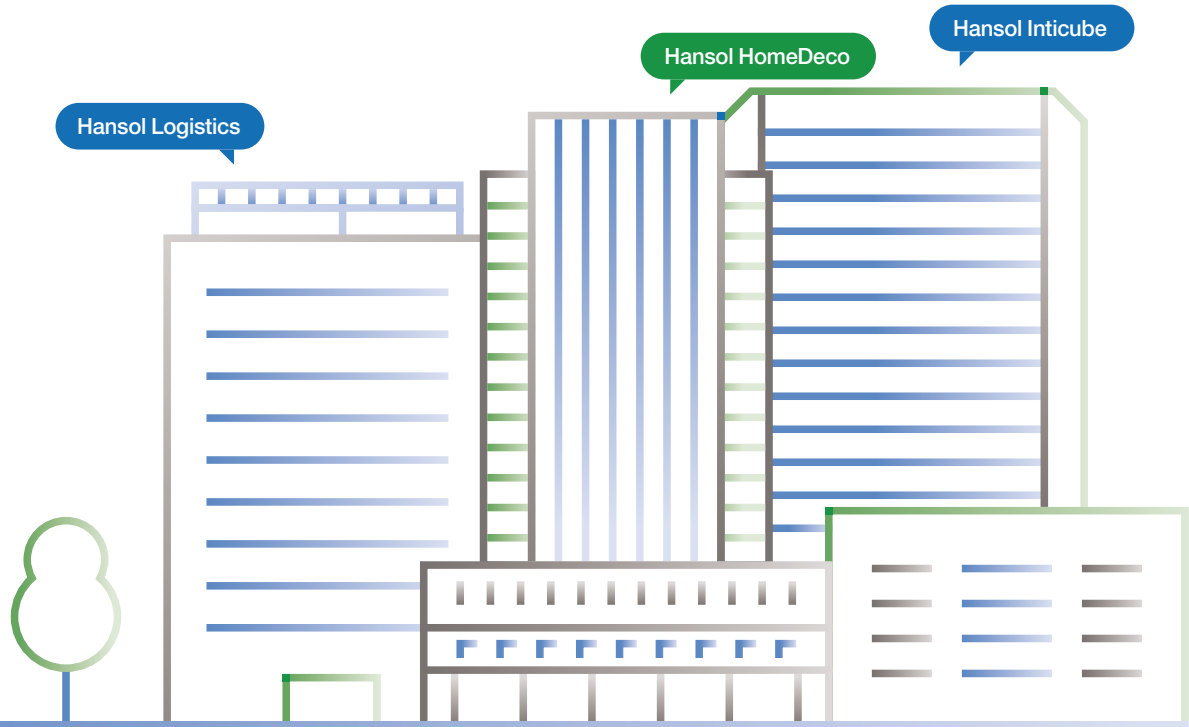
Overview

Founding date	Apr. 1994
Headquarters	#812 & 813, 8th Floor, Daehak 4-ro, Yeongtong-gu (Iui-dong, Ace Gwanggyo Tower 1-cha), Suwon, Gyeonggi-do, Republic of Korea
Business areas	Functional adhesive tapes for electronic materials, plastic wraps, consumer goods
No. of employees	401
Credit rating	A-
ESG rating	B+

Sales

(Unit: KRW million)





Hansol
Logistics

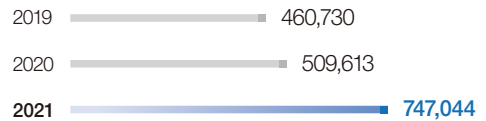
Established in 1994, Hansol Logistics provides unrivaled services in international logistics including air and sea freight forwarding, container transport, truck and rail freight transport, W&D, and logistics consulting areas. In particular, we are at the forefront of the innovation of the logistics industry equipped with our extensive experience and incomparable solution services. We are committed to practicing ESG integration in the logistics sector by carrying out diverse activities, including the creation of a safe workplace. We aim to become a global player on the basis of the 16 networks we have built up in six countries worldwide, including nations in North America, Europe, and Asia.

Overview

Founding date	June 1994
Headquarters	22nd Floor, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
Business areas	International logistics, container transport, trucking, W&D, logistics consulting
No. of employees	385
ESG rating	B+

Sales

(Unit: KRW million)





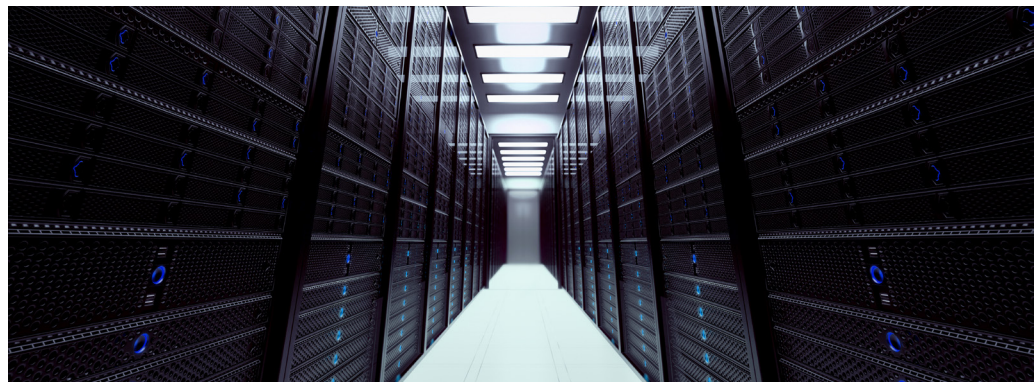
Hansol HomeDeco specializes in supplying building materials, including MDFs and other materials for interior design. Started as Hansol Paper Forestry Division in 1991, Hansol HomeDeco has built a forest-product circulation system designed to recycle forest resources using our professional knowledge in wood and expertise in forestry overseas, lumber, furniture components, flooring, interior material distribution, and renewable energy. Also, we have completed the value chain of the time business to create new added value by using MDF and timber by-products. In March 2022, we completed the direct interior platform VHOM to provide customized services and meet the needs of B2C customers in the interior design area as a whole.

Overview		Sales	
			(Unit: KRW million)
Founding date	Dec. 1991	2019	263,886
Headquarters	27th Floor, Jeonmun Geonseol Hoegwan, 15 Boramae 5-gil, Dongjak-gu, Seoul, Republic of Korea	2020	253,213
Business areas	Interior products, including flooring, door casing, wall materials, and sheets, MDF, composite deck boards, overseas afforestation, renewable energy	2021	263,250
No. of employees	305		
Credit rating	BBB		
ESG rating	A		



Hansol Inticube was established in 2003 as a next-generation contact center. Over the past 16 years or so, we have contributed to innovating the business communication platform for our customers in various areas of industry. Currently, we have established ourselves as a leader in contact center infrastructure formation solution development, and wireless Internet solutions. We are expanding our business to include AI, the heart of the 4th industrial revolution, cloud, big data, and other IIs, and provide the best possible and most efficient total communication solutions.

Overview		Sales	
			(Unit: KRW million)
Founding date	Dec. 2003	2019	58,966
Headquarters	396 Worldcupbuk-ro, Mapo-gu (4th Floor), Nuri Dream Square Business Tower,	2020	52,588
Business areas	Digital contact center, AI communication, communication cloud, mobile solutions	2021	59,462
No. of employees	224		
Credit rating	BB+ (rated on Apr. 16, 2021 by Ecredible)		



Sustainability Essentials

Hansol creates new values for a better future for our customers.

All affiliates of Hansol Group are committed to developing green products and expanding the green product certification system. We will create business opportunities by scientifically responding to climate change and, in doing so, gain an unparalleled competitive advantage.

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Hansol Sustainability Map

Hansol creates wellness today for growth tomorrow in the industrial sector. Started doing business by developing raw materials, the root of all industries, Hansol has expanded its presence into core technology areas of the 4th industrial revolution and continued introducing new growth engines. We will continue sharpening our competitiveness as a future leader by increasing environmental and social value through business activities.

1

Driving force behind the ESG strategy to increase the value of Hansol Group

Hansol Holdings

We organize Hansol Group's ESG integration into business and take action with efficiency in mind. Our ESG strategy customized for each affiliate becomes second nature to each affiliate. In doing so, we innovate and grow to increase the overall value of the group portfolio.

3

Creating a safe working environment is the top priority for value

Hansol Logistics

Specializing in logistics, an artery of the industry, Hansol Logistics place the creation of a safe workplace at the center of its ESG commitment. Under the leadership of the head safety officer (CSO), we have built a systematic safety and health management system and carry out diverse firmwide activities to prevent accidents caused by negligence for all employees in the logistics process as a whole.

4

Creating eco-friendly products through resource cycling

Hansol Papertech

Corrugated cardboard sheets are green products that can be recycled and reused. We contribute to resource circulation as we use recycled paper as the essential ingredient. We plan to use recycled paper to replace pulp, which is used for making the outer layer of corrugated cardboard sheets, and reuse waste (sludge) for efficient use of resources.

2

Expansion of eco-friendly areas from paper to resources/energy and new materials

Hansol Paper

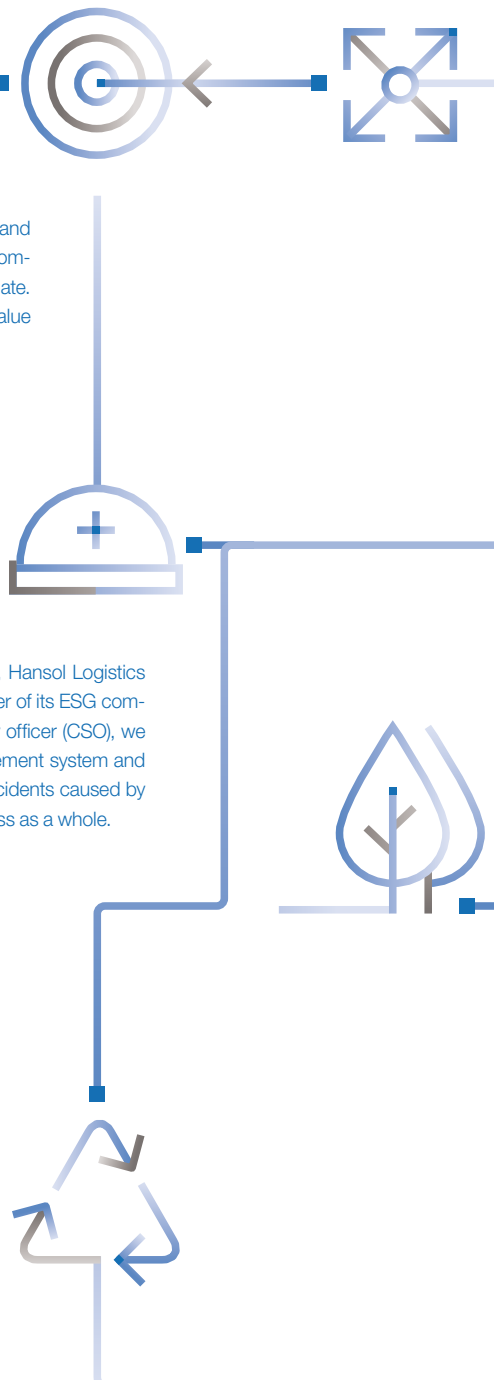
The top priority of ESG strategy is to boost our green competitiveness. We introduce a variety of green products; and in doing so we are serving a key business for ESG integration, both for us and our customers who need to come up with green alternatives to single-use containers and packaging. Also, we expand business by taking over Hansol EME, an eco-friendly incineration and power plant.

5

Forest carbon credits to offset emissions Energy and wood business

Hansol HomeDeco

We, at Hansol HomeDeco, are continuously developing eco-friendly products in the building materials area. We are also reducing 149,000 tCO₂ of emissions per year through afforestation activities in New Zealand, generating carbon credit revenue. We will continue expanding carbon training. Also, we have completed the stable time business value chain by utilizing lumber as furniture and building materials.

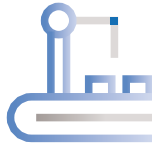




6

Partnerships with subcontractors for ESG in the supply chain Hansol Technics

Hansol Technics specializes in manufacturing TV power circuits, cellphones, wireless charging modules, automotive electronics, and solar power modules, to name a few. As we are directly committed to transitioning to renewable energy, a global issue, we are providing education on ESG in the supply chain to keep up with global trends. We have developed mid- and long-term ESG strategies and a roadmap to help our subcontractors incorporate ESG into their businesses and operate financial and non-financial programs to support them.



Smart factory for business stability and productivity Hansol PNS

7

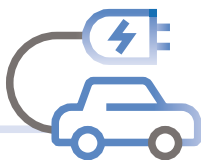
Hansol PNS, the largest paper distributor in Korea, is increasing the value of paper by publishing and supporting paper for design students at college. We build IT systems for Hansol Group and develop application software, building smart factories for the improvement of corporate safety and productivity as a growth engine for the future.



Providing a safe business infrastructure for the 4th industrial revolution Hansol Inticube

8

Hansol Inticube is taking the lead in building digital contact center infrastructure, developing solutions, and providing wireless Internet solutions. We are expanding our business realm by providing unmanned consulting services and AI and cloud services based on our technological prowess in AI, the core technology of the 4th industrial revolution, cloud, big data, and other IT areas.



10

Building ESG capacity for mutual prosperity with the EV industry Tapex

We specialize in the manufacture of the special tapes that are used in the secondary battery, display, and semiconductor production process. The functional tape for secondary batteries, our flagship product, is closely related to the eco-friendly EV industry as it is supplied to the world's top-notch EV manufacturers. We will incorporate environmental and social value into our strategies for growth.



World-class green business striving to minimize environmental impact Hansol Chemical

9

The chemical industry is likely to directly affect air- and water-quality, and chemical leaks may cause a wide range of environmental disasters and casualties. For that reason, we at Hansol Chemical are doing our best to minimize pollution and prevent chemical spills. In order to minimize environmental pollution, we have increased regenerative thermal oxidizers (RTOs) and denitrification in waste water treatment plants. We have also completed the installation of pipe and value tracking systems and detectors in an effort to reduce chemical leaks as best as possible. Currently, we are building a digitalization system for environmental safety and health. We encourage our subcontractors in the supply chain to join these efforts to sharpen the competitiveness of the ecosystem of the chemical industry.

Sustainability Key Figures 2021

Hansol Group is implementing sustainable management that takes into account economic performance as well as environmental, social, and governance structures throughout its business activities in a bid to increase sustainable value and improve customer trust. This is our ESG performance data by the numbers in 2021:

International environmental
management system
ISO 14001 certified

14 affiliates

International safety and health
management system
ISO 45001 certified

10 affiliates

International quality-management
system ISO 9001 certified

6 affiliates

Increase in corporate value of the
participants of Hansol V Frontiers
(as of May 2022)

Average
of **9.71** times

Hansol Group's energy
optimization solutions
Digital transformation of
Hansol Group in the making
(as of June 2022)

57 %

M&A for the discovery of
new growth engines

6

Green products among the total
sales of Hansol Paper products

68.1 %

Green bonds issued by
Hansol Paper

KRW **300** billion

The number of subcontractors that
participated in Hansol Technics
ESG training and meetings

41 subcontractors

Subcontractors rated A in ESG rating by KCGS

6 subcontractors

Hansol Holdings dividend payout ratio (consolidated basis)

23.3%

BOD meetings held

7 times

Sales of green-certified Hansol Paper products in 2021

KRW **1.1093** trillion

Afforestation in New Zealand by Hansol HomeDeco (as of 2017)

Approx. **10,000** ha

Annual investment in Hansol PaperTech plant area for odor removal

KRW **391** million

Hansol Chemical share buybacks announced

KRW **57** billion

Sustainability Management System

ESG integration in business is a value demanded by the times. When the EU Corporate Sustainability Due Diligence Directive, which was announced by the EU on February 23, 2022, comes into effect from 2024, businesses will undergo supply chain due diligence for the evaluation of their carbon neutrality, environmental destruction, and violation of labor rights. In line with this Directive, Hansol Holdings has upgraded its system for ESG integration in a bid to become a global player. We have reestablished our human rights and business system to enhance labor rights, which have grown in importance.

GREEN MANAGEMENT



Hansol Group has placed environment at the center of its business management since its foundation as it has a broad product spectrum, including paper, wood, and chemicals, that has considerable environmental impact. We apply the environmental management system that meets the international standards to the workplaces to monitor compliance with environment-related regulations, reduction of energy consumption, GHG-emissions reduction, and systematically managing relevant big data.

Environmental management system (EMS)

Hansol Group established the environmental management system (EMS) in 2019 based on ISO 14001. For efficient operation of the EMS, we operate an environmental-management action team led by the CEO, which draws up environment-related regulations, sets goals, and share them with internal and external stakeholders. The EMS is a basis of green management for all employees, not limited to environment-relevant staff. As a result, Hansol Paper and Hansol Chemical were rated A and other affiliates B+ in the ESG evaluation. Hansol Holdings operates the environmental-management promotion committee led by staffers of relevant departments and the communication team, which is responsible for setting environmental goals for green management. In order to fulfill the goals, the committee monitors green activities, energy consumption, and GHG emissions on a regular basis and conducts an internal environment evaluation once per year. Also, it reviews environmental management and reflects the results in goal-setting for the next year. Hansol Group will continue to upgrade its EMS and expand green management firmwide.

Environmental policy of Hansol Holdings

Efficient use of resources and environmental protection

We take the lead in environmental protection by preventing environmental pollution through efficient use of resources and energy and minimization of waste.

EMS operation and consistent improvement

All our employees are aware of our environmental policy and participate in setting goals and taking action to consistently improve environmental performance. They also strive to upgrade the EMS through revisions for improvement.

Communication with stakeholders and fulfillment of compliance obligations

We actively communicate with our stakeholders in order to review our environmental goals and directions on a regular basis. We also inform our stakeholders of the environmental requirements and management standards that reflect stakeholders' needs and comply with them.

Transparent environmental-management practices

We disclose our environmental policy and information on environmental management to encourage stakeholders to actively join the efforts. We also practice transparent environmental management.

Affiliates with international environmental-management system certification ISO 14001

14

affiliates

Hansol Paper, Hansol PaperTech, Hansol PNS, Hansol Technics, Hansol Logistics, Hansol HomeDeco, Hansol Chemical, Tapex
(Please refer to "affiliates with certifications" on p. 102.)

HUMAN RIGHTS IN BUSINESS



Hansol Group supports the labor standards suggested by the Universal Declaration of Human Rights adopted by the UN General Assembly, the 10 principles of the UNGC, and the OECD Guidelines for Multinational Enterprises. We are committed to complying with labor rights and international labor standards.

Human rights in Hansol Holdings

At Hansol Holdings, our mission is to gain a competitive advantage through differentiation, through which we will increase value as best we can, and sustainably grow with our stakeholders including customers. We will support international efforts for human rights, such as the UN Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights, the ILO Declaration on Fundamental Principles and the Right to Work, and comply with the relevant laws and regulations at home.

We will make every effort to protect human rights by preventing human rights violations. We will respond promptly to any human rights violations to address the relevant issues.

Our human rights policy is applied not only to Hansol Holdings but to all our subcontractors and their employees. In addition, we encourage all our business partners and customers to understand and comply with our human rights policies:

1. A non-discriminatory work environment

Hansol Holdings provides a working environment free from discrimination based on origin, race, ethnicity, nationality, gender, gender identity, sexual orientation, belief, religion, age, and disability, among others. We respect all our employees and treat them fairly and reasonably based on their capacity and performance.

2. A ban on forced labor

Hansol Holdings does not force employees to work against their free will through mental or physical restraint. We comply with labor-related laws, regulations related to holidays and overtime pay. We do not force employees to work overtime.

3. A ban on child labor

Hansol Holdings prohibits child labor in principle. Also, we do not assign hazardous tasks to young workers to ensure their occupational safety and health.

4. Industrial safety

Hansol Holdings updates its system for the safety and health of all employees and provides relevant training on a regular basis. It also complies with laws and internal regulations related to occupational safety, health, and working hours.

5. Environmental rights

Hansol Holdings pursues a world where we can share a better future. We will work hard to address social issues that we face now or in the future. We will also undertake eco-friendly activities to contribute to improving the environment and keeping it clean.

6. Protection of consumer rights

- Hansol Holdings will strive to create an environment in which all users can safely and conveniently use the technologies, services, and products we provide.
- Privacy protection: Hansol Holdings requires, records, and stores information that complies with laws and regulations only when it comes to private data. We will manage our security system to prevent the leakage of personal data we have collected.
- Third-party data sharing: We do not share private data with third parties without the consent of consumers or approval by the law.

Process of handling reports of human rights violations

Hansol Holdings operates the "Red Whistle," which allows stakeholders to file human rights violations, by integrating it into the ethical management system. Stakeholders can file human rights violence reports via diverse channels, using our website or sending mail or emails. We forward the reports to the relevant departments according to their nature, handle them promptly according to our internal procedures, and report the results to the informants.

ETHICAL MANAGEMENT



Hansol Group has established an advanced ethical management system as a basis for sustainable growth. We stipulated the code of ethics for all employees. We also allow employees to report corruption and fraud using the ethical management site and provide corruption prevention training to raise employees' awareness of ethics and create a transparent organizational culture.

Hansol Ethics Charter

Hansol Group announced its Ethics Charter, pledging to succeed Hansol's transparency and soundness. The Ethics Charter contains our responsibility for ethical management and our ethical duties to stakeholders. We are committed to complying with the Ethics Charter and the code of ethics as indicators for all our business activity.

Code of ethics

Commitment to shareholders and investors

- We protect the rights of shareholders and investors and respect their legitimate demands and proposals.
- We treat all shareholders, including minority shareholders, fairly and equitably.
- We build mutual trust by disclosing accurate information on our business management at the right time.
- We increase corporate value and shareholders' interests through sustainable management innovation and growth strategy.

Pledges to customers:

- We give top priority to customer value and provide the best possible products and services.
- We provide accurate information on our products and services and keep promises.
- We protect our customers' interests, safety, and personal information. We do not engage in unfair activities against our customers.

Commitment to competitors and subcontractors

- We promote fair competition with competitors and comply with fair trade order and related laws.
- We build mutual trust and partnerships with subcontractors through fair trade.

Commitment to employees

- We respect individual will and creativity and provide our employees with the opportunity to improve capacity fairly for self-realization.
- We do not discriminate in any way based on educational background, region of origin, gender, age, religion, and disability, among others.
- We pursue a robust and constructive corporate culture based on mutual trust and understanding.

Commitment to society

- As a member of the nation and local community, we comply with laws and relevant international regulations.
- We contribute to the national economy and social development through productivity, employment, faithful tax payment, and corporate social responsibility.
- We strive to protect nature and create a clean environment.

No. of ethics violations reported in 2021

4

OCCUPATIONAL SAFETY AND HEALTH



Hansol Group is committed to practicing occupational safety and health based on the international certification ISO 45001 and the world-famous International Safety Rating system (ISRS). We have developed occupational safety and management strategies based on the safety evaluation of each workplace and taken them into action.

Hansol Paper Safety Policy

Hansol Paper selects occupational safety and health as its core value and gives top priority to it in business activity.

Awareness of occupational safety and health

Nothing is more important than safety and health.

Occupational safety and health facilities

We set standards and comply with the standards.

Occupational safety and health evaluation

We consistently evaluate our activities for occupational safety and health and improve it.

Occupational safety and health environment

We create a pleasant and workable workplace.

Hansol Chemical policy for QES quality management system

All employees of Hansol Chemical are required to be well-versed in the QES quality-management system and work hard to fulfill its goals. They should actively engage in diverse activities to share our commitment to the QES management system with stakeholders.

1. We pursue customer satisfaction with consistent efforts to improve quality, performance, and customer services.

2. We reduce the environmental impact of our business activities from product design, to manufacturing, to sales, to transport, and to services as best as we can and practice sustainable management, contributing to environmental protection for local communities.

3. We do our best to protect the lives of all our employees, prevent the loss of our assets, create a safe and workable work environment to achieve the highest productivity and zero hazards at the workplace.

4. We create a corporate culture that aligns with our ethical management policy and complies with regulations based on the principles of ethical management to become a business that fulfills its responsibility for customers, employees, subcontractors, shareholders, and society.

Affiliates with the occupational safety and health management certification

ISO 45001

Hansol Paper, Hansol Chemical, Hansol Technics, Hansol Logistics, Hansol PaperTech, Tapex
(Please refer to "affiliates with certifications" on p. 102.)

Sustainable Choices

Core issue

1

How can we reduce GHG emissions?

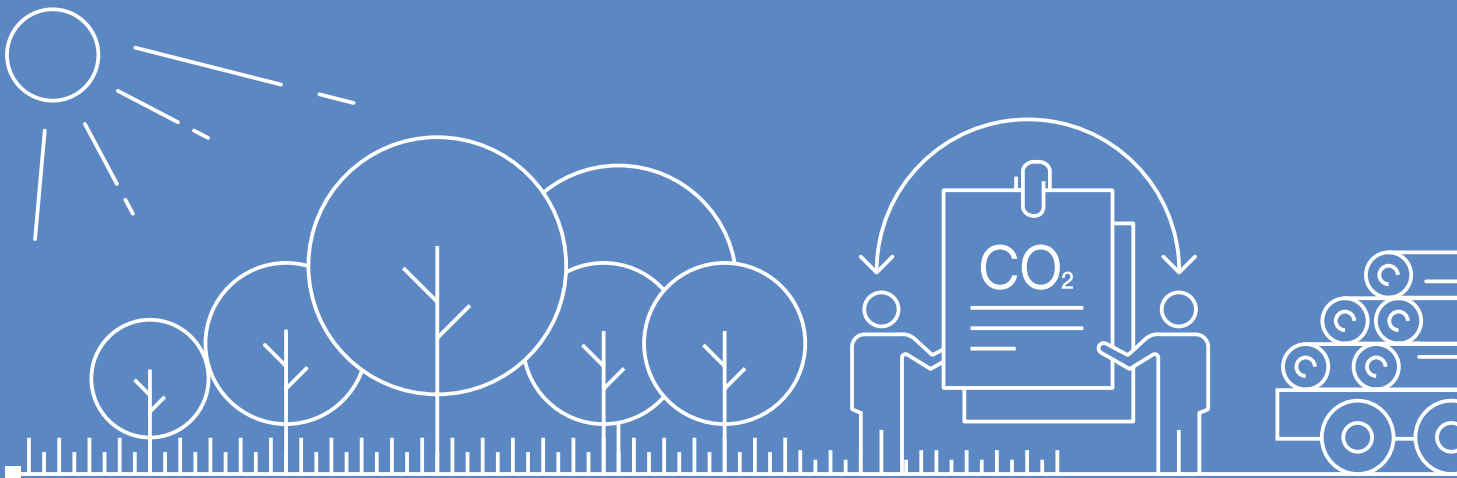
The transition to a carbon-neutral society is fully underway. The Korean government also raised its national GHG-emissions-reduction target from 26.3 percent to 40 percent compared to 2018 as part of its carbon neutrality policy enacted at the end of 2021. Accordingly, industries in relevant areas, such as solar power, wind power, hydrogen, and other renewable energy are booming and drastically changing the social infrastructure. At the same time, efforts to reduce carbon emissions in everyday life are more important than ever before. We conduct research to produce sustainable products that help customers reduce GHG emissions in daily life. We design products with eco-friendly methods in mind throughout the entire product lifecycle - from the selection of raw materials, to production, and to consumption.

In 1996, we planted trees on 10,000 hectares of land near the port of Gisborne, New Zealand. While the trees are growing, we receive carbon credits to sell in the carbon trading market in New Zealand. We harvest the wood to use as it as raw material and export surplus. The incinerated waste wood is used to generate steam energy. We use the energy to drive turbines to generate electricity. We then sell this electricity to Korea Southern Power, and supply the remaining wood flour to Hansol Paper. We generate revenue and renewable energy solely from trees.



Guk Gwang-hee

head of the financial team, Hansol HomeDeco



Our solutions

Zero-plastic campaign and alternatives

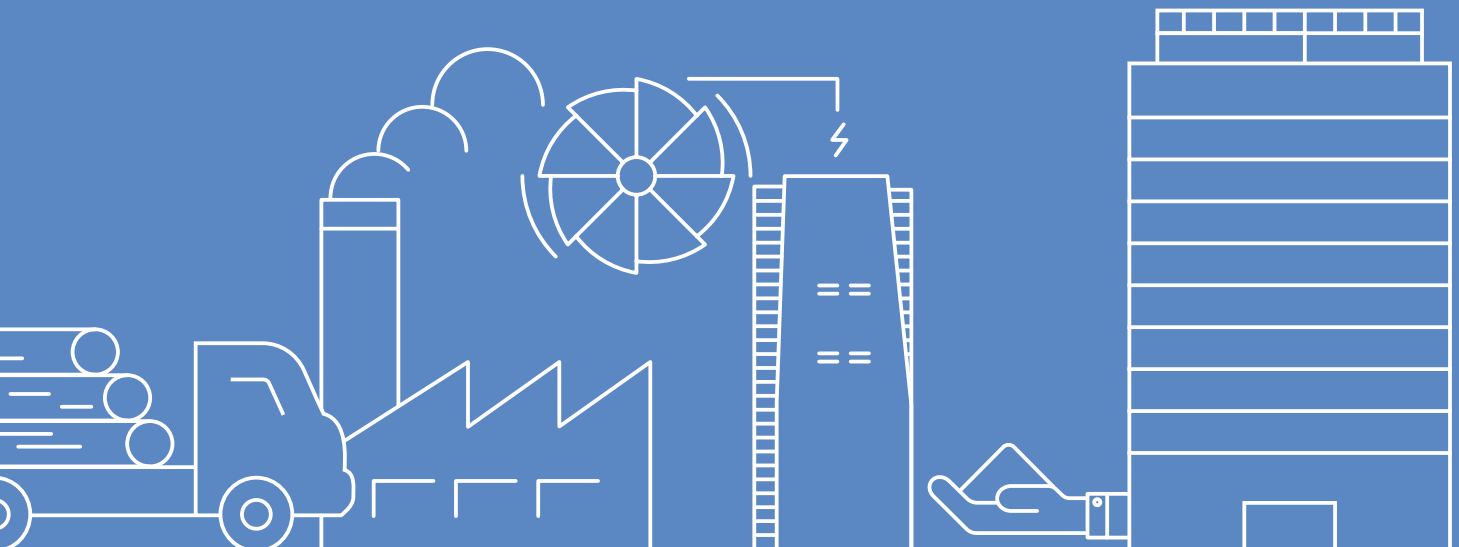
Tapex is increasing the production of alternatives to disposable products. The paper straws that replace plastic ones serve as an example. Tapex is now supplying paper straws to the popular café Starbucks and multi-use cups to Starbucks on Jeju Island and cafes in downtown Seoul to replace single-use cups since the second half of 2021. When the single-use cup deposit system introduced by the Ministry of environment takes effect in Dec. 2022, multi-use cups by Tapex will reach out to more consumers.

Carbon-credit trading

Hansol HomeDeco is reducing 149,000 tons of CO₂ annually through afforestation in New Zealand and generating revenue through carbon trading.

FSC and ISO 14001 certification

Hansol Group has affiliates with ISO 14001, an international environmental management system certification. Hansol Paper is expanding its FSC-certified product lineup and will continue to develop green products according to its environmental management policy.



Core issue

2

How can we make the best use of limited natural resources?

As climate change worsens, extreme weather events, such as heatwaves, droughts, and wildfires are occurring more frequently. A used product may become a resource or waste depending upon its recyclability. Hansol Group will do its best to recycle waste generated during the product production process and reuse it. Paper is a renewable, green material and corrugated cardboard sheets are made from recycled paper.

The Hansol Chemical Jeonju Plant adheres to emissions within 60 percent of the legal limit of emissions, and keeps emissions below 30 percent of the current emissions limit. It has enlarged a denitrification facility in the waste treatment plant in preparation for an increase in total nitrogen concentration due to the expansion of the NB latex process. Also, we have expanded the thin film and electronic materials businesses, which generate a large amount of waste that requires high treatment costs such as waste organic solvents, to recycle waste instead of incinerating at high temperatures to cut treatment costs and, at the same time, recycle over 80 percent of wastes.



Kim Seong-jin

section head of the environmental safety and health team, Hansol Chemical



Our solutions

R&D of an eco-friendly algae remover

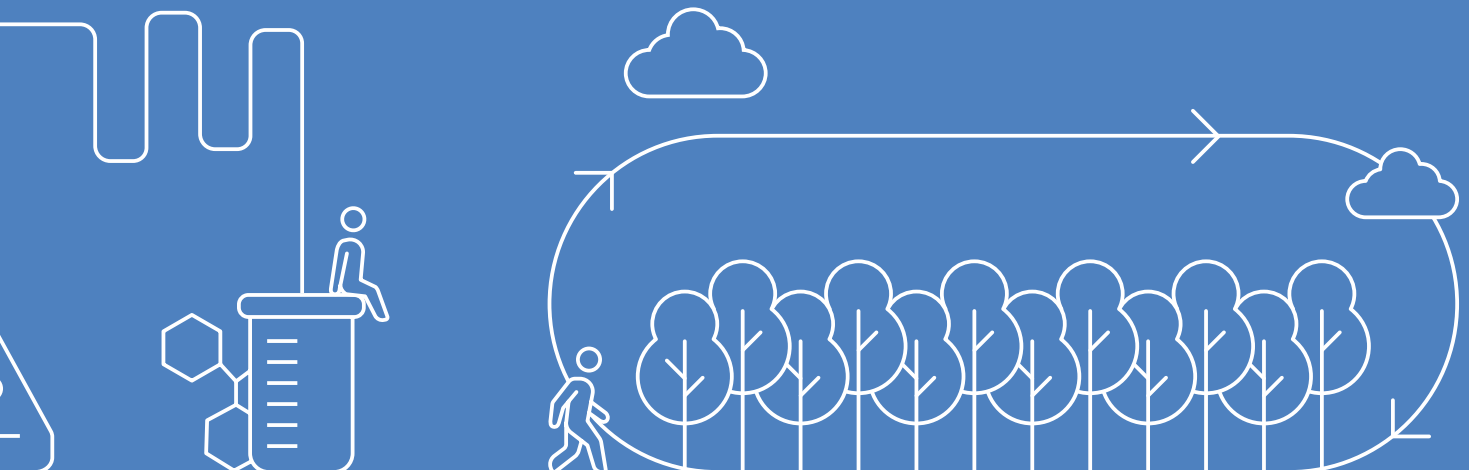
Hydrogen peroxide, one of the chemicals produced at the Hansol Chemical Jeonju Plant, is used to clean semiconductors and control PH. We are now conducting R&D activities to use hydrogen peroxide as a green algae remover. Currently, we are conducting on-site verification tests to obtain a permit.

Increase of sludge recycling

Hansol Papertech is recycling increasingly a large amount of sludge, the waste material it generates, as raw materials. We recycled 1,644 tons of sludge in 2019, and increased to 4,004 tons in 2020, and 5,070 tons in 2021. We plan to continue investing in upgrading sludge treatment facilities.

Increase of the use of recycled raw materials

Hansol HomeDeco is singled out as the top building-materials supplier that manufactures MDF using raw materials, 80 percent of which is recycled. We plan to manufacture MDF using recycled materials only by next year and plan to invest in creating facilities for that purpose.



Core issue

3

How can we achieve sustainable growth with subcontractors?

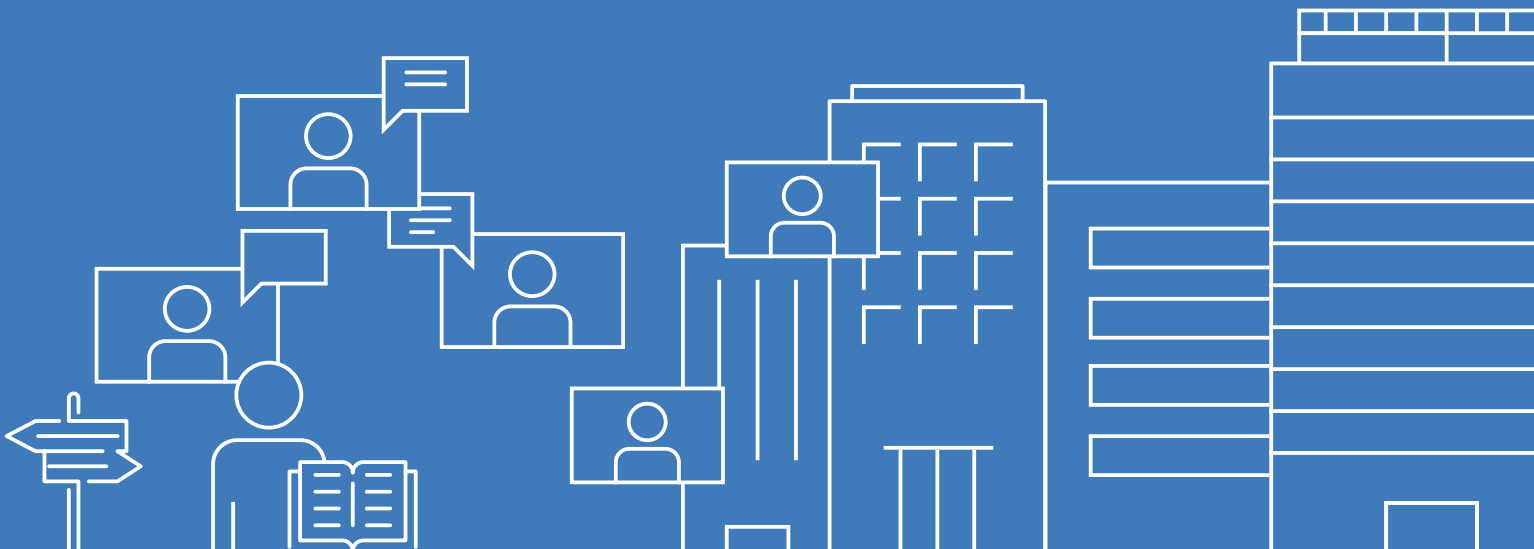
There is a saying, “If you want to walk fast, walk alone, but if you want to walk far, walk together.” Hansol Group is well aware of the importance of partnerships. As ESG integration is a national issue, we aim to pay more attention to SMEs than large businesses as they need more help. We have been running a mutual prosperity program to gradually increase the awareness of ESG and encourage occupational safety and health in the workplace.

We held the “Win-win Cooperation Day” meeting in a bid to share mutual prosperity policies with subcontractors and create a culture to support it. We announced the fair trade compliance declaration and introduced Hansol Technic’s goals and activities for mutual prosperity to 41 subcontractors. In addition, we shared the supply strategies we formulated in 2022 with subcontractors for solidarity and mutual prosperity.



Choi Jong-ik

head of the win-win cooperation team, Hansol Technics



Our solutions

Hansol Paper Win-win Council

In April 2013, Hansol Paper launched the Win-win Cooperation Council in a bid to achieve mutual prosperity with subcontractors by providing them with diverse support to help them sharpen their competitive edge and nurture talented professionals. Currently, over 40 subcontractors, which are related to sub-materials, packaging, and equipment, have joined the council. We operate a mutual growth fund to provide the subcontractors with below-market interest rate loans. We also provide cyber ESG training.

Guidelines for signing fair trade agreements

In 2019, Hansol Chemical established the “Four Guidelines for Fair Trade” for ESG integration into business and mutual prosperity with subcontractors. Among these, the Guidelines for signing desirable contracts for win-win cooperation between large and small businesses are aimed at establishing a reasonable and fair trade that guarantees the prevention of abuse of superior bargaining power, and self-determination through the faithful fulfillment of contracts in accordance with the relevant laws and regulations.

Promising startup discovery and nurturing project

Hansol V Frontiers is an open innovation program jointly operated by startup accelerator Bluepoint Partners and Hansol Group since 2020. As of June 2022, the enterprise value of the ten startup businesses that participated in the first and second phases averaged KRW 7.98 billion, an average increase of 9.7 times more than those before the participation of the program. The program has also attracted KRW 10.5 billion in investment.




Core issue

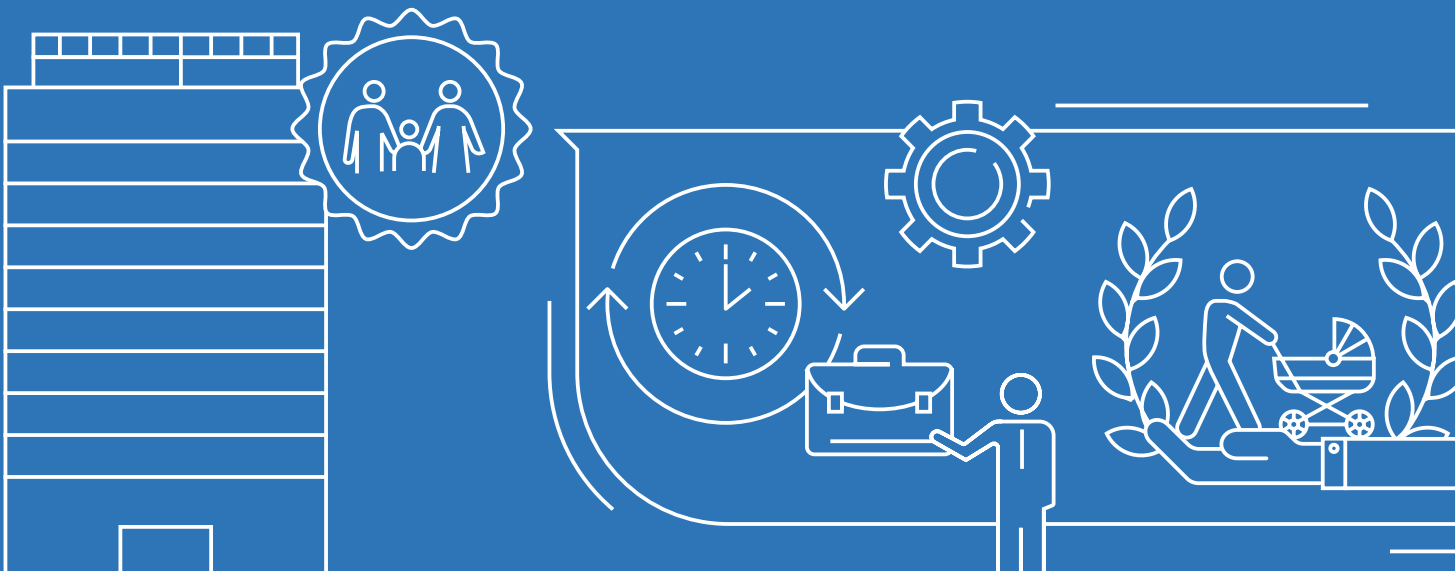
4

How can we create a workplace that keeps employees healthy and happy?

The increase of employee value and competitiveness, the driving force of corporate value, lies in a workplace that gives employees a sense of happiness. Hansol Group strives to create a workable corporate culture. Although male employees outnumber their female counterparts due to the nature of the industry, we have made a special effort to become a family-friendly company that provide customized capacity-building programs for all levels of employees and support a work-life balance for employees as part of the employee benefit program. We will continue working hard to achieve sustainable growth by becoming a workplace everyone dreams of.

Hansol Paper obtained certification as a family-friendly company in 2021. The family-friendly certification is awarded to an exemplary company supporting childbirth and childrearing, flexible working system, and family-friendly corporate culture through evaluation. It was quite challenging to obtain the certification as male employees account for more than 90 percent due to the nature of our business. However, we were chosen for the certification in recognition of our high ratio of employees who return after parental leave and flexible working hours, as well an excellent working environment, and management's determination to create a family-friendly corporate culture.

 Kim Gyeong-hwan
head of the HR team, Hansol Paper



Our solutions

Human rights in business and human rights education

In 2022, Hansol Group developed a human rights protection system for all employees. Driven by the move, Hansol Paper provided employee education on anti-corruption, privacy protection, and bullying in the workplace in a bid to raise employees' awareness of human rights.

Most respected company in Korea

In 2022, Hansol Paper was chosen as the No. 1 company in the paper sector for 19 consecutive years in the "Korea's Most Respected Companies" index, which is conducted by the Korea Management Association Consulting (KMAC) every year.

Businesses with best practices for learning at work

Learning at work is a field-oriented vocational training program modeled after vocational programs in Germany and Switzerland and redesigned to meet the local needs. The program allows businesses to provide employees with systematic vocational training based on the national competency standards (NCS). Hansol Technics teamed up with Korea Polytechnics to provide the quality control/electronic device hardware development. Eighteen employees completed the program, and six among them became field trainers. As a result, Hansol Technics received a plaque as a best practices honoree in recognition of its achievement.



Core issue

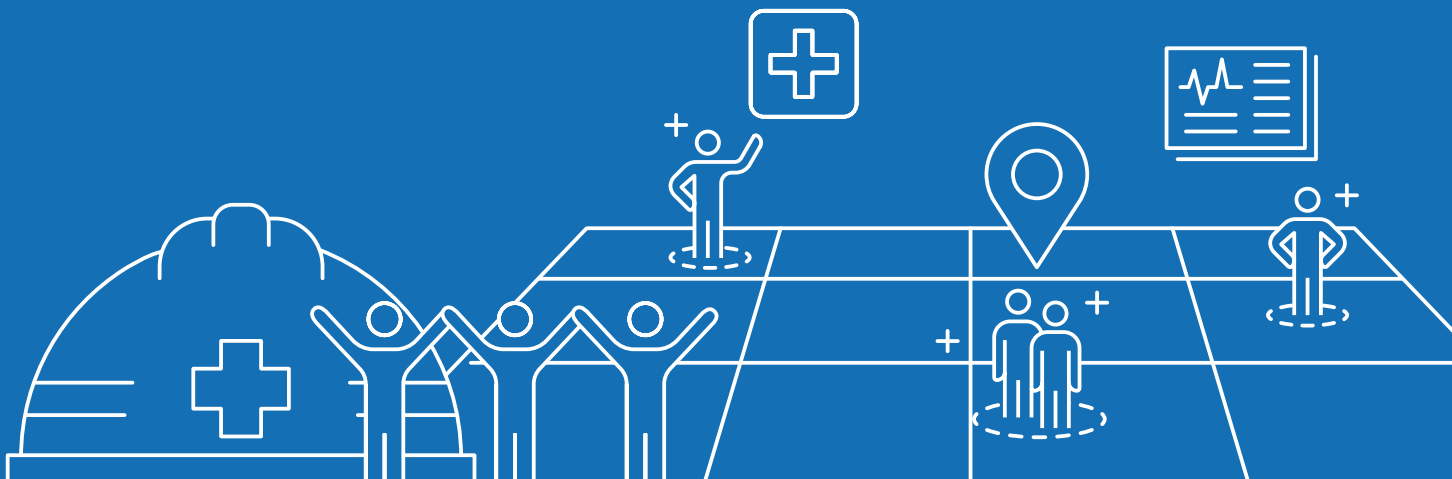
5

What is the risk management system that turns a risk into an opportunity?

The most important issues regarding governance in the manufacturing industry are hazard prevention, risk control, and management. Involuntary shutdowns lead to catastrophic sales losses. Also, an accident at the workplace is likely to become a serious social issue due in part to the nature of our industry. Hansol Group boasts a meticulous risk management system based on rigorous standards in all areas for safety. We have completed a hazard control and risk management system and appointed the head safety officer (CSO) to organize a safety management team, provide training on compliance with regulations and laws, and obtain certifications. At Hansol, we give the utmost priority to training individuals who are capable of recognizing risks. We encourage our employees to receive occupational safety training and obtain safety-related certification in order to improve their capacity to identify risks.

Hansol Logistics has expanded and reorganized its occupational safety and health-management body to comply with related laws and double down on the safety and health management system for employees and related workers. We assign a safety staffer to each workplace to reflect the uniqueness of each workplace into the safety management scheme, provide training and health checkups, conduct risk assessment and analysis, to reduce risks related to occupational safety and health as best as we can.

 Kim Do-won
head of the safety management team, Hansol Logistics



Our solutions

Five Safety Rules campaign

One of the important components of logistics involves the process of managing a variety of resources from large cargoes to small packages. Accordingly, it is essential to pay special attention to preventing accidents caused by negligence, and injuries that may occur in diverse work environments. We at Hansol Logistics are doing our best to create a safe work environment to ensure employees' safety by staging the following Five Safety Rules campaign in all business sites across the nation:

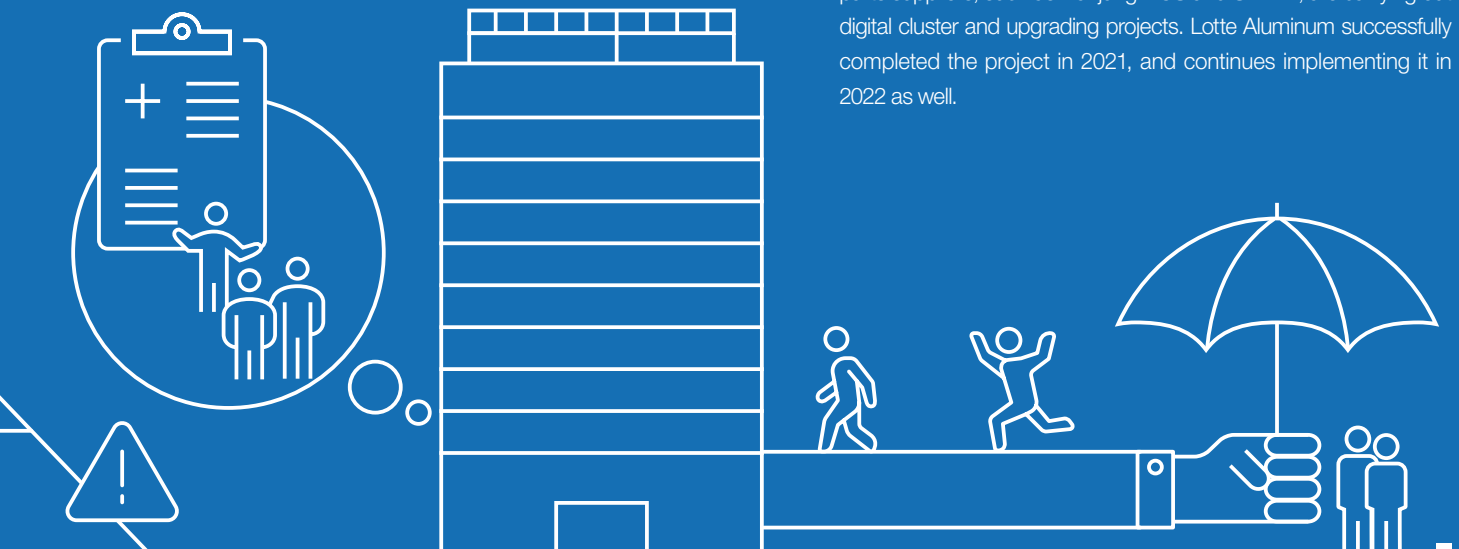
No smart-phone use while walking	No jay-walking	No smart-phone use while driving	Stay within speed limits at work	Wear a helmet while riding a bike
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Integrated safety management led by the CEO including supply chain

Since April 2022, Hansol Paper has been conducting the "safety management tour (SMT)" program for occupational disaster prevention under the leadership of the CEO and CSO and "care observe change (COC)" activity for all employees and subcontractors. In addition, we implemented an integrated safety management system in order to make sure that safety and health-related tasks are handled properly according to the procedures. We comply with the Serious Disaster Punishment Act and other relevant laws and carry out diverse activities to keep the workplace safe, making workplace safety second nature.

Smart factory, innovation in manufacturing

The Hansol PNS IT Service Division is innovating the manufacturing industry through Smart IN, a smart factory solution that combines AI to realize factory automation for smart manufacturing. Energy optimization solutions are applied to the majority of customers that undergo government-support upgrading projects. The seasoned auto parts suppliers, such as Hanjung NCS and SH-INT, are carrying out digital cluster and upgrading projects. Lotte Aluminum successfully completed the project in 2021, and continues implementing it in 2022 as well.



Hansol Sustainability Action

Hansol Group is innovating its business model by making the best of ESG values. We are involved in the business areas that are essential for the EV market, AI/cloud-based infrastructure, smart factory, in the fourth industrial revolution. We innovate for a better future.

- 38 Customer
 - Management for customer satisfaction
- 46 Environment
 - Scientific strategy to tackle climate change for the environment
- 54 Social
 - Mutual growth in a happy workplace
- 62 Governance
 - Transparent governance and shareholder rights



Consumer

Management for customer satisfaction

For the Sustainability

Hansol Group has grown consistently, improving its financial soundness for stability and discovering new growth engines. We have expanded our flagship business realm and pushed our limits to enter new businesses. We entered the interior design and pet industries, which have rapidly grown during the COVID-19 pandemic. The open innovation program “Hansol V Frontiers,” which is designed to nurture promising startups, has increased the corporate value of participating startups considerably, fulfilling our corporate social responsibility and establishing itself as an important platform. We have also completed roughly 57 percent of the IT system for the digital transformation of all affiliates and plan to complete it by the end of this year. In addition, we are making an effort to improve customer accessibility and, ultimately, customer delight, by opening Hansol Paper’s metaverse virtual showroom and developing green products and methods.

Hansol Group gives top priority to customers when developing new products with “We put customers first” as our business principle. We engage in a wide variety of business activities, ranging from raw material business, the foundation of the industry, to product production and service provision; and, in doing so, are well aware of the importance of “customer orientation.” We will provide the products and services that meet customer needs first and foremost and gain an unparalleled competitive advantage to create a sustainable future along with customers.

Key Sustainability Issues

Key Performance



1
Entry to new
businesses and
markets

The Average Corporate Value of the participants of the Hansol V Frontiers program

Increased **9.71**-fold in average

- Hansol HomeDeco entered the B2C market
- Hansol HomeDeco Vietnam branch enlarged its flooring plant
- Hansol Intcube took over a petfood startup
- Six affiliates of the group completed M&A
- Hansol Holdings introduced startup nurturing program



2
Digital
transformation
through smart
factory

Progress of Hansol Group's digital transformation

57% (to be completed in 2022)

- Hansol PNS acquired Coever I&T, an AI company
- Hansol PNS launched smart factory Solution Smart IN
- Smart factory applied to Hangol Group affiliates



3
Customer-friendly
management
& customer
satisfaction

Six affiliates with international certification

ISO 9001 Hansol Paper, Hansol Technics, Hansol Logistics,
Hansol HomeDeco, Hansol Chemical, Tapex
(Please refer to p.102.)

- Hansol Paper metaverse virtual showroom
- Green products, including Duracle (nanocellulose), Protego (packaging), Terravas (food container), developed by Hansol Paper

1. Entry into new businesses and markets

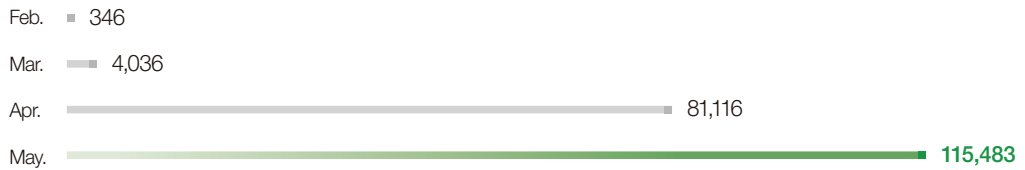
**Korea's first to launch online interior design platform VHOM
Hansol HomeDeco**

As Coronavirus has changed the way we work and more and more people are working from home, the interior design market in Korea has grown to reach KRW 41 trillion in 2020. VHOM is Korea's first online interior design platform that allows consumers interested in remodeling their homes to choose the interior design items and style they like, and get final quotations within just three minutes. It provides the best possible services to those who want to purchase home interior design-related items, such as accessories, furniture, etc., without having to visit bricks-and-mortar stores. Over 200,000 people used the service within four months since its launch. We introduced a mobile version of the platform as well in June 2022.

Hansol HomeDeco has developed "Pet Maru (flooring)" for pet animals and their owners. Hansol Pet Maru is a non-slip flooring product designed to prevent patella dislocation in companion animals. It is a highly functional product that is easy to clean and repair, and green-certified and comes in diverse designs. Especially, it has been verified by the Korea Air Cleaning Association as effective for preventing respiratory and skin diseases in animals and humans and obtained green building material certification. It has also been verified as anti-bacterial and anti-fungal by the Korea Testing and Research Institute.

No. of VHOM users per month

(Unit: people)



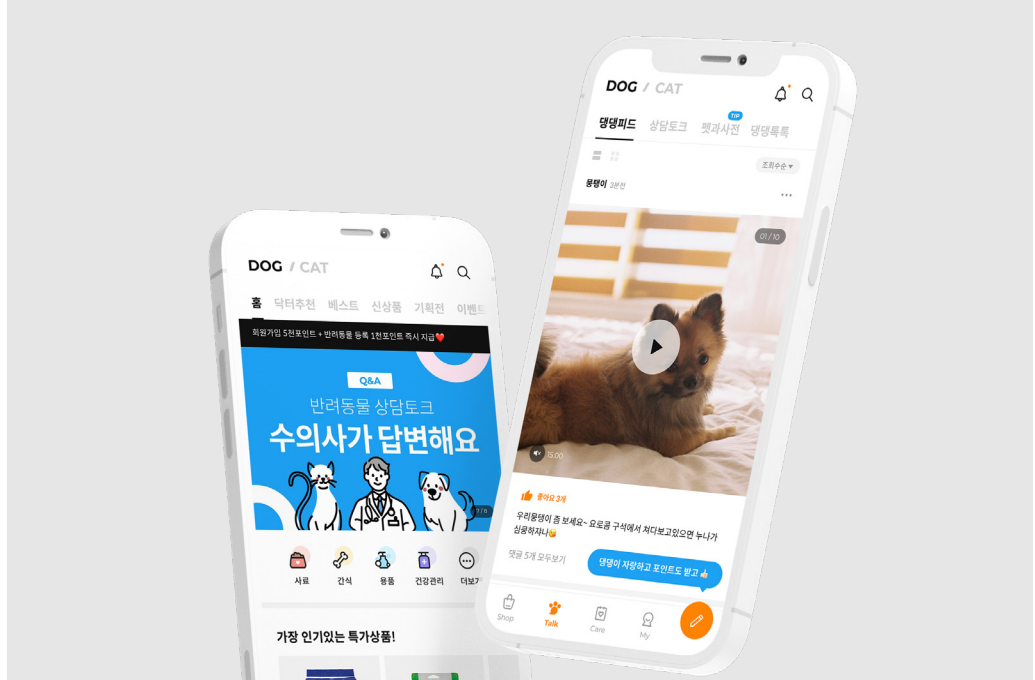
(*as of May 2022)



Taking over a petfood startup and building comprehensive pet-care platform

Hansol Inticube

Hansol Inticube, an IT service provider, is searching for new growth engines in the pet supplies industry, which has grown to reach KRW 3 trillion in 2020. In Aug. 2021, we acquired the shares of Stickus Corporation, which owns the petfood brand "Dr. Mamma" and pet supplies "Dr. Labo," among others. Hansol Stickus produces customized pet food based on veterinary clinical nutrition and medical data of pet animals under the leadership of the CEO, a former veterinarian. It manufactures customized treats, nutritional supplements, and skincare and oral care products, expanding its business to include the entire pet-care area In the first half of 2022, we launched the application Pediz, a mobile platform for total life care for pet animals, by incorporating Hansol Inticube's expertise in IT. Pediz, which means "Pet is," consisting of three sectors, including commerce, community, and care. Its premium wet food products obtained the HACCP certification, gaining increased customer trust.



External business expansion to include semiconductor equipment parts

Hansol Technics

Hansol Technics took over IONES, which specializes in manufacturing semiconductor equipment parts and providing cleaning and coating services. Since then, we have been expanding our business realm to add the semiconductor equipment parts sector to our flagship areas, manufacturing of power board/solar module and LCD. IONES consists of the precision-processing business that manufactures core parts for the entire semiconductor processing equipment, such as shower heads and chambers, and the cleaning and coating business that eliminates pollutants and particles in semiconductor equipment. Hansol Technics has succeeded in diversifying its customer base by acquiring IONES, and expanding its business area to include the production of the semiconductor equipment parts lineups.

Corporate M&A for new businesses in the future

With the business environment rapidly changing, it is important for all businesses to gain insights into the future and find new opportunities for growth. Hansol Group acquired six businesses in the future growth sector, including smart factory and pet industry, from 2021 to June 2022. We expect that these businesses will serve as the driving force behind the sustainable growth of Hansol and increase our corporate value.

Acquisition date	Affiliate	Acquired firm	Business areas	Expected growth	ESG performance
	Hansol Logistics	Eastern Logistics (renamed Logismile)	Comprehensive inland cargo transportation service provider	Increase of corporate value through logistics capacity	Maximization of value chain synergy through a stable logistics network
Aug. 2021	Hansol Inticube	Stickus (renamed Hansol Stickus)	Prescription and non-prescription pet food	Entry to the pet healthcare market, becoming a comprehensive pet healthcare service provider	Protection of animal rights and respect for life and its value
	Hansol PNS IT service Division	Coever I&T (renamed Hansol Coever)	Smart factory business related to AI, machine learning, IoT technology	Smart factory capacity building	GHG-emissions reduction through energy optimization
Oct. 2021	Hansol PNS paper distribution sector	Zizle (renamed Hansol BS)	Cardboard box manufacturer and supplier	Entry to the packaging industry and Korea's only corrugated cardboard boxes	Development of eco-friendly packaging materials
Jan. 2022	Hansol Technics	IONES	Manufacturer of semiconductor parts and cleaning and coating equipment parts	Entry to the semiconductor industry and business expansion into the semiconductor materials, parts, and equipment sectors	Competitive advantage in the core semiconductor industry on the world stage
	Hansol Paper	Sungwoo Envi Tech	Development and manufacture of food packaging	Business expansion through entry to the green food packaging market	Reduction of plastic consumption

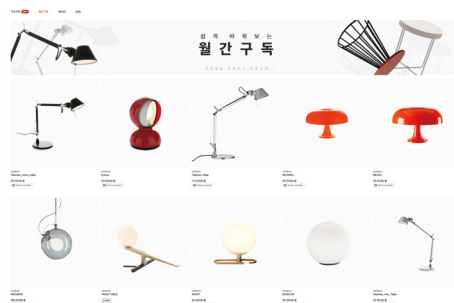


Stationery for young children by Zizle ANBOX renamed Hansol BS

Hansol V Frontiers, a new growth engine for mutual prosperity with startups

Hansol Holdings

Hansol V Frontiers is an open innovation program operated by accelerator Blue Point Partners and Hansol Group since 2020. Open innovation refers to the innovative strategy that allows businesses to outsource technology, ideas, and services to create value. Hansol V Frontiers is Hansol Holdings' ESG commitment as a part of Hansol Holdings' corporate responsibility activities with the aim of contributing to creating a robust industrial ecosystem by supporting promising startups. The corporate value of the startups that participate in the program has increased by an average of 9.71 times compared to before the participation in the program. Also, the program attracted follow-up investments worth KRW 10.5 billion.



"2HAELIFESTYLE" with the online furniture subscription service "Megong"



Paper Pop, an eco-friendly paper furniture manufacturing startup, with sales increasing three-fold.

2. Digital transformation through smart factory

Digital transformation through smart factory

Hansol PNS

In the second half of 2021, the Hansol PNS IT Service Division launched the smart factory solution Smart IN by combining its over 20-year experience in IT outsourcing and its know-how in maintaining and revising the enterprise resource planning (ERP) programs of large and experienced businesses. In Aug. 2021, we took over Coever I&T, which specializes in AI, machine learning, and IoT, to expand our presence in the platform area. Smart IN provides AI-based solutions to optimizing energy consumption in the plants and integrated occupational safety solutions. We plan to complete the application of the smart factory safety management solutions to all affiliates within this year. As of June 2022, 57 percent of the project has been completed.



3. Customer-friendly management & customer satisfaction

Hands-on experience of green-brand products in the metaverse virtual showroom

Hansol Paper

Hansol Paper opened a virtual showroom in metaverse to communicate with customers and introduce products as an alternative to face-to-face events during the pandemic. The showroom features various eco-friendly products we have developed with climate change and environmental pollution in mind, such as Protego, green paper packaging material, Terravas, green food containers, and Duracle, a biodegradable material, to name only a few. The Hansol Paper metaverse virtual showroom consists of five menus, including “lobby,” “exhibition,” “conference hall,” “meeting room,” and “inquiries.” Here, visitors can enjoy vivid hands-on experience of the products and get a glimpse of the entire production process. It is equipped with a multilingual mode for foreign buyers and global consumers and the capacity to ask a relevant staffer questions, and allowing visitors to have on-site business meetings.



Hansol Paper virtual showroom (www.hansol exhibition.com)

Developing green products using nanocellulose

Hansol Paper

Nanocellulose is an eco-friendly polymer material that is as small as one-billionth of cellulose, the main component of plant cell walls. It weighs one-fifth of the weight of iron, but it is five-times stronger. It has a three-dimensional network structure equipped with dispersion and thermal stability, viscosity control, and hydrophilicity. In 2018, Hansol Paper launched the nanocellulose material brand “Duracle,” the first of its kind in Korea, as a result of rigorous R&D activities to develop alternatives to petrochemical materials in various fields. Duracle is versatile enough to be applied to virtually all industrial sectors, including paints, cosmetics, urethane, rubber, electronics, IT equipment, and automobiles. Moreover, it is a hydrophilic and biodegradable, eco-friendly material ideal for sustainability. The industry forecasts that the global nanocellulose market will grow 19 percent on average annually from 2020 to 2030.

Quality-management system for customer satisfaction

Hansol Paper, Hansol Technics, Hansol Logistics, Hansol HomeDeco, Hansol Chemical, Tapex

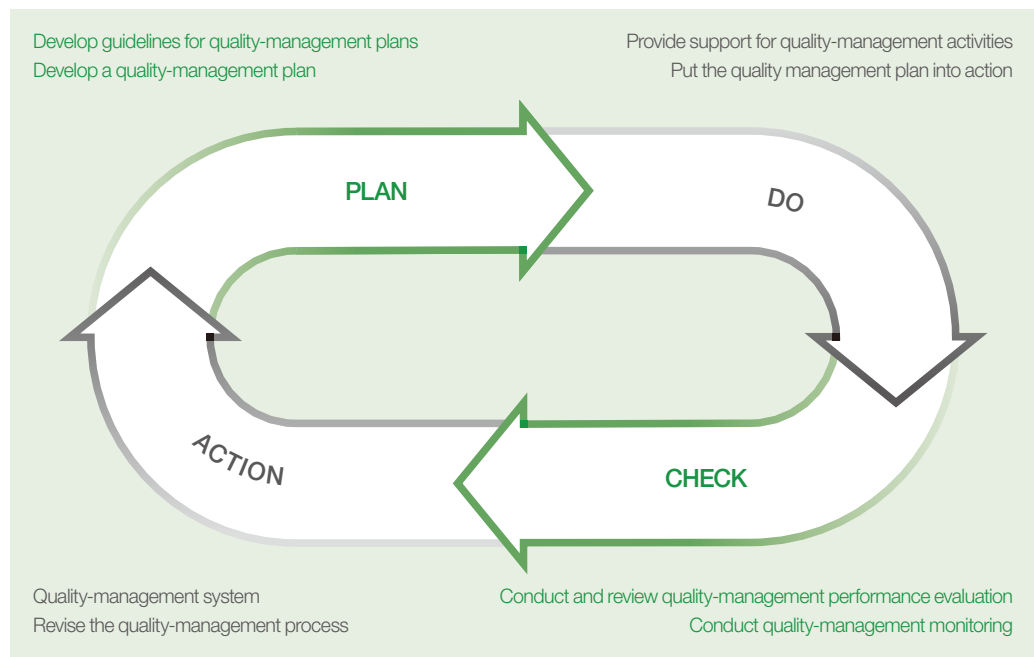
Hansol Group takes special attention to quality management by establishing a quality-management system to enhance customer trust and satisfaction with the stable production of world-class products. Hansol Inticube manages internal and external quality risks to maintain quality at each production stage by applying the IT service management (ITSM) process for the quality improvement of the CRM solution division.

Hansol Technics is focusing on quality management at all stages from raw material management to final product shipment. It also strives to manage quality in the supply chain by supporting subcontractors to double down on quality control through technical cooperation. Hansol Paper, which took over the Hansol EME's plant business, also conducts quality and safety evaluations on a regular basis twice a year and whenever necessary in the seven plants in Korea and four plants overseas. Hansol Paper, Hansol Technics, Hansol Logistics, Hansol HomeDeco, Hansol Chemical, and Tapex have obtained ISO 9001 certification, the international standard for quality-management systems.

Hansol Group affiliates with quality-management certification

Affiliates	Category	Certification
Hansol Paper	Quality-management system	ISO 9001 : 2015
Hansol Technics	Quality-management system	ISO 9001 : 2015
	Automobile quality-management system	IATF 16949 : 2016
Hansol Logistics	Quality-management system	ISO 9001 : 2015
Hansol HomeDeco	Quality-management system	ISO 9001 : 2015
Hansol Chemical	Quality-management system	ISO 9001 : 2015
	Automobile quality-management system	IATF 16949 : 2016
Tapex	Quality-management system	ISO 9001 : 2015
	Automobile quality-management system	IATF 16949 : 2016

Quality-management PDCA Cycle



Environment

Scientific environmental-protection strategy to address climate change

For the Sustainability

Hansol Group has seized new business opportunities while responding to climate-change risks through transitioning to renewable energy and the practice of zero plastics. Hansol Group affiliates, including Hansol Paper, are developing environmentally friendly products in a wide range of categories. In the case of Hansol Paper and Hansol HomeDeco, for instance, green products not only account for the majority of their product lines but the green products are also their flagship products, driving growth. Hansol PNS, Tapex, Hansol Chemical, and Hansol Technics are also stepping up to develop products targeting the green market. These affiliates are also making a concerted effort to reduce GHG-emissions and reduce energy consumption. They have consistently upgraded their strategies to manage environmental pollutants and waste and diversifying their efforts to join global initiatives and practice green management.

Paper, wood, and chemical industries are resource-intensive and therefore have serious impacts on climate change. Industries around the world, including Korea, are increasingly taking responsibility to address climate change. Consumption trends led by the millennials and Generation Z these days are environmentally conscious. Consequently, it is important for businesses to build sustainable business models. Also, the environment-related markets are growing significantly every year. The products that have undergone the process of reducing GHG emissions and energy consumption in every stage from raw material procurement to use of recycling materials to production will draw more attention and businesses will have more opportunities in the market. In this respect, scientific strategies are essential for responding to climate change for the environment.

Key Sustainability Issues

Key Performance



1 Green products and certifications

Green products among the total sales of Hansol Paper products

68.1%

- Hansol Paper's sales of green-certified products in 2021: KRW1.09 trillion
- Hansol HomeDeco ranked first in wood recycling in Korea
- Hansol BS develops green products, including tapeless cardboard boxes, green paper packaging
- Hansol Chemical in the process of developing a green algae remover and green-recycling technology for waste secondary batteries
- Tapex supplying paper straws and multi-use cups



2 GHG emissions reduction and energy conservation

Afforestation in New Zealand by Hansol HomeDeco

10,000

ha in size

- Scope 1&2 GHG emissions disclosed by Hansol Paper
- New Zealand emissions trading scheme by Hansol HomeDeco
- Introduction of electric forklifts by Hansol Logistics
- CoEMS, smart plant energy management system sold by Hansol PNS IT Service Division



3 Environmental pollutants and waste management

Waste recycling by Hansol Chemical Jeonju Plant

80%

- Over 700,000 tons of waste paper recycled annually by Hansol Paper
- Hansol EME, an eco-friendly plant business, acquired by Hansol Paper
- Waste water treatment denitrification facility enlarged by Hansol Chemical



4 Global initiatives & green management

Two-year green bonds issued by Hansol Paper

KRW 30

billion

- Compliance with TCFD recommendations by Hansol Paper
- Green bonds issued by Hansol Paper
- ISO 14001, international environmental management system certification, obtained by affiliates

1. Green products and certifications

Replacing single-use items with eco-friendly products

Hansol Paper

Hansol Paper's eco-friendly products, such as "Protego," a paper-packaging material brand, "Terravas," an eco-friendly food container brand, and "Duracle," a biodegradable material brand — are becoming increasingly popular amid the social consensus about eliminating single-use items and plastics. Terravas, PE-free eco-friendly food storage containers made from paper, is used by popular coffee brands in Korea, such as Ediya and Paul Basset, and foodstuffs shopping mall Baemin Sanghoe, and meal kit delivery service provider MYCHEF.

In Feb. 2022, we launched wet baby wipes, a B2C product. The wet baby wipes are made exclusively from natural pulp and plant-derived rayon fabric that does not release microplastics, which cause serious problems in the marine environment while floating in the sea. In addition, Yuhan-Kimberly's Kleenex KF94 Comfort Fit Face Mask uses Protego products, contributing to reducing plastics consumption.

Green-certified products by Hansol Paper

Classification	Plant location	Paper type	Product name
FSC	Daejeon plant	Industrial paper product	Inspere CCPn, Hi-Q AB Plus, Hi-Q IV, Hi-Q FSB, Hi-Q ACB, Hi-Q SC, etc.
	Janghang plant	Paper for printing	Ensemble E Class, Briller, Cloud, colored wood free paper, new wood free paper, Hi Plus, premium paper for textbooks, fine coated paper, Hi-Q Duomatt, Hi-Q Millenium Art, etc.
		Thermal paper	Green HS, Green AFH, CL, SL, HL, PF, EQ, Green, etc.
	Shintanjin plant	Printing	Campus paper (S), New Classic, New Wood Free Paper, New Plus, Green Textbook Paper, Premium Textbook Paper, Hi-Q Matt Premium, Hi-Q Mystic, Hi-Q Semi-kraft, Hi-Q Duomatt, Hi-Q Millenium Art, etc.
		Thermal paper	Green HS, Green AFH, SL, EL Slim, EL, HB, Green, etc.
	Cheonan plant	Specialty paper	Rough Gloss, all types of fancy paper, Hi-Q release liner, Hi-Q glassine label liner, etc.
		Thermal paper	Green, Green HS, PF, Plus, Green Plus, Pro, etc.
	UL ECV 2485	Cheonan plant	Protego, Terravas
	Eco-label Certified products	Janghang plant	New Wood Free Blue, New Plus Blue, Fine Coated Blue (w)
		Cheonan plant	Inspere Signature Eco, Inspere Aloe, Inspere Eco, AHC Willow

Sales of Hansol Paper green products

Classification	Unit	2018	2019	2020	2021
Sales of green products	KRW 10 million	83,059	95,232	98,556	110,926
Total sales (Standalone basis)	KRW 10 million	173,895	164,002	148,285	162,779
Ratio	%	47.8	58.1	66.5	68.1

※ Green certification: FSC, green (Eco-label) certification, etc.

Sales of green products by each affiliate

Affiliate	Green-certified products based on 2022	Sales during the past two years
Tapex	1 (Hanji oil absorbing paper_Eco-label)	KRW 200 million in 2020 KRW 200 million in 2021
Hansol HomeDeco	Three products, including MDF 30 type, 35 type, flooring products (20 models)	KRW 83 billion in 2020 KRW 79.3 billion in 2021
Hansol PaperTech	Eleven products among types of scratch paper, corrugated carboard sheets including outer layers and flutes	KRW 81.4 billion in 2020 KRW 101.4 billion in 2021
	The total number of carbon-certified models: 129	
Hansol Technics	Grade 1: 28 Grade 2: 16 Grade 3: 85	KRW 129.6 billion in 2020 KRW 142.9 billion in 2021

Supplying paper straws to cafes and multi-use cups to Seoul City Hall**Tapex**

Seoul City carried out the “multi-use cup” program for three months from Dec. 2021 on a trial basis. After that, Seoul City finalized its plan to use multi-use cups in 13 areas (roughly 130 stores) with Tapex as a major supplier of multi-use cups. Also, Tapex is supplying paper straws to large retail stores as an OEM since 2019; and multi-use cups and paper straws to Starbucks as well since 2021.

Top in the wood industry in MDF production using recycled materials**Hansol HomeDeco**

Hansol HomeDeco is manufacturing MDF using 80 percent recycled materials, including 55 percent recycled wood from construction and industrial sites and 25 percent wood by-products. The price of recycled wood is half the stumpage price, which means that the higher the recycling rate, the higher the cost competitiveness. Our recycling rates are among the highest in the wood industry, at home and abroad. We rarely use fallen trees although we deal with wood. We plan to use recycled materials only by the next year.

Developing eco-friendly tapeless packaging**Hansol PNS**

Hansol PNS recently acquired Hansol BS, which specializes in manufacturing green packaging. Hansol BS has consistently been introducing new products, such as tapeless boxes, dust-tight paper packaging, ANBOX art-board series that combines art and play, and other green products that are popular overseas as well. In Korea, customers of Hansol BS include SK Hynix, CJ E&M, KT, Market Kurly, Samsung Life, Lotte Home Shopping, Doosan, Microsoft, 3M, SSG, Kumho Tire, and Kolon, to name just a few.

**2. GHG-
emissions
reduction
and energy
conservation**

Disclosure of Scope 1&2 GHG emissions

Hansol Group

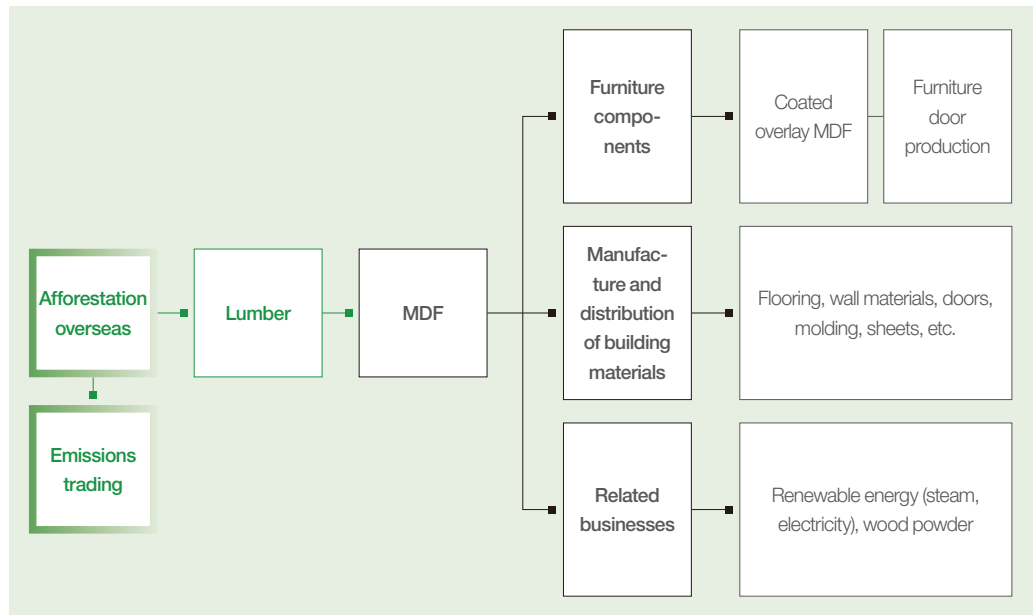
In an effort to minimize risks related to climate change and information disclosure, Hansol Paper sets its Scope 1 and 2 GHG emissions and discloses it through the publication of a sustainability management report. We also disclose climate related information in accordance with TCFD recommendations and are constructing an information disclosure and data management system.

New Zealand afforestation project and carbon credit project

Hansol HomeDeco

Hansol HomeDeco is reducing 149,000 tons of CO₂ per year through afforestation in New Zealand and, in doing so, engaging in carbon-credit trading. As it is critical to secure raw materials and address climate change through afforestation overseas now, we have created the best possible added value by generating profit from timber and trading carbon credits, on the one hand, and completing the timber business value chain, on the other.

Timber business value chain



Renewable energy business using wood waste

Hansol HomeDeco

Hansol HomeDeco is preemptively responding to fossil fuel depletion and environmental issues by utilizing renewable energy that has been converted from waste wood and wood by-products to energy. The Hansol HomeDeco Iksan Plant plans to reduce GHG emissions by achieving zero fossil fuels. The plant is turning it into a renewable energy business, effectively using wood resources through the recycling of lignocellulosic biomass and obtaining the Renewable Energy Certificate (REC).

Increasing use of electric forklifts

Hansol Logistics

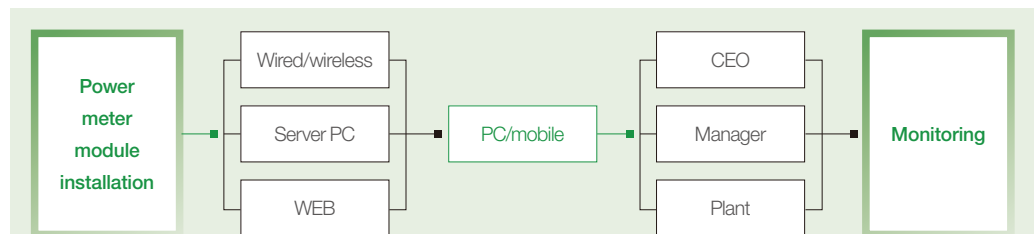
In order to reduce air pollutants and carbon emissions from energy (diesel) use in logistics operation bases across the nation, we are increasing the use of electric forklifts and managing logistics more efficiently, striving to reduce unnecessary traffic as best we can.

Smart plant energy management system CoEMS

Hansol PNS

The Coever Energy-Management System (CoEMS), a smart energy management solution, is a flagship product of the Hansol PNS IT Service Division. It is a plant-centered energy-management system designed to reduce GHG emissions and energy consumption through efficient energy management and distribution. Moreover, it naturally provides customers with ESG education through product management. Currently, Hansol Group is applying the system to each affiliate, expecting that the system will create synergy in the future.

CoEMS (Coever Energy Management System)



A system designed to analyze energy consumption and capacity of a plant facility by collecting data on energy during the production process and minimize energy consumption by improving plant operation methods and replacing facilities.

Real-time energy monitoring	Energy consumption analysis	Automated energy reading for each facility	Analysis of equipment operation trends	Forecast of energy demand
Capacity to promptly respond to abnormalities through the monitoring of energy consumption and GHG emissions of the plant as a whole using the measuring device.	Discovery of room for improvement and analysis of problems through diversified analysis of energy consumption and production	Effective management through automated remote meter reading system and detailed tracking and analysis of each facility/process	Suggestion of effective operation methods, extension of the lifespan of equipment and cost reduction	Estimation of energy consumption and production based on comprehensive information including measured value of all facilities and sensors, changes in the data environment in the past, etc.

3. Management of environmental pollutants and waste

Expansion of wastewater treatment plant denitrification and 80 percent waste recycling

Hansol Chemical

The Hansol Chemical Jeonju Plant is eco-friendly as it strives to keep emissions within 60 percent of the legal standards and is now managing emissions at a level less than 30 percent of the emissions standards. Recently, it has expanded the denitrification facility within the waste-treatment plant in preparation for an increase in total nitrogen concentration due to the expansion of the NB latex process. The expansion of the thin film and electronic materials business generates a large amount of waste, such as waste organic solvents, which requires costly treatment. In order to solve the problem, we recycle waste instead of incinerating it at high temperatures, cutting treatment cost and, at the same time, recycling over 80 percent of waste generated from the plant.

Investment in resource-recycling environment facilities

Hansol Paper

Hansol Paper has been consistently investing in environmental facilities for resource circulation. For instance, we injected KRW 5.6 billion in 2020 and KRW 6 billion in 2021 into environment-related facilities, reducing environmental pollutants, including GHG, that cause air- and water-contamination. We not only reduce pollutants, but also increase the use of recycled raw materials and waste consistently for the green production process and the production of recyclable products.

Acquisition of Hansol EME, a green plant business

Hansol Paper

Hansol EME, which was merged with Hansol Paper in April 2022, is engaged in environmental businesses, including environmental-plant construction and operation, and paper plant construction, operation, and maintenance businesses. Recently, Hansol Paper has expanded its business realm to new markets, including power plant, including waste and sewage sludge incineration plant and waste heat recovery system, water treatment plant, and other environment-related businesses based on its paper plant. Driven by this merger, we will make a more aggressive foray into the eco-friendly management business based on technological prowess in incineration and wastewater-treatment plant construction and operation.

4.Global initiatives & green management

Compliance with TCFD recommendations

Hansol Paper

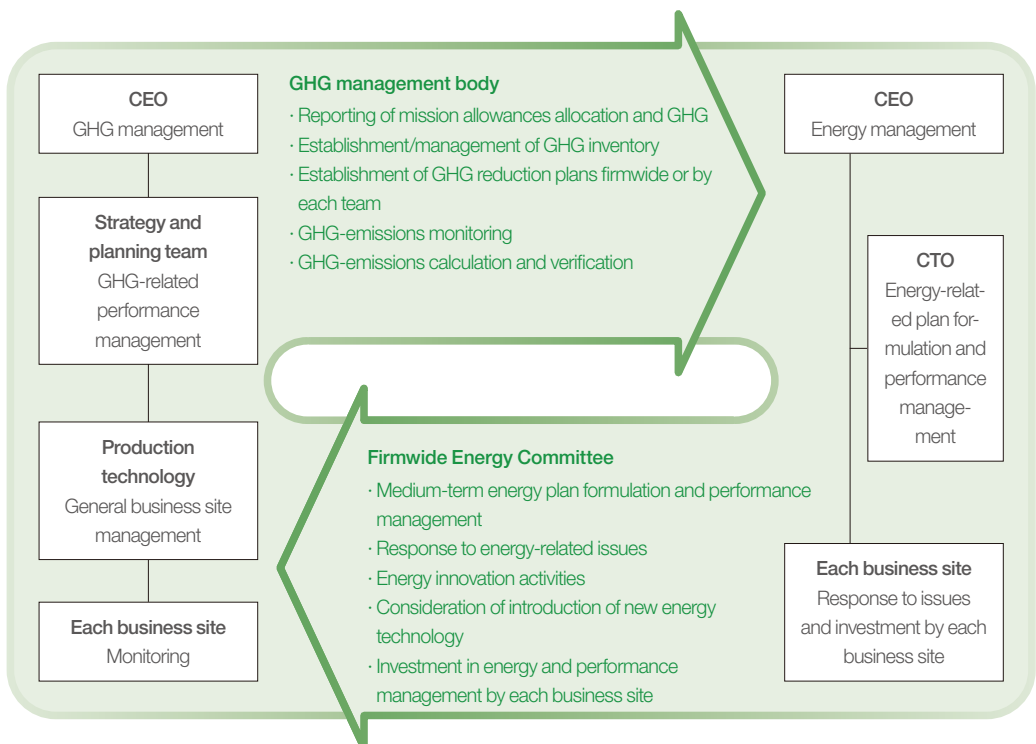
Task Force on Climate-related Financial Disclosures (TCFD) is an organization established by the International Financial Stability Board (FSB). It presents TCFD recommendations, the standards for disclosing governance, strategy, risk management, indicators and goals to address climate change. Hansol Paper discloses climate-change information in accordance with the TCFD recommendations to upgrade its climate-change response system. In addition, we are preparing measures to respond to climate change by identifying risks and opportunities arising from climate change and comprehensively analyzing the impact on the direction of our business and financial plans. Especially, we identify changes in eco-friendly business models as important opportunities for sustainable growth.

Green bonds issuance for aggressive ESG integration

Hansol Paper

Hansol Paper issued ESG bonds in April 2022 for the first time. Out of KRW 100 billion bonds, including two-year bonds worth KRW 30 billion and three-year bonds worth KRW 70 billion, ESG bond issuance totaled KRW 30 billion with two-year maturity. The KRW 30 billion for ESG bond issuance includes KRW 19.6 billion for investment in the energy-efficient steam sector, KRW 5.8 billion in the energy-efficient electricity sector, and KRW 4.6 billion in the water-related sector that were issued for green projects during the period from 2018 to 2020. It corresponds with “2. Energy efficiency program” and “4. Sustainable water resources and waste water management program” suggested in guidelines for green bond issuance enacted by the Financial Services Commission and Ministry of Environment.

Green management body of Hansol Paper



Social

Mutual growth in
a happy workplace

For the Sustainability

Employees are the driving force and core asset that leads the company. Hansol Group has established a business system that incorporates human rights with “The foundation of a business is its people” as its philosophy. Hansol has given the highest priority to occupational safety and health since its founding. Hansol Paper, Hansol Chemical, Hansol Logistics, Hansol PaperTech, Hansol Technics, and Tapex, among other affiliates, have obtained ISO 45001, an occupational health and management certification. Also, Hansol Chemical, followed by Hansol Paper and Tapex, have been named family-friendly businesses. We at Hansol have provided ESG commitment education to our subcontractors in the global supply chain, where there is an urgent need for ESG integration.

The demand for human rights protection and respect in business is growing around the world. Compliance with human rights principles, ban on child labor, and human rights protection for the socially disadvantaged were emphasized mainly by multinational businesses in the past. However, they have now become the values shared by businesses around the world and to be upheld. In order to maintain a competitive advantage in the global market, businesses should join the effort to integrate human rights into business and make human rights protection second nature. In addition, a safe and healthy work environment is the most important for employees working in the industrial field that is fraught with diverse risks. The creation of a safe and healthy work environment is important for subcontractors as well. The implementation of ESG practices is vital for subcontractors to gain a competitive edge and maintain sustainability.

Key Sustainability Issues



1 Growth with employees



2 Subcontractors' growth and improvement of competitiveness



3 Local community communication and engagement

Key Performance

Affiliates with ISO 45001

10

 affiliates

- Incorporation of human rights into business announced by Hansol Holdings
- ISO 45001, safety and health management certification, obtained by 10 business sites of 6 affiliates
- Hansol Paper, Hansol Chemical, Tapex certified as family-friendly businesses
- Hansol Technics chosen as a business with best practice for learning at work

Subcontractors participating in Hansol Technics ESG training

41

 subcontractors

- Support for subcontractors' environmental management system and mutual growth programs by Hansol Paper
- Sustainability management evaluation of subcontractors by Hansol Paper
- Hansol Technics' support for subcontractors' ESG training
- An award given to Hansol Technics by Mutual Growth Committee
- An award given to Hansol Technics for its support for the mutual growth fund for agricultural communities by the Ministry of Trade, Industry and Energy
- Guidelines for signing a desirable contract for win-win cooperation established by Hansol Chemical

Investment made to remove odors in the Hansol Papertech plants

KRW 391

 million a year

- Investment made to remove odors for the local community by Hansol PaperTech
- Donation of solar modules to local community by Hansol Technics

1. Growth with employees

Integration of human rights into business

In 2022, Hansol Holdings announced the integration of human rights into business, and pledged to practice business activities with human rights in mind. All affiliates of Hansol Group, including Hansol Holdings, and their employees have vowed to join these efforts. Hansol operates the “Red Whistle System (anonymous reporting, which allows stakeholders to report problems with possible human rights violations via diverse channels, including the Internet, mail, and email.

Hansol Group affiliates with ISO 45001

Hansol Group promotes occupational safety and health based on ISO 45001, the international occupational safety and health certification, and the International Safety Rating System (ISRS), the world-renowned safety evaluation system. In 2021, we encouraged affiliates to obtain certifications and, as a result, six affiliates are now certified. Hansol Paper, Hansol Logistics, Hansol PaperTech, Hansol Chemical, Hansol Technics, and Tapex, among others, evaluate and manage occupational and health risks in accordance with the occupational safety and health system. With the revision of the Occupational Safety and Health Act, which took effect in Jan. 2021, the occupational safety and health management in each business site has been reinforced. In accordance with the enactment of the Serious Accident Punishment Act in Jan, 2022, we have upgraded our occupational safety and health risk management for each manufacturing and distribution affiliate.

Occupational safety and health system in Hansol Paper

Performance management	KI	Tasks
<ul style="list-style-type: none"> · Leadership · Plans and management · Identification and fulfillment of requirements · Project management · Review of occupational safety and health performance and business activities 	<p>1 Making the occupational safety and health practice system second nature in the workplace</p> <p>Goal Maintain the ISRS Level</p>	<ol style="list-style-type: none"> 1. Review the occupational safety and health plans/performance by the board 2. Build the occupational safety-related capacity (education) of management/department heads 3. Operate the departmental occupational safety and health KPI. 4. Improve the efficiency of the occupational safety and health system.
<ul style="list-style-type: none"> · Asset management · Emergency preparation and response · Risk assessment · Risk management · Review of lessons learned · Risk monitoring 	<p>2 Instilling and mainstreaming of occupational safety</p> <p>Goal Reduce accidents by negligence and near miss by 50% (compared to last three years on average)</p>	<ol style="list-style-type: none"> 1. Operate the Safety Management Tour (SMT) programs including the CEO's tour of work sites. 2. Expand and embed the Behavior Based Safety (BBS). 3. Systematize accident investigation.
<ul style="list-style-type: none"> · Human Resources · Education and training qualification management · Communication, recognition, and promotion · Subcontractor and purchasing management 	<p>3 Safety and health implementation capacity building</p> <p>Goal Double the number of internal experts (including on-site personnel)</p>	<ol style="list-style-type: none"> 1. Build the capacity of the occupational safety body (personnel) 2. Recruit internal experts in each field 3. Build the capacity of subcontractors' capacity to manage occupational safety

Focusing on occupational safety and health management

Hansol Logistics and Hansol Technics have expanded and reorganized the safety and health management organization. Hansol Logistics appoints a CSO and assigns safety staffers to prevent issues related to occupational safety and health through safety management customized to each workplace, firmwide training and health checkups, and risk evaluation and analysis. In addition, we draw a clear line between authority and responsibility in the occupational safety and health management by appointing a staffer responsible for management, a general manager, and supervisor in each business site.

Hansol Logistics headquarters: safety and management staffer, safety and health body, safety manager, health manager, supervisor

Branches: (general) safety and health manager, safety manager, entrusted health manager, supervisor

Employee growth support programs

Free agent (FA) system: The FA system, which was introduced in 2020, allows employees to apply for a different job after a certain period of time and gives priority to employees eligible for FA through job postings on a regular basis.

Support for employees' MBA programs: Each affiliate selects candidates among its employees to nurture them as executives every year. We provide full scholarships to those who have excelled among them to complete MBA programs.

Mentoring program: We operate diverse mentoring programs to help new hires adapt to the organization and grow.

Hansol nurturing program: We operate systematic training programs for employees at all levels and provide the educational programs they want, such as cyber campus, free telemarketing, and outsourced training, among others, for their development.

Respect leadership: We pursue a corporate culture in which all employees respect one another and grow by emphasizing "respect leadership" to all Hansol leaders.

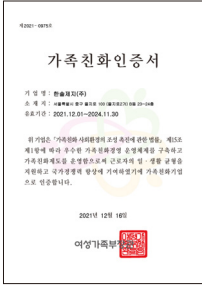
Absolute evaluation: We operate a performance management system that focuses on the value of cooperation rather than internal competition and rewards the fulfillment of shared goals and mutual growth.

Ground rules for teams: Hansol Group runs a ground rules for teams program for all teams to create their own work environment by reflecting their unique characteristics and culture.

No. of industrial disasters that occurred groupwide

(Unit: accidents)





Family-friendly company certification obtained by Hansol Paper

Certified family-friendly businesses

Hansol Paper, Hansol Chemical, Tapex

In 2016, Hansol Chemical was named a family-friendly company and was followed by Hansol Paper and Tapex. The family-friendly company certification is given to family-friendly companies by the Ministry of Gender Equality, which reviews diverse family-friendly programs they offer to employees, such as support for childbirth and childrearing, flexible working hours, and family-friendly organizational culture, among others.

Selective employee benefits program

Hansol Inticube

Hansol Inticube, which used to provide gift certificates to employees on special occasions, such as wedding anniversaries, as part of the employee benefits program, has revised its benefits program by introducing the benefits mall, an employee benefits program with choice, in May 2022. The revised benefits program allows employees to use the gift certificates for online shopping or a getaway, as well as exchanging gift certificates for cash, aiming to increase employee satisfaction. We also encourage employees to use their annual paid vacation time on bridge days and long weekends. We finalized the six-day fixed annual leave by consulting with the labor-management council.

2. Support for subcontractors' growth and competitiveness

Support for mutual growth programs for subcontractors

Hansol Paper

Hansol Paper pursues mutual growth with subcontractors by supporting subcontractors and the entire supply chain to gain a competitive advantage in cost and quality, among others. We continue providing our subcontractors with cooperation and support for their sustainable management.

Classification	Support program
Technological cooperation	Idea contests and joint development with Hansol subcontractors/technological exchange for test equipment and working-level employees with Hansol subcontractors, educational programs for subcontractors
Financial support	Mutual growth fund operation (KRW 6 billion)/early payment before national holidays, including New Year's Day and Chuseok
Support for education	Support for Six Sigma and Hansol cyber education (strategy/innovation, foreign languages, human rights/labor/ethics, safety/health, environment, etc.) SAP Design Thinking training (problem solving and innovative methodologies, etc.) Mutual growth CEO/working-level employee academy
Communication	Meetings with CEO and working-level staffs and special events for customers
Support for occupational safety	Support for labor costs for safety managers/financial support for the integration of occupational safety and health into business/support for accident prevention education
Environmental support	Support for environmental coaching staff of Seocheon-gun/ community activities for chemical safety management in the Seocheon area

Sustainability Management Evaluation of Subcontractors

Hansol Paper

For sustainable mutual growth with subcontractors, Hansol Paper conducted an evaluation for quantitative allocation (notification), long-term contracts (pulp), and supplier credit evaluation (materials) to ensure the sustainability of subcontractors and risk management.

ESG education for subcontractors focusing on the environment

Hansol Technics

Hansol Technics provided training to subcontractors to help them build environmental management capacity in celebration of "Mutual Cooperation Day." During the meeting, which was held online due to the COVID-19 pandemic, we vowed to comply with fair trade in the presence of 41 subcontractors. We also provided training on extended producer responsibility (EPR) in relation to ESG, which is drawing global attention nowadays, as well as Hansol Technics' goals and activities for mutual growth.

ESG education focus on the environment provided to subcontractors by Hansol Technics

41 subcontractors

3. Communication and activities with local communities

Paper Design Awards, paper as an inspiration

Hansol Paper

Hansol Paper believes that high-quality paper inspires us. The Insuper Awards, which celebrated its 4th anniversary in March 2022, is a design competition for designers, planners, printing experts, and manufacturers. In 2022, a total of 236 works were entered and 13 teams won KRW 30 million.

Adopt-a-beach cleanup

Hansol Paper

The adopt-a-beach program is a litter-awareness program that encourages businesses, organizations, and schools to volunteer to clean up beaches. Launched in Texas, USA, in 1986, the adopt-a-beach program is an environment campaign that is well known in the USA, Britain, Australia, and New Zealand, among others. Employees of the Hansol Paper Janghang Plant have adopted the Songnim white sand beach in Janghang-eup, Seocheon-gun, Chungcheongnam-do, to clean it up four times per year. In June 2022, they cleaned the ocean by the beach. In addition, the volunteer group consisting of employees of the Hansol Paper Janghang Plant, has been engaging in diverse volunteer activities, including kimchi donation, side dish donation, and support for families with children with diseases, for over ten years.

Investment in odor removal for local residents

Hansol Papertech

We are cleaning up the areas around the plant every other week to remove odor that may be caused by the waste (sludge) from the plant as part of our efforts to improve the environment of the local community, and achieving harmony with local residents. We also invest KRW 391 million every year in the odor removal project.

Solar module donation to the local community

Hansol Technics

Hansol Technics donated solar modules worth KRW 65 million to the Seongdangpo-gu Village Agricultural Cooperative, Iksan, and the Incheon Port Authority, where solar energy power facilities, which Hansol Technics specializes in, are in need. In recognition of its corporate social responsibility (CSR) activities and donations in this regard, an award plaque was presented to Hansol Technics by Iksan City. It also received an award certificate from the Ministry of Trade, Industry and Energy and the Mutual Growth Committee for its contribution to raising a mutual cooperation fund for agricultural areas. Hansol Technics is doing its best to fulfill its duty as a corporate citizen.

The amount of investment Hansol Group made toward CSR activities in 2021

KRW **516.6** million (including cash and in-kind donations)

Employees' CSR activities for the underprivileged

Hansol Holdings

Hansol Holdings employees are participating in volunteer activities to assist homeless persons on a regular basis. On every 4th Friday, a group of 15 to 20 employees serve meals to 50 to 70 homeless persons in the Seoul Station and Jung-gu areas at the Very Good Rehabilitation Center cafeteria. During the period from Oct. 2021 to Feb. 2022, a group of 40 employees delivered meals to 50 seniors with hearing disabilities for 480 hours. As many participants in the volunteer activity expressed their willingness to return, saying, "it was a meaningful activity" and "I regret that we could not meet them in person due to COVID-19," we will continue working with the local community to fulfill our CSR.



CSR activities

Hansol Technics

Hansol Technics communicates with local community members. We have listened to them and donated funds for regional development. We also provided support for seniors living alone and underprivileged children and donated 10,000 KF-94 face masks to the Deoksan-eup Community Center for local residents who experienced difficulties due to the COVID-19 pandemic in 2021.

Governance

Transparent governance and
shareholder rights

For the Sustainability

Hansol Holdings faithfully complies with laws or goes beyond what laws require in operating its BOD. The BOD consists of seven members including three outside directors. They are experts in business management, finance, economy, and law, among others. Also, we are practicing a shareholder-friendly dividend policy by paying cash dividends in 2022, as well as in 2021. We plan to identify serious risks to business activities and come up with effective responses to the risks and strategies for growth from a long-term perspective. To that end, we have established a risk management system and provide employees with response training on a regular basis.

Robust and transparent governance as an important decision-making body is essential for the sustainable growth of a business and preparation for its future. Equipped with independence, expertise, and diversity, the BOD strives to make balanced decisions for stakeholders from all walks of life, including customers, shareholders, and subcontractors. Also, the BOD discloses relevant information on the decision-making process for the protection of the rights and interests of stakeholders and shareholders' decision making.

Key Sustainability Issues



1
BOD equipped with independence and expertise



2
Consistent shareholder-friendly policies



3
Improving the risk-management system and risk-response capacity

Key Performance

A-graded affiliates in ESG rating

6 affiliates

- Corporate governance report voluntarily disclosed by seven affiliates
- 100% attendance by three outside directors of Hansol Holdings at BOD meetings in 2021
- ESG rating of major affiliates upgraded to "A" in 2021

Dividend payout ratio

23.3% (consolidated basis)

- Payment of cash dividends by Hansol Holdings for two consecutive years in 2020 and 2021
- Electronic voting system implemented by major listed affiliates
- General meeting of Hansol Technics and Tapex given four weeks' notice and scheduled to avoid overlapping of general meetings on the same day.

ESG risk identification and response measures by Hansol Paper

7 measures

- Risk identification and operation of a risk management body by Hansol Holdings
- ESG risk identification and formulation of response strategies by Hansol Paper
- Internal control policy by Hansol Holdings
- Information Security Management System (ISMS) renewed by Hansol PNS

1. BOD equipped with independence and expertise

BOD with diversity and expertise

Hansol Holdings boasts a governance system that ensures the BOD's rights to make decisions transparently and independently and engage in efficient business management activities centered on the outside directors, who perform the role of ensuring checks and balances. The BOD consists of four inside and three outside directors as of the end of 2021 by taking into account the quantitative size of Hansol Holdings and nature of its business. Three outside directors were appointed in accordance with the articles of association requiring that outside directors should comprise at least one-quarter of the total number of BOD members.

BOD

Classification	Name	Date of appointment	Background
Inside director	Lee Jae-hui	Jan. 2, 2015	CEO of Hansol Holdings (present)
	Jo Dong-gil	Feb. 26, 1997	CEO of Hansol Group (present)
	Jeon Hun	Mar. 26, 2019	Chief of the financial RM team of Hansol Holdings
	Go Min-hyeok	Mar. 30, 2020	Chief of the human resources team of Hansol Holdings
Outside director	Son Il-tae	Mar. 29, 2018	Honorary professor of trade at Kyung Hee University
	Lee Seung-seop	Mar. 29, 2018	Lawyer with law firm Bae, Kim & Lee
	Lee Nam-wu	Mar. 30, 2020	Visiting professor of Yonsei University Graduate School of International Studies, advisor to the Career Development Center

BOD meetings held in 2021

7
times in total

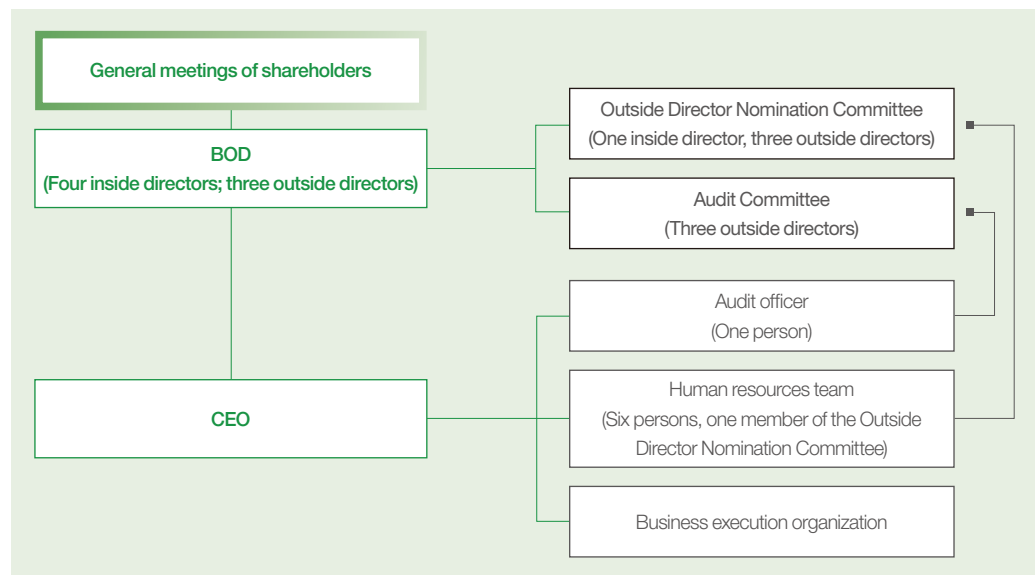
BOD attendance

100
%

BOD committees, including Audit Committee

There are two BOD committees, namely, the Audit Committee and the Outside Director Nomination Committee. The Audit Committee consists of three outside directors and supervises the BOD and management transparently and independently. The BOD committees have supporting bodies in order to effectively fulfill their duties. Two staffers are assisting the BOD Committees; one of them is working for the Outside Director Nomination Committee members and the other for the Audit Committee.

BOD and Committee organization



Voluntary disclosure of corporate governance reports by listed affiliates

The corporate governance report disclosure system was introduced first as a 'voluntary disclosure' measure in March 2017 for companies listed on the KOSPI to improve transparency in corporate management and consolidate market disciplines. It is system that requires companies to report to the Exchange on their compliance with the core principles of corporate governance, and it is applied to businesses with over KRW 1 trillion in total assets, starting in 2022. The disclosure of the governance report is intended to protect the rights and interests of shareholders and investors, on the one hand, and lay the foundation for ESG integration into business in the local capital market. All listed affiliates of Hansol Group have voluntarily disclosed their governance reports since 2018, despite the fact that the group is not required to disclose the reports. In 2022, seven affiliates disclosed their governance reports, namely: Hansol Holdings, Hansol Paper, Hansol Technics, Hansol Chemical, Hansol Logistics, Hansol HomeDeco, and Hansol PNS.

KCGS' ESG rating upgraded to "A"

Hansol Group has actively incorporated ESG into its business by voluntarily disclosing its corporate governance report, among others. As a result, some of our affiliates received grade A in the comprehensive ESG evaluation conducted by the KCGS. The A-graded affiliates include Hansol Holdings, Hansol Paper, Hansol Technics, Hansol PNS, Hansol HomeDeco, and Hansol Chemical. Other affiliates, including Hansol Logistics and Tapex, have also received grades as excellent as B+, which proves that Hansol Group as a whole receives positive external feedback.

2. Consistent shareholder-friendly policies

Implementation of mid- to long-term shareholder return policy

Hansol Holdings

In 2019, Hansol Holdings announced a mid- to long-term shareholder return policy to enhance shareholder value. Due to the lack of dividend payable income under the Commercial Act, we were unable to pay final dividends in 2019. However, we paid out KRW 120 in dividends per share in 2020 and in 2021.

Annual dividends for the last three fiscal years

Classification	Unit	2019	2020	2021
Dividend per share-common shares	KRW	-	120	120
Dividend rate per share-common shares	%	-	3.3	3.4
Total dividends	KRW 100 million	-	50	50
Dividend payout ratio	%	-	7.1	23.3

Electronic voting system for shareholder rights

As the contactless society has become the new normal due to COVID-19, there have been many changes in the general meetings. In an effort to increase shareholder rights, Hansol Group has introduced the electronic voting system so that shareholders can conveniently exercise their voting rights. Hansol Technics and Tapex have given four weeks' notice before the general meetings. In an effort to prevent overlapping of general meetings on the same day, Hansol Logistics held the general meeting on March 2, Tapex on March 22, Hansol Paper, Hansol Technics, Hansol HomeDeco, Hansol PNS, and Hansol Chemical on March 23, to ensure that shareholders fully exercise their rights.

KCGS ESG rating A

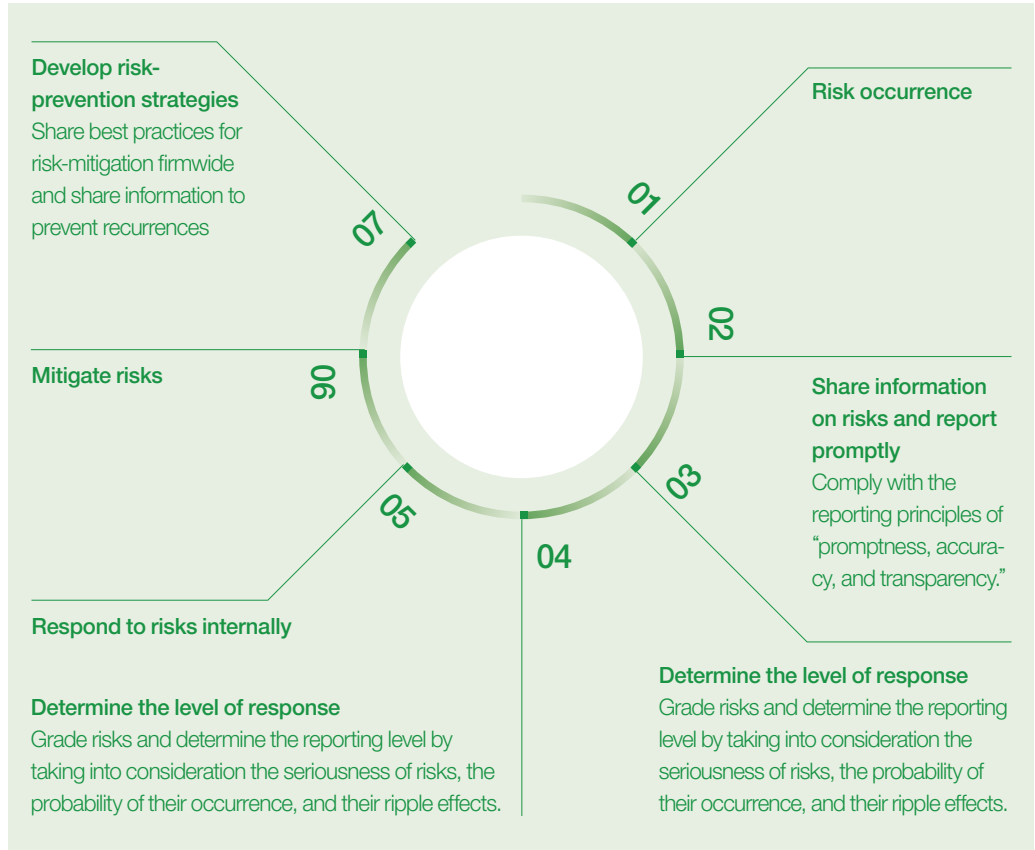
6 affiliates

Hansol Paper, Hansol Chemical, Hansol Technics,
Hansol PNS, Hansol Holdings, Hansol HomeDeco

3. Risk-management system and risk-response capacity

Group risk-response process

Hansol Group consistently monitors the occurrence of each risk to effectively respond to serious risks. We have created a risk-response process in order to promptly respond to risks when they occur and share accurate information on them internally, on the one hand; and to identify and manage the risks that could seriously affect our business activities, on the other. We have formulated risk-recurrence prevention strategies for more effective responses to risks.



Risk-management system

Hansol Holdings

Risk identification and relevant bodies

Classification	Risk type	Risk factor	Relevant body
Financial risk	Market risk	Currency risk, interest rate, etc.	Financial RM team
	Liquidity risk	Profitability, debt ratio, credit, etc.	
Non-financial risk	Operational risk	Strategy, rivals, technological change, investment, economy, industrial environment, and other factors that may affect business as a whole	HMES team
	Ethical risk	Ethics, corruption, compliance, etc.	Financial RM team
	Safety risk	Environment, safety, health, etc.	Human resources team
	Management-labor risk	Employment, discrimination, labor-management conflict, etc.	
	Reputation risk	Misinformation, sustainability reputation, etc.	Communication team

Hansol Paper

ESG: Seven risk-management systems

Classification	Risk response measures	Relevant body
Compliance risks	· Prevent risks through compliance with laws and regulations and compliance-control standards, and manage legal disputes through analysis of laws and precedents	RM team
Ethical risks	· Engage in ethical awareness activities for employees · Encourage subcontractors to join the efforts for ethical management	RM team/HR team
Environmental safety risks	· Establish an emergency response system for each worksite and operate safety training programs on a regular basis	Integrated safety team
Climate-change risks	· Establish a climate-change response system: create a GHG reduction and energy conservation council; EMS operation and performance management; and formulate a mid- and long-term roadmap to respond to carbon-credit trading · Mid- and long-term GHG-reduction target-setting and performance monitoring	New business team / General production and technology management
Information security risks	· Comply with information security policy; prevent unauthorized information leaks through document encryption and security system upgrades.	Management innovation team
Product and environmental regulation risks	· Develop and apply eco-friendly technologies and set firmwide goals to increase relevant research · Increase green-certified products	Marketing team
Supply-chain risks	· Identify major management risks for each business sector and develop response strategies through risk analysis and evaluation · Develop mid- and long-term plans for supply-chain management and improve management	Raw resources team/materials team

Internal control policy**Hansol Holdings**

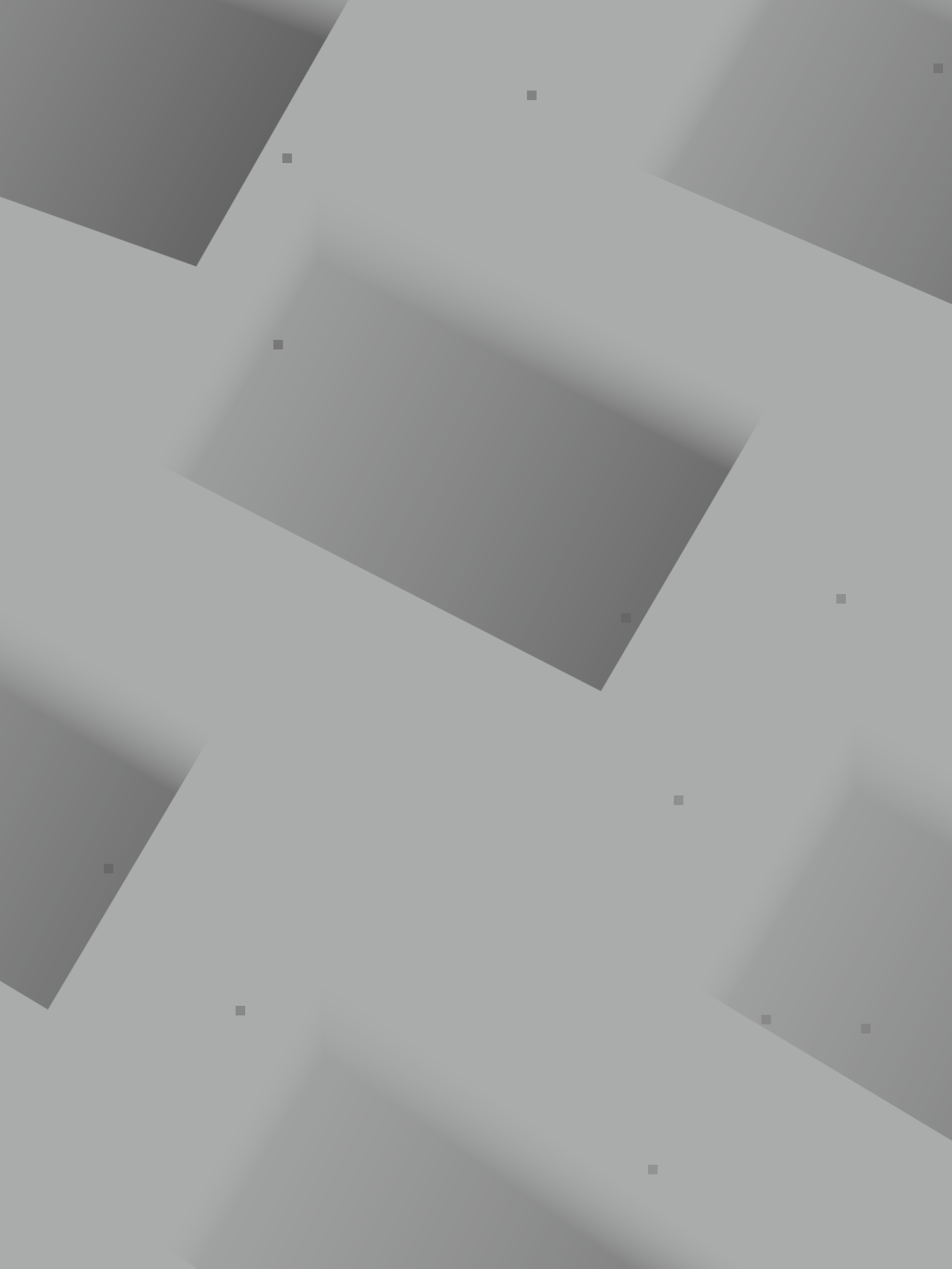
The Audit Committee performs corporate risk management-related tasks. It has adopted the compliance risk management (CRM) system for systematic risk management. It also enacted the regulations on the management of disclosed information in order to disclose information accurately, completely, fairly, and properly in accordance with the relevant laws. In addition, we strive to prevent fraud risks by introducing the internal whistleblowing system that is operated by an independent third party. We operate an internal accounting management system in accordance with laws related to external business audit to improve the reliability of accounting data and manage internal accounting rationally. The CEO evaluates the effectiveness of the internal accounting management system every year and reports the result to the Audit Committee, BOD, and shareholders at the general meetings.

Thorough information protection and security awareness**Hansol PNS**

The Hansol PNS IT Service Division is making every effort to ensure the safe use of the Internet and the protection of corporate data. It renewed the information security management system (ISMS) certification in 2021 and will maintain it until 2024. Also, it has applied the EPP security solutions with added protection to all affiliates of Hansol Group in 2021. We at the Hansol PNS IT Service Division manage Hansol Group's data protection activities in general and strive to raise employees' awareness of information security by conducting regular monitoring and providing new hires with information security education and mockup training on malicious emails.

Appendix

72	Materiality Test
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100	Independent Assurance Statement
102	Affiliates with Certifications
103	Awards
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105	Membership of Association

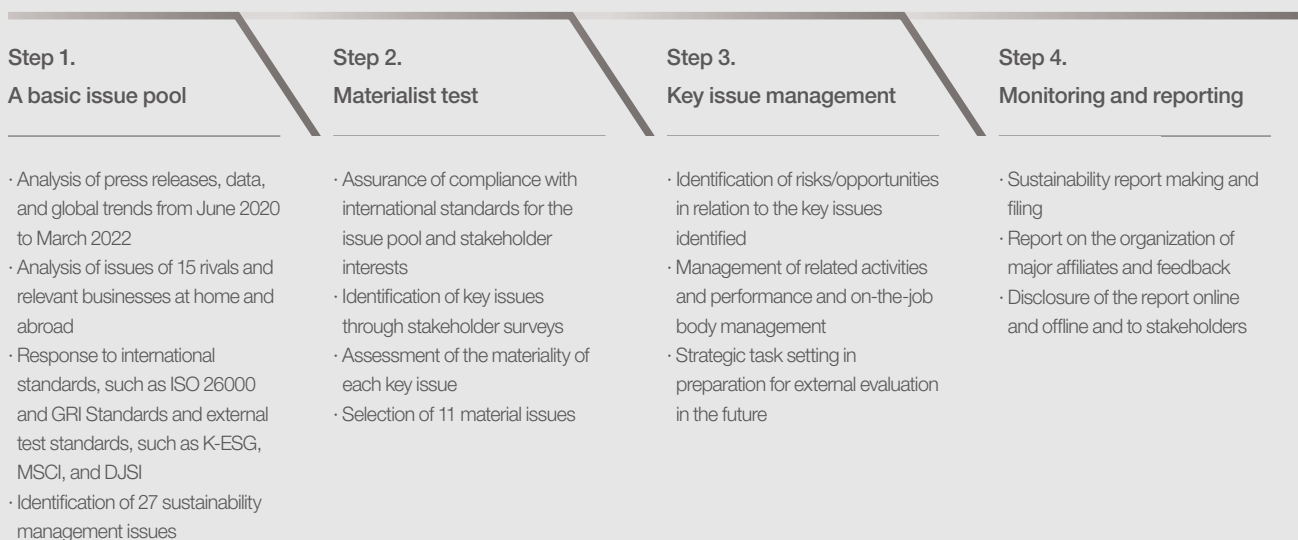


Materiality Test

Hansol Group selects key issues by analyzing the interests of stakeholders, at home and abroad, and their impact on business. The materiality test is conducted by comprehensively considering international sustainability management standards such as GRI Standards, UN SDGs, and ISO26000, social issues exposed to the media, and sustainable management trends in the same industry. In 2022, we identified a total of 11 key issues and disclose our management approach and achievements on key issues by publishing this report.

Materiality test process

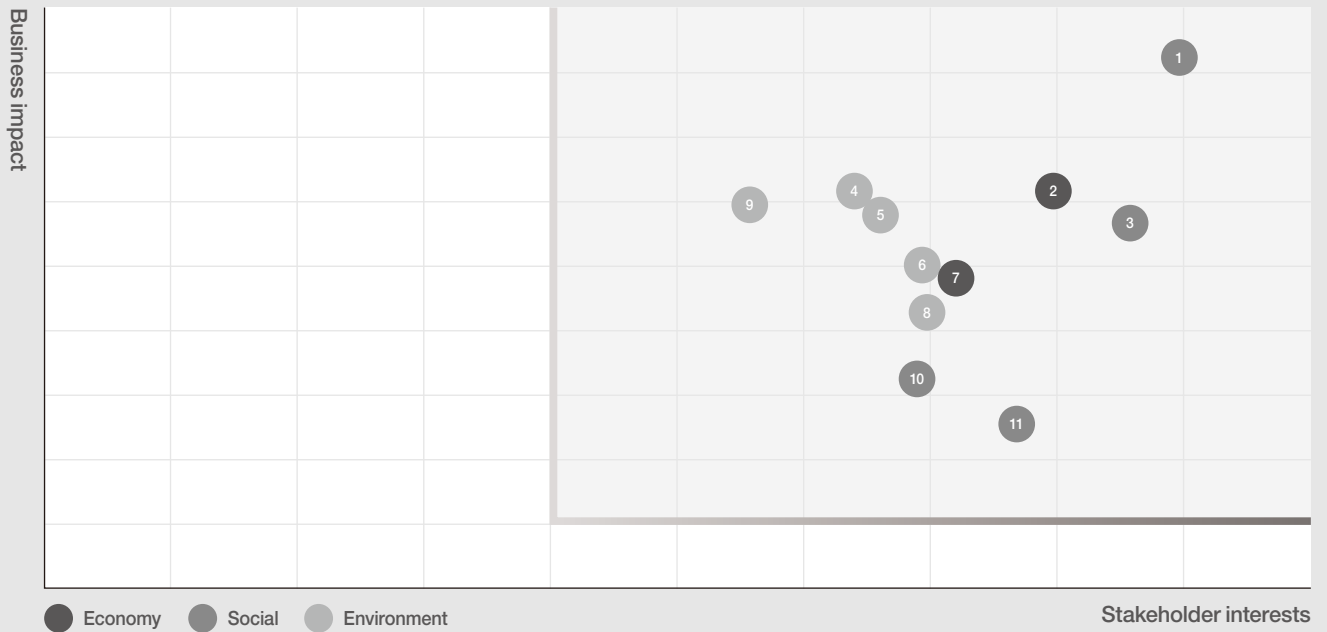
In order to determine the core reporting content of the sustainability report and identify sustainability management issues to focus on, we conducted a materiality test through the following four steps in accordance with the GRI (Global Reporting Initiative), a global sustainability reporting guideline.



Channels of communication with stakeholders

Stakeholders	Channels of communication	Issues of interest
Employees	<ul style="list-style-type: none"> · Communication board · Investor presentation · Employee training · Employee satisfaction survey · Labor-management Council · Employee portals · In-house broadcasting 	<ul style="list-style-type: none"> · Fair compensation, safe working environment, mid- to long-term vision, professional training, employee communication, employee benefits, management-labor relations
Subcontractors	<ul style="list-style-type: none"> · Meetings · Mutual growth day · Surveys · Mutual growth council · Workshops for mutual growth 	<ul style="list-style-type: none"> · Mutual growth, win-win business management, sustainable business management
Shareholders and investors	<ul style="list-style-type: none"> · General meetings · Marketing brochure · Sustainability management reports · Calls for candidates of outside directors · Disclosure, business performance presentation · Investor blitz · Corporate governance reports 	<ul style="list-style-type: none"> · Transparent business activities, transparent disclosure, and governance reform · Business portfolio improvement
Government and local governments	<ul style="list-style-type: none"> · Ministry of Environment · FSC, ISO · Collaborative program · Ministry of Economy and Finance · Participation in policy research 	<ul style="list-style-type: none"> · Job creation, tax compliance, and legal compliance for the fulfillment of corporate responsibility and contribution to the nation's sustainable development, compliance with regulations, response to climate change, response to and engagement in public policy, workplace safety compliance
Customers	<ul style="list-style-type: none"> · Website · Brochures · Customer events · Blog · Advertising videos · Exhibitions, fairs · Facebook · YouTube · Customer satisfaction surveys 	<ul style="list-style-type: none"> · Quality and service improvement, customer communication, brand value
Local community/NGO	<ul style="list-style-type: none"> · Corporate social responsibility (CSR) activities · Communication with local communities near worksites · Sustainability management reports 	<ul style="list-style-type: none"> · Reduction of waste water and waste, pollutant management in the work sites, job creation and maintenance, CSR activities, development of the local economy

Materiality test results



Reports on key issues as a result of the materiality test

Classification	Key issues	Reporting scope		Report contents	Page
		Internal	External		
Social	1 Creation of a safe work environment	<input type="radio"/>	Subcontractors	Safety and health management	p.25
Economy	2 Increase of product responsibility and customer satisfaction	<input type="radio"/>	Customers	Management for customer satisfaction	p.38
Social	3 Ethical management and anti-corruption	<input type="radio"/>		Ethical management	p.24
Environment	4 Reduction of energy consumption and management of energy efficiency	<input type="radio"/>		Reduction of GHG and energy consumption	p.50
Environment	5 Management of air pollutants in the manufacturing process	<input type="radio"/>	-	Environmental pollutants and waste management	p.52
Environment	6 Eco-friendly product development and design	<input type="radio"/>	-	Increase of eco-friendly products and certifications	p.48
Economy	7 Financial and non-financial risk response management	<input type="radio"/>	-	Risk-management system and crisis response capacity building	p.67
Environment	8 Safe waste, wastewater, and chemical discharge management	<input type="radio"/>	-	Environmental pollutants and waste management	p.52
Environment	9 GHG-emissions management to address climate change	<input type="radio"/>	-	GHG-emissions reduction and energy conservation	p.50
Social	10 In-house human rights policy & education	<input type="radio"/>	Subcontractors	Human rights in business	p.23
Social	11 Promotion of work-life balance	<input type="radio"/>	-	Growth with employees	p.56

Data Center

Hansol Holdings

BOD structure

Classification	Unit	2019	2020	2021	
BOD operation	No. of BOD meetings	Meeting	9	9	7
	No. of agenda items	Agenda	26	22	15
	Preliminary deliberation	%	100	100	100
	Decisions on revised agenda	Agenda	0	0	0
	Report agenda		11	10	8
	BOD attendance rate		93.7	98.4	100
	Non-executive director attendance rate	%	100	100	100
BOD Diversity	Female	Employees	0	0	0
	Male		7	7	7
	Under 30 years		0	0	0
	30-50 years		1	1	0
	Over 50 years		6	6	7

Economy

Classification	Unit	2019	2020	2021		
Income statement	Sales		26,352	26,323	29,323	
	Gross profit		-	-	-	
	Selling, general, and administrative expenses		-	15,360	16,019	
	Operating profit	KRW million	11,528	10,963	13,304	
	Financial income		-	412	964	
	Other income		-	10,194	2,233	
	Other costs		-	30	63	
	Net income before the deduction of corporate tax expenses		-	21,171	16,031	
	Statement of financial position	Assets	Current assets	28,282	56,289	64,779
			Non-current assets	381,995	381,185	386,883
Liabilities		Current liabilities	16,846	9,160	9,394	
		Non-current debt	3,456	1,279	7,373	
Capital			389,975	427,035	434,896	

(Based on standalone financial statements)

Social

Classification	Unit	2019	2020	2021	
No. of employees	Unit	44	47	50	
Current employees (by employment type)	Executives	Total	12	11	10
		Female	0	0	0
		Male	12	11	10
	Full-time	Total	31	35	39
		Female	4	6	9
		Male	27	29	30
	Non-regular worker	Total	1	1	1
		Female	0	0	0
		Male	1	1	1
	Outsourced human resources		0	0	0
Current employees (by work type)	Full-time	Employees	41	44	47
	Part time		3	3	3
Current employees (by work location)	Local	Employees	44	45	47
	Overseas		0	2	3
Foreigners	Compared to the total no. of people	Koreans	-	96	94
		Non-Koreans	-	4	6

Classification	Unit	2019	2020	2021		
Recruitment of new employees	Female		1	2	3	
	Male		3	9	11	
By age	Under 30 years		0	0	0	
	30-50 years		4	10	13	
	Over 50 years		0	1	1	
	New hires	Employees	-	0	0	
	Recruitment of seasoned personnel		-	11	14	
By rank	Senior		-	0	0	
	Principal		-	1	2	
	Chief		-	9	11	
	Others		-	1	1	
Job security	Average tenure	Male	13	10	10	
		Female	8	9	8	
	Turnover rate	%	3.4	2	2	
Industrial accidents	No. of industrial accidents occurred	Agendas	0	0	0	
	Industrial accident rate	%	0	0	0	
	No. of deaths	Employees	0	0.0	0.0	
Talent development	No. of injured		0	0.0	0.0	
	Duration of work-hour loss	Days	0	0	0	
	Total budget for employee training	KRW million	301	268	209	
	No. of beneficiaries of education	Employees	41	47	50	
	Training expenses per employee	KRW 1,000	3,087	5,702	4,180	
Employee diversity	Average training hours per employee	Hours	19	54	49	
	Ratio of labor costs to training expenses	%	-	3.1	3.1	
	Ratio of female employees	%	9.1	12.8	18.0	
	No. of female managers (manager level or higher)	Employees	-	0	1	
	Ratio of female managers (manager level or higher)	%	-	0.0	2	
	Basic salary and remuneration by gender	Male (average salary)	KRW million	128	135	139
		Women (average salary)		73	55	75
	No. of people with disabilities		0	0	0	
	No. of senior employees (over 55 years old, excluding executives)	Employees	1	0	0	
	No. of foreign employees		0	2	3	
Employee diversity	No. of high school graduates		3	1	1	
	No. of national veterans		0	0	0	
	Ratio of employees with disabilities		0	0	0	
	Ratio of senior employees		2.3	0	0	
	Ratio of foreign employees	%	0	4	6	
	Ratio of high school graduates		6.8	2	2	
Ratio of national veterans		0	0	0		

Classification		Unit	2019	2020	2021
Fair trade	No. of fair trade law violations	Incidents	0	0	0
	Fines imposed	KRW million	0	0	0
Anti-corruption policy and procedures	Ethics training hours	Hours (per employee)	1	1	1
	No. of employees who signed the ethics pledge	Employees	41	45	47
	Ratio of employees who signed the ethical pledge	%	93	96	94
Anti-corruption violations	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0
Information security breaches	No. of customer data leak, theft, and loss	Incidents	0	0	0
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0
Human rights policies and procedures	Duration of education for prevention of workplace bullying	Total hours (per employee)	41(1)	43(1)	49(1)
	Duration of education for sexual harassment prevention	Total hours (per employee)	82(2)	43(1)	49(1)
	Training of others (Training on human rights for the disabled, etc.)	Total hours (per employee)	82(2)	43(1)	49(1)
	Number of employees who have completed the training	Employees	-	43	50
Corporate social responsibility activity	The amount for investment in CSR activities	Cash donations	-	20	10
		In-kind donations	65	0	0
	Duration of volunteer work	Hours	-	0	480
	Duration of volunteer work per employee	Hours	-	0	9.6
	Direct and indirect beneficiaries of the support programs	Employees	-	0	250

* Outside directors included in employees and foreign employees

* Employee volunteer work was not carried out in 2020 due to the spread of COVID-19 pandemic.

Hansol Paper

Economy

Classification	Unit	2019	2020	2021
Sales		1,679,131	1,509,871	1,834,223
Gross profit		302,475	300,684	361,179
Selling, general, and administrative expenses		206,517	206,123	300,451
Operating profit		95,958	94,561	60,728
Financial income	KRW million	3,025	10,165	4,090
Financial expenses		31,286	26,283	28,022
Other income		23,758	13,530	16,429
Other expenses		17,648	19,784	24,479
Net income before the deduction of corporate tax expenses		73,807	72,189	28,746
Current assets		588,960	567,002	663,678
Non-Current assets		1,154,318	1,173,433	1,224,155
Current liabilities		721,628	618,262	727,426
Non-Current liabilities		409,575	487,310	481,074
Shareholders' equity of the controlling company	KRW million	590,551	634,822	679,292
Shareholders' equity of the non-controlling company		21,524	41	41
Total R&D expenses for the current period	KRW million	4,405	5,581	6,006
R&D expenses/sales	%	0.27	0.38	0.37
No. of R&D personnel	Employees	33	33	49

(Based on consolidated Financial statements)

Environment

Classification	Unit	2019	2020	2021
Consumption of Raw materials	Raw materials consumed Ton/year	1,249,883	1,232,898	1,282,237
Recycled raw materials used	Amount of recycled materials (reused raw materials) consumed Ton/year	573,178	644,117	651,313
	Ratio of recycled materials (recycled raw materials) used %	45.9	52.2	50.8
Total energy consumed	TJ	15,479	15,168	16,170
Total water consumed (Amount consumed, based on domestic standards)		23,699,283	23,735,541	26,733,756
Waterworks	Amount of water consumed Ton/year	5,512,674	6,076,727	7,276,014
Underground water	Amount of underground water consumed Ton/year	350,371	280,915	199,624
Seawater	Amount of seawater consumed (surface water) Ton/year	9,841,697	9,098,761	9,923,582
Water recycling	Recycled water consumption Ton/year	7,994,541	8,279,138	9,442,230
	Water reuse rate %	30.0	33	36
GHG emissions	Direct emissions (Scope 1) tCO ₂ eq	358,293	341,087	296,456
	Indirect emissions (Scope 2) tCO ₂ eq	594,176	587,461	626,738

Classification	Unit	2019	2020	2021
Air pollutant emissions	SOx kg	250	2,273	761
	NOx	158,401	89,938	73,717
	Particulate matter (PM)	8,531	8,378	14,728
	HCl	13,455	5,396	5,352
Water pollutants discharge	BOD ppm	123	128	124
	COD	75	36	33
	SS	58	53	45
Total waste discharge		243,064	250,523	235,755
Total waste treated		242,770	250,209	235,441
Waste	Incineration Ton/year	155,934	154,360	138,709
	Landfill Ton/year	7,734	2,405	2,501
	Recycling Ton/year	79,102	93,444	94,230
	Waste recycling rate %	32.5	37.3	40.0
Hazardous (chemicals) substance spills	No. of chemical spills Incidents	0	0	0
	Amount of chemicals spilled Tons	0	0	0
Violation of environmental laws and regulations	Amount of fine KRW million	0	3	2
	No. of lawsuits filed Lawsuits	0	0	0
	No. of non-monetary sanctions Sanctions	0	2	2
Environmental spending and investments	Eco-friendly purchasing KRW million	-	405,242	499,583
	Amount of green purchases KRW million	9,566	5,566	5,995

* Data on Sintanjin Plant in 2019 excluded

Social

Classification	Unit	2019	2020	2021
Total no. of employees	Employees	1,153	1,185	1,202
Current employees (by employment type)	Total	26	26	24
	Executives	0	0	0
	Female	26	26	24
	Male	1,112	1,141	1,162
	Full-time	89	153	109
	Male	1,023	988	1,053
	Total	15	18	16
	Non-regular workers	13	6	4
	Female	2	12	12
	Male	0	0	0
Outsourced human resources		0	0	0
Current employees (by work type)	Full-time	1,152	1,185	1,202
	Part time	1	0	0
Current employees (by work location)	Domestic	1,144	1,167	1,212
	Overseas	9	8	10
Recruitment of new employees	Female	11	15	14
	Male	74	73	114
	Under 30 years	54	47	62
	30-50 years	29	23	21
	Over 50 years	2	-	-
Job security	Average tenure Years	18.4	18.5	18.3
	Male	9.3	9.3	9.3
	Female	2.5	3.5	9.2
	Turnover rate %	2.5	3.5	9.2

Classification		Unit	2019	2020	2021
Industrial accidents	No. of Industrial accidents occurred	Accidents	1	8	5
	Industrial accident rate	%	0.1	0.82	0.57
	No. of deaths	Employees	0	0	0
	No. of injured		1	7	5
	Duration of work-hour loss	Hours	25	321	151
Talent development	Total education budget	KRW million	1,900	542	986
	No. of beneficiaries of education	Employees	1,147	1,185	1,202
	Training expenses per employee	KRW 1,000	1,656	476	820
	Average training hours per employee	Hours	70	61	53
	Ratio of female employees	%	8.7	10	9
	No. of female managers (manager level or higher)	Employees	-	31	38
	Ratio of female managers (manager level or higher)	%	-	3	3
Basic salary and remuneration By gender	Male (average salary)	KRW million	73	75	73
	Female (average salary)		48	49	49
Employee diversity	No. of employees with disabilities		30	30	34
	No. of senior employees (over 55 years old, excluding executives)		74	71	77
	No. of foreign employees	Employees	0	0	0
	No. of employees with high school diplomas but no college degrees		722	648	726
	No. of national veterans		23	21	25
	Ratio of employees with disabilities		2.62	3	3
	Ratio of senior employees		6.45	5.99	6.41
	Ratio of foreign employees	%	0	0	0
	Ratio of employees with high school diplomas but no college degrees		62.95	54.6	60.4
	Ratio of national veterans		2.01	1.8	2
Mutual growth	Total No. of subcontractors	Subcontractors	44	40	40
	Total purchases from subcontractors	KRW million	201,251	173,727	193,016
Fair trade	No. of violations of fair trade laws	Violations	0	0	0
	Fines imposed	KRW million	0	0	0
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	2	2
	No. of employees who have signed the ethics pledge	Employees	991	1,185	1,202
	Ratio of employees who have signed the ethics pledge	%	-	100	100
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0

Classification		Unit	2019	2020	2021
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0
	Employees who have taken maternity leave	Total	7	25	17
		Male	0	21	13
	Female	7	4	4	
Maternity leave	No. of employees who have returned to work after maternity leave	Total	5	24	16
		Male	0	21	13
		Female	5	3	3
Parental leave	Employees who have taken parental leave	Total	10	1	2
		Male	3	0	1
		Female	7	1	1
	No. of employees who have returned to work after parental leave	Total	8	1	6
		Male	3	0	1
		Female	5	1	5
Average vacation days	Days	149.5	233.0	143.4	
Human rights policies and procedures	No. of employees who have worked over 12 months after returning from parental leave	Total	-	10	6
		Male	-	2	1
		Female	-	8	5
	Duration of education for prevention of workplace bullying	Total hours (per employee)	1146(1)	1185(1)	1202(1)
Duration of education for sexual harassment prevention		1146(1)	1185(1)	1202(1)	
Other education (Human rights education for people with disabilities, etc.)		1146(1)	1185(1)	1202(1)	
CSR	Investment in CSR (including donations)	KRW million	458	307	336
	Duration of volunteer work		12,000	3,000	115
	Duration of volunteer work per employee	Hours	10.5	0.4	0
	Direct and indirect beneficiaries of the support programs	Employees	1,873	491	360

* Volunteer work as part of the CSR activity cancelled in 2021 due to the spread of the COVID-19 pandemic.

Hansol PaperTech

Economy

Classification	Unit	2019	2020	2021
Sales		99,509	100,216	134,802
Gross profit		-	11,406	15,954
Selling, general, and administrative expenses		-	9,005	9,840
Operating profit		4,318	2,401	6,113
Financial income	KRW million	-	221	127
Financial expenses		-	777	359
Other income		-	98	322
Other expenses		-	968	854
Net income before the deduction of corporate tax expenses		-	975	5,350
Current assets		-	22,734	27,362
Non-Current assets		-	48,116	48,115
Current liabilities	KRW million	-	24,582	25,948
Non-Current liabilities		-	3,417	2,170
Capital		-	43,361	47,358

(Based on standalone financial statements)
* 2019 business report not disclosed.

Environment

Classification	Unit	2019	2020	2021
Consumption of raw materials	Raw materials consumed Ton/year	259,721	303,368	333,932
Consumption of materials that contain recycled materials	Amount of recycled materials (reused raw materials) consumed Ton/year	285,359	300,017	332,722
	Ratio of recycled materials (reused materials) consumed %	97.8	98.9	99.6
Total energy consumption	Electricity Steam TJ	1,092	1,168	1,234
Total water consumption (Based on local use)		2,125,483	2,218,918	1,969,116
Waterworks	Amount of water consumed Ton/year	6,570	6,503	5,475
Underground water	Amount of underground water consumed Ton/year	469,025	512,483	230,372
Stream water	Amount of stream water consumed Ton/year	1,371,305	1,352,722	1,458,720
Water reuse	Amount of water reused Water reuse rate %	278,583	347,210	274,549
		13	15.6	13.9

Social

Classification	Unit	2019	2020	2021	
Total no. of employees	Employees	137	131	142	
Current employees (by employment type)	Executives	Total	6	4	5
		Female	0	0	0
		Male	6	4	5
	Regular workers	Total	125	120	124
		Female	4	4	4
		Male	121	116	120
	Non-regular workers	Total	2	4	11
		Female	0	0	0
		Male	2	4	11
Outsourced human resources		4	3	2	

Classification	Unit	2019	2020	2021		
Current employees (by work type)	Full-time	Employees	137	131	142	
	Part-time		0	0	0	
Current employees (by work location)	Domestic	Employees	137	131	142	
	Overseas		0	0	0	
	Female		0	0	0	
	Male		11	8	11	
Recruitment of new employees	By age	Under 30 years		7	5	5
		30-50 years		4	3	4
		Over 50 years		0	0	2
	By type	New hires	Employees	-	6	7
		Recruitment of seasoned personnel		-	2	4
		Senior		-	1	0
	By rank	Principal		-	0	2
		Chief		-	0	0
		Others		-	7	9
	Job security	Average tenure	Years	9.7	10	10
Male			10.9	12	13	
Female			3.1	4.5	5.6	
Industrial accidents	Turnover rate	%	3.1	4.5	5.6	
	No. of Industrial accidents occurred	Accidents	3	4	1	
	Industrial accident rate	%	1.5	3	0.7	
	No. of deaths	Employees	0	0	1	
	No. of injured		3	4	0	
Duration of work-hour loss	Days	12	40	7,500		
Talent development	Total education budget	KRW million	174	195	203	
	No. of beneficiaries of education	Employees	120	130	143	
	Training expenses per employee	KRW 1,000	1,417	1,500	1,420	
	Average training hours per employee	Hours	78	66	66	
	Ratio of labor costs to training expenses	%	2	2	2	
Employee diversity	Ratio of female employees	%	3	3	3	
	No. of female managers (manager level or higher)	Employees	1	1	1	
	Ratio of female managers (manager level or higher)	%	-	1	1	
	Basic salary and remuneration By gender	Male (average salary)	KRW million	57	54	55
		Female (average salary)		44	44	47
	Recruitment of the socially disadvantaged	No. of employees with disabilities		3	3	3
		No. of senior employees (over 55 years old, excluding executives)		14	16	25
		No. of foreign employees	Employees	0	0	0
		No. of employees with high school diplomas but no college degrees		55	58	69
	No. of national veterans		0	0	0	

Classification		Unit	2019	2020	2021	
Employee diversity	Recruitment of the socially disadvantaged	Ratio of employees with disabilities	2	2	2	
		Ratio of senior employees	10	12	18	
	Ratio of foreign employees	0	0	0		
	Ratio of employees with high school diplomas but no college degrees	%	40	44	49	
	Ratio of national veterans		0	0	0	
Mutual growth	Suppliers	Total No. of subcontractors	1	1	1	
		Total purchases from subcontractors	KRW million	904	937	740
Fair trade	No. of violations of fair trade laws	Violations	0	0	0	
	Fines imposed	KRW million	0	0	0	
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	0	0	
	No. of employees who have signed the ethics pledge	Employees	115	106	131	
	Ratio of employees who have signed the ethics pledge	%	83.9	80	92	
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0	
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0	
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0	
Maternity leave	Employees who have taken maternity leave	Total	2	0	3	
		Male	2	0	3	
		Female	0	0	0	
	No. of employees who have returned to work after maternity leave	Total	Employees	2	0	3
		Male	2	0	3	
		Female	0	0	0	
Parental leave	Employees who have taken parental leave	Total	0	0	0	
		Male	0	0	0	
		Female	0	0	0	
	No. of employees who have returned to work after parental leave	Total	Employees	0	0	0
		Male	0	0	0	
		Female	0	0	0	
	Average vacation days	Days	0	0	0	
	No. of employees who have worked over 12 months after returning from parental leave	Total		0	0	0
		Male	Employees	0	0	0
Female		0	0	0		

Classification		Unit	2019	2020	2021	
Human rights policies and procedures	Duration of education for prevention of workplace bullying	Total hours	137(1)	0	0	
		(per employee)	274(2)	262(1)	284(1)	
	Other education (human rights education for people with disabilities, etc.)		274(2)	262(1)	284(1)	
CSR	Investment in CSR (including cash donations)	Cash donations	KRW million	19	14	12
		In-kind donations		-	0	1
	Duration of volunteer work	Hours	-	0	301	
	Duration of volunteer work per employee	Hours	-	0	2	
	Direct and indirect beneficiaries of the support programs	Employees	-	140	140	

* Disclosed data for 2019 partially revised due to the revision of the measurement method

* Industrial accident: Duration of work-hour loss per deceased employees reported as 7,500 hours

Hansol PNS

Economy

Classification	Unit	2019		2020		2021	
		Paper	IT	Paper	IT	Paper	IT
Income statement							
Sales		233,892	244,823			262,943	
Gross profit		21,395	20,436			24,039	
Selling, general, and administrative expenses		17,412	16,545			19,487	
Operating profit		3,983	3,891			4,551	
Financial income	KRW million	505	448			860	
Financial expenses		217	322			298	
Other income		986	536			367	
Other expenses		832	28			131	
Affiliates' Income		0	0			83	
Net income before the deduction of corporate tax expenses		4,425	4,523			5,432	
Balance sheet							
Assets							
Current assets		87,641	89,360			73,580	
Non-Current assets		15,771	17,766			36,130	
Liabilities							
Current liabilities		59,816	60,301			53,430	
Non-Current liabilities		2,539	3,168			6,236	
Shareholders' equity of the controlling company	KRW million	41,058	43,656			46,577	
Shareholders' equity of the non-controlling company			0	0			3,466

(Based on consolidated Financial statements)

Environment

Classification	Unit	2019		2020		2021	
		Paper	IT	Paper	IT	Paper	IT
Consumption of Raw materials	Raw materials consumed Ton/year	-	-	240,900	0	229,400	0
Total energy consumption	TJ	6.3	-	7.3	0	6.6	0
GHG emissions	Direct emissions (Scope 1) tCO ₂ eq	151	-	126	0	123	0
	Indirect emissions (Scope 2)	189	-	255	0	225	0
	Total Amount of waste discharged (Amount of waste treated in Korea)	1,004	-	1,202	0	1,220	0
Waste	Incineration Weight of incinerated waste Ton/year	-	-	-	0	-	0
	Landfill Weight of waste landfilled	-	-	-	0	-	0
	Recycling Weight of waste recycled	1004	-	1,188	0	1,220	0
	Waste recycling rate Waste recycling ratio %	100	-	99	0	100	0
Hazardous (chemicals) substance spills	No. of chemical spills Incidents	-	-	0	0	0	0
	Amount of chemicals spilled Tons	-	-	0	0	0	0
Violation of environmental laws and regulations	Fines KRW million	-	-	0	0	0	0
	No. of lawsuits filed Law-suits	-	-	0	0	0	0
	No. of non-monetary sanctions Sanctions	-	-	0	0	0	0

Classification	Unit	2019		2020		2021	
		Paper	IT	Paper	IT	Paper	IT
Environmental spending and investments	Eco-friendly purchasing Amount of green purchases KRW million	-	-	0	0	0	0
	Investment in environmental protection Investment in environmental protection KRW million	-	-	3	0	4.5	0
	Expenses for environmental management Expenses for environmental management KRW million	-	-	-	0	5	0
Environmental education	Duration of environmental education Hours	84	-	3	0	3	0
	No. of employees who have participated in the education Employees	56	-	72	0	73	0

Social

Classification	Unit	2019		2020		2021		
		Paper	IT	Paper	IT	Paper	IT	
Total no. of employees	Employees	83	132	79	134	86	145	
Executives	Total	4	1	1	1	2	2	
	Female	0	0	0	0	0	0	
	Male	4	1	1	1	2	2	
Current employees (by employment type)	Total	78	131	76	133	85	143	
	Female	18	37	16	37	20	39	
	Male	60	94	60	96	65	104	
Non-regular workers	Total	1	0	2	1	1	1	
	Female	0	0	1	1	0	1	
	Male	1	0	1	0	1	0	
Outsourced human resources		0	0	0	0	0	0	
Current employees (by work type)	Full-time	83	132	79	134	86	0	
	Part-time	0	0	0	0	0	0	
Current employees (by work location)	Domestic	83	131	79	132	86	145	
	Overseas	0	1	0	2	0	2	
	Female	2	14	4	3	3	10	
	Male	2	24	6	11	19	26	
Recruitment of new employees	By age							
	Under 30 years	1	16	3	4	7	6	
	30-50 years	3	22	7	10	15	14	
	Over 50 years	0	0	0	0	0	0	
	By type							
	New hires	-	-	0	10	7	12	
	Seasoned workers	-	-	10	20	15	24	
	Senior	-	-	4	19	6	21	
	Principal	-	-	2	5	3	12	
	Chief	-	-	1	2	2	1	
	Others	-	-	3	7	11	3	
Job stability	Average tenure							
	Male	10.3	9.7	10.1	15.3	7.6	7.0	
	Female	7.6	4.7	6.2	15.3	6.8	7.0	
	Turnover rate	%	8	9.2	4	11	6	5
Industrial accidents	No. of Industrial accidents occurred	Accidents	0	0	0	0	1	0
	Industrial accident rate	%	0	0	0	0	0	0
	No. of deaths	Employees	0	0	0	0	0	0
	No. of injured	Employees	0	0	0	0	1	0
	Duration of work-hour loss	Hours	0	0	0	0	9	0

Classification	Unit	2019		2020		2021			
		Paper	IT	Paper	IT	Paper	IT		
Talent development	Total education budget	KRW million	70	102	42	148	35	128	
	No. of beneficiaries of education	Employees	83	130	79	133		143	
	Training expenses per employee	KRW 1,000	843	787	532	716	407	776	
	Average training hours per employee	Hours	40	87.6	11	82	11	44	
	Ratio of labor costs to training expenses	%	-	-	0.8	13	0.6	15	
	Ratio of female employees	%	21.7	28	22	4	23	4	
	No. of female managers (manager level or higher)	Employees	-	-	0	16	0	16	
	Ratio of female managers (manager level or higher)	%	-	-	0	8.4	0	3	
	Basic salary and remuneration by gender	Male (average salary)	KRW million	59	61	48	61	65	60
		Female (average salary)		37	44	32	46	46	47
Employee diversity	No. of employees with disabilities		1	0	1	0	1	0	
	No. of senior employees (over 55 years old, excluding Executives)		4	0	2	1	1	1	
	No. of foreign employees	Employees	0	1	0	1	0	1	
	No. of employees with high school diplomas but no college degrees		8	3	21	3	24	2	
	No. of national veterans		0	1	0	0	0	0	
	Ratio of employees with disabilities		1.2	0	1	0	1	0	
	Ratio of senior employees		4.8	0	3	12	1	8	
	Ratio of foreign employees	%	0	0.8	0	1	0	2	
	Ratio of employees with high school diplomas but no college degrees		9.6	2.3	27	45	28	48	
	Ratio of national veterans		0	0.8	0	0	0	0	
Mutual growth	Total No. of sub-contractors	Sub-contractors	-	-	-	46	-	35	
	Total purchase from sub-contractors	KRW million	-	-	-	5,200	-	4,427	
Fair trade	No. of violations of fair trade laws	Violations	0	0	0	0	0	0	
	Fines imposed	KRW million	0	0	0	0	0	0	

Classification	Unit	2019		2020		2021		
		Paper	IT	Paper	IT	Paper	IT	
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	-	-	1		1
	No. of employees who signed the ethics pledge	Employees	73	132	79	134	86	145
	Ratio of employees who signed the ethics pledge	%		100	100	100	100	100
	Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0	0	0
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0	0	0	0
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0	0	0	0
Maternity leave	Employees who have taken maternity leave	Total	0	5	2	1	2	1
		Male	0	3	0	0	0	0
	No. of employees who returned to work after maternity leave	Total	0	0	0	0	0	1
		Male	0	0	0	0	0	0
Parental leave	Employees who took parental leave	Total	2	3	2	1	3	1
		Male	0	0	0	0	0	0
	No. of employees who returned to work after parental leave	Total	2	0	0	2	1	0
		Male	0	0	0	0	0	0
Average vacation days	Days	0	361	365	365	365	365	
Human rights policies and procedures	No. of employees who have completed human rights training	Total	-	-	0	2	0	0
		Male	-	-	0	0	0	0
	Duration of education for prevention of workplace bullying	Total	-	-	237	402	252	429
		Female	-	-	79	134	84	143
Duration of education for prevention of sexual harassment	Total	80(1)	103(1)	79(1)	134(1)	86(1)	145(1)	
	Other education (human rights education for people with disabilities, etc.)	Total hours (per employee)	80(1)	132(1)	79(1)	134(1)	86(1)	145(1)
Investment in CSR (including donations)	KRW million	46	19	-	8.8	-	6.2	

Hansol HomeDeco

Economy

Classification	Unit	2019	2020	2021
Sales		263,886	253,213	263,250
Gross profit		30,461	35,776	46,174
Selling, general, and administrative expenses		32,301	33,037	37,555
Operating profit		-1,840	2,739	8,619
Financial income	KRW million	5,117	2,100	3,470
Financial expenses		5,464	4,105	2,994
Other income		11,911	3,572	1,518
Other expenses		14,405	3,655	2,706
Net income before the deduction of corporate tax expenses		-4,682	650	7,905
Current assets		75,438	78,680	98,188
Assets	Non-Current assets	220,312	216,309	216,472
Liabilities	Current liabilities	91,542	76,068	101,751
	Non-Current liabilities	50,041	64,380	53,062
Shareholders' equity of the controlling company	KRW million	154,166	154,542	159,847
Shareholders' equity of the non-controlling company		0	0	0
Total R&D expenses for the current period	KRW	84	160	482
R&D expenses/sales	%	0.03	0.06	0.18
No. of R&D personnel	Employees	0	0	0

(Based on consolidated financial statements)

Environment

Classification	Unit	2019	2020	2021	
Consumption of raw materials	Raw materials consumed	Ton/year	305,616	177,118	185,605
Consumption of materials that contain recycled materials	Amount of recycled materials (reused Raw materials) consumed	Ton/year	103,494	84,723	96,985
	Amount of recycled materials (reused materials) consumed	%	33.9	48	52
Total energy consumption		TJ	1,159	2,862	2,974
Total water consumption (Based on local use)			832,205	610,228	592,392
Water-works	Amount of water consumed		586,457	359,632	346,584
Underground water	Amount of underground water consumed	Ton/year	245,748	250,596	245,808
Seawater	Amount of seawater consumed		0	0	0
Water reuse	Amount of water reused	Ton/year	138,530	63,714	60,462
	Water reuse rate	%	21.2	10.4	10.2
GHG emissions	Direct emissions (Scope 1)	tCO ₂ eq	14,281	13,621	12,905
	Indirect emissions (Scope 2)		49,471	48,180	48,865
Air pollutant emissions	SOx	kg	1,142.90	587	586
	NOx		70,312	80,846	72,073
	Dust		29,651	21,786	12,378
	HCl		6,461	2,863	1,896
Waste water discharge	Amount of waste water discharged	Ton/year	134,472	118,798	153,984
Water pollutants discharges	BOD	ppm	20	11	14
	COD		58	49	38
	SS		15	7	6

Classification	Unit	2019	2020	2021
Total Amount of waste discharged (Amount of waste treated in Korea)		33,433	28,414	31,863
Incineration	Weight of incinerated waste Ton/year	15,657	7,166	6,068
Landfill	Weight of waste landfilled	1,987	477	495
Recycling	Weight of waste recycled	15,788	20,770	25,299
Waste recycling rate	Waste recycling ratio %	87	73	79
Hazardous (chemical) substance spills	No. of chemical spills Incidents	-	0	0
	Amount of chemicals spilled Ton	-	0	0
Violation of environmental laws and regulations	Amount of fines KRW million	-	0	3
	No. of lawsuits filed Lawsuits	-	1	1
	No. of non-monetary sanctions Sanctions	-	1	2
Environmental spending and investments	Investment in environmental protection Expenses for environmental management KRW million	0	2.5	48.1
		1,752	1,755	2,132

* Disclosure of violations of environmental laws and regulations

fines	Fines paid for exceeding dioxin in 2020 (KRW 1.5 million paid each By the plant manager and the company in 2021)
No. of lawsuits	Manipulation of the self-measurement report from 2016 to 2018 (By Seung-joo Lee) - still in progress as of 2020 As for the suspension of operations due to excessive odor and charge in 2020, the company was acquitted in a trial held in Nov. 2021 (team leader Ahn Bok-gyu)- the trial started in 2021
No. of non-monetary sanctions	Suspension of operation in 2020 due to excessive odor of SL scrubber Failure to report when starting low nox burner operation in 2021, court order to address the excess of complex odor (419bf, sl scrubber, site boundary-propionic acid)

Social

Classification	Unit	2019	2020	2021
Total no. of employees	Employees	264	267	305
Current employees (by employment type)	Total	7	13	13
	Executives	0	0	0
	Female	7	13	13
	Male	0	0	0
	Total	257	242	273
	Full-time	20	20	31
	Female	237	222	242
	Male	0	12	19
	Total	0	7	14
	Female	0	5	5
	Male	0	0	0
	Outsourced Human resources	0	0	0
Current employees (by work type)	Full-time	264	267	305
	Part-time	0	0	0
Current employees (by work location)	Domestic	260	263	301
	Overseas	4	4	4

Classification	Unit	2019	2020	2021		
Recruitment of new employees	Female	0	10	21		
	Male	18	21	37		
	By age	Under 30 years	11	21	28	
		30-50 years	4	10	30	
		Over 50 years	3	0	0	
	By type	New hires	-	6	33	
		Recruitment of seasoned personnel	-	25	25	
		By rank	Senior	-	10	9
			Principal	-	3	24
	Chief		-	1	3	
Others	-	17	22			
Job security	Average tenure	Male	11	12	11	
		Female	8	7	5	
	Turnover rate	%	11	12	11	
Industrial accidents	No. of Industrial accidents occurred	Incidents	3	0	2	
	Industrial accident rate	%	1.20	0	0.65	
	No. of deaths	Employees	0	0	0	
	No. of injured	Employees	3	0	0	
	Duration of work-hour loss	Days	57	0	28	
Talent development	Total education budget	KRW million	250	250	210	
	No. of beneficiaries of education	Employees	259	267	305	
	Expenses per employee	KRW 1,000	965	936	688	
	Average training hours per employee	Hours	41	29	22	
	Ratio of labor costs to training expenses	%	-	1	1	
	Ratio of female employees	%	8	10	15	
	No. of female managers (manager level or higher)	Employees	2	2	3	
	Ratio of female managers (manager level or higher)	%	1.5	2	4	
	Basic salary and remuneration by gender	Male (average salary)	KRW million	57	59	67
		Female (average salary)	KRW million	46	36	37
Employee diversity	Recruitment of the socially disadvantaged	No. of employees with disabilities	1	6	6	
		No. of senior employees (over 55 years old, excluding executives)	2	9	7	
		No. of foreign employees	0	0	0	
	Recruitment of the socially disadvantaged	No. of employees with high school diplomas but no college degrees	32	103	109	
		No. of national veterans	1	1	2	
		Ratio of employees with disabilities	0.4	2	2	
		Ratio of senior employees	1	3	2	
	Recruitment of the socially disadvantaged	Ratio of foreign employees	0	0	0	
		Ratio of employees with high school diplomas but no college degrees	12	39	36	
		Ratio of national veterans	0.4	0.4	0.7	

Classification	Unit	2019	2020	2021		
Mutual growth	Suppliers	Total No. of subcontractors	5	4	5	
		Total purchase from subcontractors	KRW million	6,823	6,244	6,606
Fair trade	No. of violations of fair trade laws	Violations	0	0	0	
	Fines imposed	KRW million	0	0	0	
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	1	1	
	No. of employees who have signed the ethics pledge	Employees	264	267	305	
	Ratio of employees who have signed the ethics pledge	%	100	100	100	
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0	
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0	
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0	
Maternity leave	Employees who have taken maternity leave	Total	7	0	1	
		Male	5	0	0	
		Female	2	0	1	
	No. of employees who have returned to work after maternity leave	Total	7	0	1	
Male		5	0	0		
Parental leave	Employees who have taken parental leave	Female	1	2	3	
		Total	0	1	2	
	No. of employees who have returned to work after parental leave	Male	0	0	1	
		Female	0	1	1	
	Average vacation days	Days	122	273	275	
	No. of employees who have worked over 12 months after returning from parental leave	Total	-	0	1	
		Male	-	0	0	
		Female	-	0	1	
	Human rights policies and procedures	Duration of education for prevention of workplace bullying	Total hours (per employee)	-	267(1)	305(1)
		Duration of education for sexual harassment prevention	Total hours (per employee)	-	267(1)	305(1)
Other education (Human rights education for people with disabilities, etc.)		Total hours (per employee)	-	267(1)	305(1)	

* Partial changes made to the data disclosed in 2019 due to the revision of the measurement method.

Hansol Logistics

Economy

Classification		Unit	2019	2020	2021
Income statement	Sales		460,730	509,613	747,044
	Gross profit		37,777	42,351	64,134
	Selling, general, and administrative expenses		28,257	29,274	33,830
	Operating profit		9,520	13,076	30,304
	Financial income	KRW million	807	1,354	8,148
	Financial expenses		2,233	3,060	2,959
	Other income		2,916	3,615	4,996
	Other expenses		3,057	4,075	7,501
	Net income before the deduction of corporate tax expenses		8,491	11,895	33,509
Balance sheet	Assets		99,133	120,770	178,348
	Current assets				
	Non-Current assets		67,621	75,201	88,279
	Liabilities		90,703	111,820	166,532
	Current liabilities				
	Non-Current liabilities		28,996	29,501	21,506
Shareholders' equity of the controlling company	KRW million	47,055	54,649	78,525	
Capital	Shareholders' equity of the non-controlling company		0	0	63

(Based on consolidated Financial statements)

Environment

Classification		Unit	2019	2020	2021
Hazardous (chemical) substance spills	No. of chemical spills	Incidents	0	0	0
	Amount of chemicals spilled	Ton	0	0	0
Violations of environmental laws and regulations	Amount of fines	KRW million	0	0	0
	No. of lawsuits filed	Lawsuits	0	0	0
	No. of non-monetary sanctions	Sanctions	0	0	0

Social

Classification		Unit	2019	2020	2021
Total no. of employees		Employees	358	362	383
Current employees (by employment type)	Executives	Total	8	6	5
		Female	0	0	0
	Male	8	6	5	
	Full-time	Total	328	330	353
		Female	55	54	64
		Male	273	276	289
		Total	22	23	22
	Non-regular workers	Female	15	14	15
		Male	7	9	7
	Outsourced Human resources			0	3
Current employees (by work type)	Full-time	Employees	358	359	380
	Part-time		0	0	0
Current employees (by work location)	Domestic	Employees	348	347	367
	Overseas		10	12	13

Classification		Unit	2019	2020	2021
Recruitment of new employees	Female		12	7	12
	Male		33	25	38
By age	Under 30 years		13	18	23
	30-50 years		31	11	26
	Over 50 years		1	3	1
	New hires	Employees	-	26	35
	Recruitment of seasoned personnel		-	6	15
By rank	Senior		-	26	35
	Principal		-	4	11
	Chief		-	1	4
	Others		-	1	0
Job security	Average tenure	Years	8	10.5	10.5
	Turnover rate	%	5.70	8.0	8.3
Industrial accidents	No. of Industrial accidents occurred	Accidents	1	0	0
	Industrial accident rate	%	0.30	0	0
	No. of deaths	Employees	0	0	0
	No. of injured		1	0	0
	Duration of work-hour loss	Days	10	0	0
Talent development	Total education budget	KRW million	290	90	200
	No. of beneficiaries of education	Employees	340	337	358
	Training expenses per employee	KRW 1,000	852	268	558
	Average training hours per employee	Hours	78	49	75
	Ratio of labor costs to training expenses	%	1	0.43	1.03
Employee diversity	Ratio of female employees	%	19.7	19	21
	No. of female managers (manager level or higher)	Employees	10	15	14
	Ratio of female managers (manager level or higher)	%	6.9	4	4
	No. of employees with disabilities		0	5	5
	No. of senior employees (over 55 years old, excluding executives)		0	17	19
	No. of foreign employees	Employees	0	0	0
	No. of employees with high school diplomas but no college degrees		92	93	80
	No. of national veterans		3	0	0
	Ratio of employees with disabilities		0	1	1
	Ratio of senior employees		0	5	5
Recruitment of the socially disadvantaged	Ratio of foreign employees	%	0	0	0
	Ratio of employees with high school diplomas but no college degrees		25.8	26	21
	Ratio of national veterans		0.8	0	0
	Total No. of subcontractors	Subcontractors	798	942	997
Mutual growth	Suppliers		260,864	278,950	431,781
	Support for SMEs	KRW million	0	0	0

Classification		Unit	2019	2020	2021	
Fair trade	No. of violations of fair trade laws	Violations	0	0	0	
	Fines imposed	KRW million	0	0	0	
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	-	-	
	No. of employees who have signed the ethics pledge	Employees	350	362	385	
	Ratio of employees who have signed the ethics pledge	%	98	100	100	
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0	
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0	
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0	
Maternity leave	Employees who have taken maternity leave	Total	10	15	10	
		Male	8	10	7	
		Female	2	5	3	
	No. of employees who have returned to work after maternity leave	Total	Employees	10	15	10
		Male	8	10	7	
		Female	2	5	3	
Parental leave	Employees who took parental leave	Total	6	1	7	
		Male	0	0	3	
		Female	6	1	4	
	No. of employees who returned to work after parental leave	Total	Employees	6	1	2
		Male	0	0	0	
		Female	6	1	2	
Average vacation days	Days	77	60	249		
No. of employees who have worked over 12 months after returning from parental leave	Total	Employees	-	1	0	
	Male	-	0	0		
	Female	-	1	0		
Human rights policies and procedures	Duration of Human rights training	Hours	-	1,348	1,432	
	No. of employees who completed human rights training	Employees	-	337	358	
	Ratio of employees who completed Human rights training	%	-	93	93	
	Duration of education for prevention of workplace bullying	Total hours (per employee)	-	0	0	
	Duration of education for sexual harassment prevention	316	674 (2)	716 (2)		
	Other education (Human rights education for people with disabilities, etc.)	316	674 (2)	716 (2)		

* Occupational disasters in 2019: one accident decided as an occupational musculoskeletal disease after retirement and work loss did not occur.

Hansol Technics

Economy

Classification		Unit	2019	2020	2021
Income statement	Sales		972,243	1,194,892	1,490,620
	Gross profit		116,949	150,987	103,451
	selling, general, and administrative expenses		91,482	118,526	107,707
	Operating profit		25,466	32,460	-4,255
	Financial income	KRW million	19,574	28,970	24,449
	Financial expenses		22,399	29,996	28,594
	Other income		1,714	1,571	2,810
	Other expenses		13,004	7,649	979
	Net income before the deduction of corporate tax expenses		11,350	25,357	-6,570
	Balance sheet	Assets		211,271	311,128
Non-Current assets			284,052	280,264	320,674
Current liabilities			198,610	234,267	333,270
Non-Current liabilities			34,872	78,022	177,123
Shareholders' equity of the controlling company		KRW million	261,527	278,804	277,992
Shareholders' equity of the non-controlling company			315	298	284
Total R&D expenses for the current period		KRW	17,549	19,721	18,199
R&D expenses/sales		%	1.81	1.65	1.22
No. of R&D personnel		Employees	134	131	138

(Based on consolidated financial statements)

Environment

Classification		Unit	2019	2020	2021	
Consumption of Raw materials	Raw materials consumed	Ton/year	24	22	75	
Total energy consumption		TJ	334	236	241	
Total water consumption (Based on local use)			82,574	65,372	65,977	
Waterworks	Amount of water consumed		40,211	33,602	32,048	
Underground water	Amount of underground water consumed	Ton/year	-	25,711	26,864	
Seawater	Amount of seawater consumed		-	0	0	
GHG emissions	Emissions	tCO ₂ e	16,275	11,465	11,593	
Air pollutant emissions	Emissions	SO _x	0	-	-	
		NO _x	1	158	149	
		Dust	0	202	217	
		HCl	0	-	-	
Waste water discharge	Amount of waste water discharged	Ton/year	38,594	12,511	14,465	
Water pollutants discharge	Amount of water discharged	BOD	12	8	14	
		COD	14	10	12	
		SS	19	8	7	
		Total Amount of waste discharged (Amount of waste treated in Korea)		1,455	972	779
Waste	Incineration	Weight of incinerated waste	21	-	-	
		Weight of waste landfilled	497	170	90	
	Recycling	Weight of waste recycled	627	802	689	
	Waste recycling rate	Waste recycling ratio	%	43	83	88

Classification		Unit	2019	2020	2021
Hazardous (chemicals) substance spills	No. of chemical spills	Incidents	0	0	0
	Amount of chemicals spilled	Ton	0	0	0
Violations of environmental laws and regulations	Amount of fines	KRW million	0	0	0
	No. of lawsuits filed	Lawsuits	0	0	0
Environmental spending and investments	No. of non-monetary sanctions	Sanctions	0	0	0
	Expenses for environmental investment	KRW million	-	33	19
Environmental education	Expenses for environmental management		-	290	312
	Duration of environmental training	Hours	-	24	24
	No. of employees who participated in the education	Employees	-	576	514

* Water reuse rate: Jincheon Plant is not equipped with the facility for the water use production process. Ochang Plant: Water is being used in the LED water cleaning/polishing process, but the water cannot be reused after polishing due to the contamination of water impurities.

Social

Classification		Unit	2019	2020	2021	
Total no. of employees		Employees	657	662	656	
Current employees (by employment type)	Total		11	11	11	
	Executives	Female	0	0	0	
		Male	11	11	11	
	Full-time	Total		575	628	620
		Female	Employees	123	141	123
		Male		452	487	497
Non-regular workers		Total	71	34	36	
Outsourced Human resources	Female		25	8	9	
	Male		46	26	27	
			0	0	0	
Current employees (by work type)	Full-time	Employees	657	660	656	
	Part-time		0	2	0	
Current employees (by work location)	Domestic	Employees	-	662	656	
	Overseas		-	0	0	
	Female		44	10	9	
	Male		150	70	49	
Recruitment of new employees	By age	Under 30 years		95	43	25
		30-50 years		87	34	31
		Over 50 years		12	3	2
	By type	New hires	Employees	-	21	23
		Recruitment of seasoned personnel		-	59	35
Job security	Average tenure	Senior		-	30	19
		Principal		-	24	15
	Turnover rate	Chief		-	3	1
		Others		-	23	23
Industrial accidents	Average tenure	Male	Years	8.6	9	9
		Female		9.5	10	8
	Turnover rate	%	14	9	13	
	No. of Industrial accidents occurred	Incidents	1	1	0	
	Industrial accident rate	%	0.2	0.15	0	
No. of deaths	Employees	0	0	0		
No. of injured	Employees	1	0	1		
Duration of work-hour loss	Days	0	40	0		

Classification		Unit	2019	2020	2021		
Talent development	Total education budget	KRW million	280	270	271		
	No. of beneficiaries of education	Employees	703	662	607		
	Training expenses per employee	KRW 1,000	465	436	442		
	Average training hours per employee	Hours	43	65	62		
	Ratio of labor costs to training expenses	%	-	1	1		
	Ratio of female employees	%	22	23	20		
	No. of female managers (manager level or higher)	Employees	4	5	6		
	Ratio of female managers (manager level or higher)	%	1.8	2	3		
Basic salary and remuneration by gender	Male (Average salary)	KRW million	56	65	60		
	Female (average salary)		43	50	43		
Employee diversity	No. of employees with disabilities	Employees	10	4	3		
	No. of senior employees (over 55 years old, excluding executives)		27	27	25		
	Recruitment of the socially disadvantaged		Employees	No. of foreign employees	0	0	0
	No. of employees with high school diplomas but no college degrees			249	192	175	
	No. of national veterans			4	2	2	
	Ratio of employees with disabilities			1.5	1	1	
	Ratio of senior employees		4.1	4	4		
	Recruitment of the socially disadvantaged		%	Ratio of foreign employees	0	0	0
	Ratio of employees with high school diplomas but no college degrees			37.9	29	27	
	Ratio of national veterans			0.6	0.3	0.3	
Mutual growth	Suppliers	Total No. of subcontractors	-	429	394		
		Total purchase from subcontractors	-	565,361	657,792		
	Support for SMEs	Total purchases from SMEs	KRW million	-	54,038	134,336	
Fair trade	No. of violations of fair trade laws	Violations	0	0	0		
	Fines imposed	KRW million	0	0	0		
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	71	142		
	No. employees who signed the ethics pledge	Employees	657	662	656		
	Ratio of employees who signed the ethics pledge	%	100.00	100.00	100.00		
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0		
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0		

Classification		Unit	2019	2020	2021
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0
	Employees who have taken maternity leave	Total	1	8	8
		Male	1	4	0
Maternity leave	Employees who have returned to work after maternity leave	Female	0	4	8
		Total	1	8	8
	Employees who have taken parental leave	Male	0	4	0
Female		1	4	8	
Parental leave	Employees who have taken parental leave	Total	7	14	16
		Male	3	4	5
		Female	4	10	11
	No. of employees who have returned to work after parental leave	Total	5	6	12
		Male	0	1	5
	Average vacation days	Female	5	5	7
		Days	156	303	311
Human rights policies and procedures	No. of employees who have worked over 12 months after returning from parental leave	Total	-	6	12
		Male	-	1	5
	Duration of education for prevention of workplace bullying	Female	-	5	7
		Total hours (per employee)	-	-	25(1)
Duration of education for sexual harassment prevention	Total hours (per employee)	656	662(1)	607(1)	
	Other education (human rights education for people with disabilities, etc.)	656	662(1)	607(1)	
CSR	Investment in CSR (including donations)	Cash donations	KRW million	0.4	0.4
		In-kind donations		22.6	32.5
	Direct and indirect beneficiaries of the support programs	Employees	450	262	814

* Disclosed data for 2019 partially revised due to the revision of the measurement method

* The no. of employees who signed the Ethics Pledge in 2019 corrected (389->657)

* Current employees: different from the business report due to the inclusion of registered directors and employees on leave

* Occupational accidents in 2019: one accident decided as occupational after retirement and work loss did not occur.

Hansol Inticube

Economy

Classification	Unit	2019	2020	2021
Sales		58,966	52,588	59,462
Gross profit		9,149	5,979	11,767
Selling, general, and administrative expenses		10,162	11,499	12,011
Operating profit		-1,013	-5,520	-243
Financial income	KRW million	121	181	203
Financial expenses		190	151	110
Other income		85	348	132
Other expenses		165	792	86
Net income before the deduction of corporate tax expenses		-813	2,721	-105
Current assets		23,428	34,199	32,455
Assets				
Non-Current assets		17,353	7,587	16,339
Current liabilities		14,128	13,433	18,248
Liabilities				
Non-Current liabilities		2,982	2,124	1,760
Shareholders' equity of the controlling company	KRW million	23,671	26,229	26,376
Capital				
Shareholders' equity of the non-controlling company		-	-	2,409
Total R&D expenses for the current period	KRW	1,562	1,765	1,818
R&D				
R&D expenses/sales	%	2.65	3.36	3.06
No. of R&D personnel	Employees	12	7	5

(Based on consolidated financial statements)

Environment

Classification	Unit	2019	2020	2021
Hazardous (chemical) substance spills	No. of chemical spills	0	0	0
Amount of chemicals spilled	Tons	0	0	0
Violations of environmental laws and regulations	Fines	0	0	0
No. of lawsuits filed	Lawsuits	0	0	0
No. of non-monetary sanctions	Sanctions	0	0	0

Social

Classification	Unit	2019	2020	2021
Total no. of employees	Employees	221	227	224
Executives	Total	5	3	3
Female		0	0	0
Male		5	3	3
Current employees (by employment type)	Total	210	219	212
Full-time	Female	54	54	53
Male	Employees	156	165	159
Non-regular workers	Total	6	5	9
Female		1	2	2
Male		5	3	7
Outsourced Human resources		0	2	0
Current employees (by work type)	Full-time	221	227	224
Part-time	Employees	0	0	0
Current employees (by work location)	Domestic	221	227	224
Overseas	Employees	0	0	0

Classification	Unit	2019	2020	2021
Female		14	5	9
Male		27	14	31
Under 30 years		20	13	11
By age				
30-50 years		20	6	29
Over 50 years		1	0	0
New hires	Employees	-	8	9
Recruitment of new employees				
By type				
Recruitment of seasoned personnel		-	11	31
Senior		-	12	17
Principal		-	2	15
Chief		-	0	3
Others		-	5	5
By rank				
Average tenure	Male	Years	8.7	9
Female			6.8	6
Job security	Turnover rate	%	12.7	10.0
15.8				
No. of industrial accidents occurred	Accidents	0	0	0
Industrial accidents				
Industrial accident rate	%	0	0	0
No. of deaths	Employees	0	0	0
No. of injured		0	0	0
Duration of work-hour loss	Days	0	0	0
Total education budget	KRW million	240	252	170
No. of beneficiaries of education	Employees	193	222	220
Talent development				
Training expenses per employee	KRW 1,000	1,244	1,135	775
Average training hours per employee	Hours	69	26	28
Ratio of labor costs to training expenses	%	-	1.6	0.5
Ratio of female employees	%	24.9	25	25
No. of female managers (manager level or higher)	Employees	20	20	18
Ratio of female managers (manager level or higher)	%	36	16	16
Basic salary and remuneration By gender	Male (Average salary)	KRW million	48	48
Female (average salary)			39	40
41				
No. of employees with disabilities		3	3	2
No. of senior employees (over 55 years old, excluding executives)		15	2	2
Recruitment of the socially disadvantaged	No. of foreign employees	0	0	0
Employee diversity				
No. of employees with high school diplomas but no college degrees		4	4	5
No. of national veterans		2	2	2
Ratio of employees with disabilities		1.4	1.3	0.9
Ratio of senior employees		6.8	0.9	0.9
Recruitment of the socially disadvantaged	Ratio of foreign employees	%	0	0.0
Ratio of employees with high school diplomas but no college degrees		1.8	1.8	2.2
Ratio of national veterans		0.9	0.9	0.9

Classification		Unit	2019	2020	2021	
Mutual growth	Suppliers	Total No. of subcontractors	235	226	200	
		Total purchases from subcontractors	18,925	23,005	29,684	
	Support for SMEs	Total purchases from SMEs	-	18,499	20,613	
	Support for social enterprises	Total purchases from social enterprises and people with disabilities-friendly enterprises	-	2.8	1.6	
Fair trade	No. of violations of fair trade laws	Violations	0	0	0	
	Fines imposed	KRW million	0	0	0	
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	1	1	
	No. of employees who signed the ethics pledge	Employees	221	227	224	
	Ratio of employees who signed the ethics pledge	%	100.0	100.0	100.0	
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0	
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0	
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0	
Maternity leave	Employees who have taken maternity leave	Total	5	2	0	
		Male	2	0	0	
		Female	3	2	0	
	No. of employees who have returned to work after maternity leave	Total	Employees	5	0	0
		Male		2	0	0
		Female		3	0	0
Parental leave	No. of employees who have returned to work after parental leave	Total	2	4	1	
		Male	0	1	0	
		Female	2	3	1	
	No. of employees who have returned to work after parental leave	Total	Employees	1	4	1
		Male		0	1	0
		Female		1	3	1
	Average vacation days	Days	227	327	182	
	No. of employees who have worked over 12 months after returning from parental leave	Total		-	4	1
		Male	Employees	-	1	0
Female			-	3	1	

Classification		Unit	2019	2020	2021
Human rights policies and procedures	Duration of Human rights training	Hours	-	1,135	1,100
	No. of employees who completed human rights training	Employees	-	227	220
	Ratio of employees who have completed Human rights training	%	-	100.0	98.2
	Duration of education for prevention of workplace bullying	Total hours (per employee)	162	227(1)	224(1)
	Duration of education for sexual harassment prevention		221	340(1.5)	336(1.5)
	Other education (Human rights education for people with disabilities, etc.)		162	340(1.5)	336(1.5)
CSR	Investment in CSR (including donations)	Cash donations	24	8.1	7.3
		In-kind donations		1.5	3.2

* Employment stability and Turnover rate in 2019 revised and disclosed

* Current employees: new hires and directors included

Hansol Chemical

Economy

Classification	Unit	2019	2020	2021
Income statement	Sales	544,307	619,277	768,688
	Gross profit	164,132	213,876	267,971
	Selling, general, and administrative expenses	52,979	61,942	70,287
	Operating profit	111,153	151,933	197,684
	Financial income	4,909	4,033	4,204
	Financial expenses	11,237	10,044	6,176
	Other income	5,406	6,915	6,631
	Other expenses	3,335	4,719	6,999
	Net income before the deduction of corporate tax expenses	117,331	160,812	208,702
Balance sheet	Current assets	306,707	307,726	411,301
	Assets			
	Non-Current assets	632,486	691,474	785,873
	Liabilities			
	Current liabilities	194,313	171,630	199,711
	Non-Current liabilities	224,327	205,299	229,593
	Shareholders' equity of the controlling company	448,565	553,201	689,239
Capital				
Shareholders' equity of the non-controlling company	71,988	69,069	78,630	
R&D	Total R&D expenses for the current period	KRW 10,764	13,004	13,640
	R&D expenses/sales	% 2.68	2.10	1.77
	No. of R&D personnel	Employees 134	107	120

(Based on consolidated financial statements)

Environment

Classification	Unit	2019	2020	2021	
Consumption of raw materials	Raw materials consumed	Ton/year 102,420	150,967	151,701	
Consumption of raw materials that contain recycled materials (reused materials)	Amount of recycled materials (reused raw materials) consumed	Ton/year -	133	953	
	Ratio of recycled materials (reused materials) consumed	% -	0.2	1.2	
Total energy consumption	TJ	2,636	2,628	3,119	
Total water consumption (Based on local use)		2,216,649	2,154,468	2,220,029	
Water-works	Amount of water consumed	42,410	34,711	45,879	
Underground water	Amount of underground water consumed	-	-	-	
Seawater	Amount of seawater consumed	-	-	-	
water reuse	Amount of water reuse	Ton/year -	159,476	327,361	
	Water reuse rate	% -	7.4	14.8	
GHG emissions	Emissions	tCO ₂ eq 133,715	137,675	161,242	
Air pollutant emissions	Emissions	SOx	198	95.8	5,960.2
		NOx	159	45.5	416.1
		Dust	251.8	441.1	935.8
		HCl	117	100.8	95.1
Waste water discharge	Amount of waste water discharged	Ton/year 425,040	453,730.3	486,746.9	
Water pollutants discharge	Amount of water discharged	BOD	156	19.8	28.1
		COD	77	62.6	57.0
		SS	44	30.6	46.4

Classification	Unit	2019	2020	2021	
Waste	Total Amount of waste discharged (Amount of waste treated in Korea)		5,746	6,429	8,524
	Incineration	Weight of incinerated waste Ton/year	1,102	1,592.4	2,054.8
	Landfill	Weight of waste landfilled	176	219.8	238.5
	Recycling	Weight of waste recycled	4,322	4,549.4	6,299.1
	Waste recycling rate	Waste recycling ratio %	75	71	73
Hazardous (chemical) substance spills	No. of chemical spills	Incidents	0	0	3
	Amount of chemicals spilled	Ton	0	0	5.1
Violations of environmental laws and regulations	Amount of fines	KRW million	0	0	0
	No. of lawsuits filed	Lawsuits	0	0	2
Environmental spending and investments	Investment in environmental protection	KRW million	835	5,129	3,069
	Expenses for environmental management		1,297	1,981	2,717
Environmental education	Duration of environmental training	Hours	13,984	7,140	8,812
	No. of employees who have participated in the education	Employees	437	378	415

Social

Classification	Unit	2019	2020	2021		
Total no. of employees	Employees	500	563	632		
Current employees (by employment type)	Executives	Total	9	13	14	
		Female	1	1	1	
		Male	8	12	13	
	Full-time	Total	446	508	520	
		Female	49	65	76	
		Male	397	443	444	
	Non-regular workers	Total	45	42	98	
		Female	0	0	0	
		Male	45	42	98	
Outsourced human resources		0	0	0		
Current employees (by work type)	Full-time	Employees	500	563	632	
	Part-time		0	0	0	
Current employees (by work location)	Domestic		498	560	629	
		Overseas	2	3	3	
	Female		3	11	15	
		Male	23	54	123	
			17	49	116	
	By age	Under 30 years	9	13	20	
		30-50 years	0	3	2	
		Over 50 years	-	50	100	
	Recruitment of new employees	New hires		-	50	100
By type			Recruitment of seasoned personnel	-	15	27
By rank		Senior		-	46	117
		Principal		-	10	16
		Chief		-	4	2
		Others		-	2	3
Job security	Average tenure	Male	Years 10	10	8	
		Female	5	4	4	
	Turnover rate	%	5.2	6.9	16.3	

Classification	Unit	2019	2020	2021		
Industrial accidents	No. of Industrial accidents occurred	Accidents	0	2	2	
	Industrial accident rate	%	0	0.4	0.4	
	No. of deaths	Employees	0	1	0	
	No. of injured		0	1	2	
	Duration of work-hour loss	Days	0	7,508	82	
Talent development	Total education budget	KRW million	740	868	859	
	No. of beneficiaries of education	Employees	500	485	553	
	Training expenses per employee	KRW 1,000	1,480	451	522	
	Average training hours per employee	Hours	16	17	19	
	Ratio of labor costs to training expenses	%	-	0.5	0.5	
	Ratio of female employees	%	10	11.7	12.0	
	No. of female managers (manager level or higher)	Employees	9	11	12	
	Ratio of female managers (manager level or higher)	%	8.2	10.6	11.8	
	Basic salary and remuneration By gender	Male (Average salary)	KRW million	85	90	88
		Female (average salary)		57	60	64
Employee diversity	No. of employees with disabilities		5	5	4	
	No. of senior employees (over 55 years old, excluding executives)		22	24	13	
	No. of foreign employees	Employees	0	0	0	
	No. of employees with high school diplomas but no college degrees		150	146	135	
	No. of national veterans		4	4	4	
	Ratio of employees with disabilities		1	1	1	
	Ratio of senior employees		4.2	4	2	
	Ratio of foreign employees	%	0	0	0	
	Ratio of employees with high school diplomas but no college degrees		28.7	26	21	
	Ratio of national veterans		0.8	1	1	
Mutual growth	Suppliers	Total No. of subcontractors	Subcontractors	-	147	148
		Total purchases from subcontractors	KRW million	-	105,929	144,366
	Support for SMEs	Total purchases from SMEs		-	32,615	43,876
Fair trade	No. of violations of fair trade laws	Violations	0	0	0	
	Fines imposed	KRW million	0	0	0	
Anti-corruption policy and procedures	Duration of ethics training	Hours (per employee)	-	1	1	
	No. of employees who have signed the ethics pledge	Employees	500	522	593	
	Ratio of employees who have signed the ethics pledge	%	100	92.72	93.83	

Classification	Unit	2019	2020	2021		
Violations of anti-corruption laws	No. of violations of anti-corruption laws	Incidents (employees)	0	0	0	
Information security breaches	Customer data spills, theft, losses	Incidents	0	0	0	
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	Incidents	0	0	0	
Maternity leave	Employees who have taken maternity leave	Total	7	12	13	
		Male	7	12	12	
		Female	0	0	1	
Parental leave	Employees who have returned to work after maternity leave	Total	7	12	12	
		Male	7	12	12	
		Female	0	0	0	
Parental leave	Employees who have taken parental leave	Total	4	1	2	
		Male	0	1	0	
		Female	4	0	2	
	No. of employees who have returned to work after parental leave	Total	4	1	1	
		Male	0	1	0	
		Female	4	0	1	
Average vacation days	Days	203.5	90	120		
Human rights policies and procedures	No. of employees who have worked over 12 months after returning from parental leave	Total	-	1	0	
		Male	-	1	0	
		Female	-	0	0	
	Duration of education for prevention of workplace bullying	Hours	-	1	1	
	No. of employees who completed human rights training	Employees	-	496	617	
	Ratio of employees who have completed Human rights training	%	-	88	98	
Duration of education for prevention of workplace bullying	Total hours (per employee)	-	388(1)	132(1)		
Duration of education for sexual harassment prevention		-	451(1)	609(1)		
Other education (Human rights education for people with disabilities, etc.)		-	461(1)	630(1)		
CSR	Investment in CSR (including donations)	Cash donations	KRW million	65	146	57
		In-kind donations		-	0	0
	Duration of volunteer work	Hours	1,212	480	420	
	Duration of volunteer work per employee		2.5	0.9	0.7	
Direct and indirect beneficiaries of the support programs	Employees	1,200	500	500		

* Occupational accidents in 2020: one accident decided as occupational after retirement
* Disclosed data for 2019 partially revised due to the revision of the measurement method
* Current employees: new hires included

Tapex

Economy

Classification	Unit	2019	2020	2021
Income statement				
Sales		112,605	118,772	154,922
Gross profit		20,715	27,655	36,543
Selling, general, and administrative expenses		12,437	13,813	15,289
Operating profit		8,277	13,842	21,254
Financial income	KRW million	818	290	864
Financial expenses		1,171	1,407	449
Other income		4,390	5,675	2,708
Other expenses		2,519	1,685	900
Net income before the deduction of corporate tax expenses		9,794	16,715	23,477
Balance sheet				
Assets				
Current assets		47,135	66,120	74,930
Non-Current assets		97,893	96,485	105,883
Liabilities				
Current liabilities		17,838	38,868	25,968
Non-Current liabilities		26,472	9,321	23,536
Shareholders' equity of the controlling company	KRW million	100,718	114,416	131,309
Capital				
Shareholders' equity of the non-controlling company		0	0	0
R&D				
Total R&D expenses for the current period	KRW	3,424	3,050	3,956
R&D expenses/sales	%	3.04	2.59	2.60
No. of R&D personnel	Employees	29	31	29

(Based on consolidated financial statements)

Environment

Classification	Unit	2019	2020	2021	
Consumption of Raw materials	Amount of Raw materials consumed	Ton/year	11,001	11,975	13,010
Consumption of Raw materials that contain recycled materials	Amount of recycled materials (reused Raw materials) consumed	Ton/year	2,103	2,191	2,490
	Ratio of recycled materials (reused materials) consumed	%	19.11	18.29	19.14
Total energy consumption		TJ	233	223	264
Total water consumption (Based on local use)			1,952,357	2,022,800	2,057,568
Water-works	Amount of water consumed	Ton/year	1,952,357	2,022,800	2,057,568
Underground water	Amount of underground water consumed	Ton/year	0	0	0
Seawater	Amount of seawater consumed	Ton/year	0	0	0
Water reuse	Amount of water reuse	Ton/year	1,734,544	2,003,076	2,034,712
	Ratio of water reuse	%	88.84	99.02	98.89
GHG emissions	Emissions	tCO ₂ eq			
	Direct emissions (Scope 1)		3,398	3,396	4,285
	Indirect emissions (Scope 2)		8,096	7,643	8,800
Air pollutant emissions	Emissions	kg			
	SOx		147	58	351
	NOx		6,315	8,672	9,958
	Dust		29,526	13,894	13,979
	HCl		0	0	0
Waste water discharge	Amount of waste water discharged	Ton/year	152,469	13,807	15,999
	Emissions intensity	Tons/product	15.83	1.31	1.42
Water pollutants discharge	Emissions	ppm			
	BOD		3.1	1.7	1.8
	COD		0	0	8.6
	SS		1.0	2.4	0.8

Classification	Unit	2019	2020	2021		
Waste	Total Amount of waste discharged (Amount of waste treated in Korea)		1,046	1,215	1,398	
	Incineration	Weight of incinerated waste	Ton/year	0	0.8	30
	Landfill	Weight of waste landfilled	Ton/year	0	33	14
	Recycling	Weight of waste recycled	Ton/year	1,046	1,181	1,353
	Waste recycling rate	Waste recycling ratio	%	100.00	97.21	96.83
Hazardous (chemical) substance spills	No. of chemical spills	Incidents	0	0	0	
	Amount of chemicals spilled	Ton	0	0	0	
Violators of environmental laws and regulations	Amount of fines	KRW million	0	0	0	
	No. of lawsuits filed	Lawsuits	0	0	0	
	No. of non-monetary sanctions	Sanctions	0	0	0	
Environmental spending and investments	Eco-friendly purchasing	Amount of green purchases	KRW million	358	230	232
	Investment in environmental protection	Expenses for environmental investment	KRW million	317	91	1,378
		Expenses for environmental management	KRW million	41	68	223
Environmental education	Duration of environmental education	Hours	56	94	100	
	No. of employees who have participated in the education	Employees	200	327	392	

Social

Classification	Unit	2019	2020	2021
Total no. of employees	Employees	235	277	401
Current employees (by employment type)				
	Total	6	7	7
	Executives			
	Female	1	1	1
	Male	5	6	6
	Total	227	269	363
	Full-time			
	Female	28	30	31
	Male	199	239	332
	Total	2	1	2
	Non-regular workers			
	Female	2	1	1
	Male	0	0	1
	Outsourced Human resources	0	0	29
Current employees (by work type)				
	Full-time	235	277	394
	Part-time	0	0	7
Current employees (by work location)				
	Domestic	232	274	398
	Overseas	3	3	3
	Female	1	7	4
	Male	58	111	177
Recruitment of new employees				
	By age			
	Under 30 years	24	55	59
	30-50 years	32	61	113
	Over 50 years	3	2	9
	New hires	42	111	113
	By type			
	Recruitment of seasoned personnel	17	7	68

Classification	Unit	2019	2020	2021
Recruitment of new employees	Rank and file	0	5	3
	Chief	3	12	12
	Deputy section Chief	5	2	7
	Section Chief	2	2	5
	Deputy department head	0	0	2
	Department head	1	0	1
	Employees in charge	0	2	0
Job security	Factory worker	48	94	150
	Others	0	1	1
	Average tenure	6	6	5
	Male	8	8	8
	Female	8	8	8
	Turnover rate	14.04	11.19	8.98
	%			
Industrial accidents	No. of Industrial accidents occurred	1	2	2
	Industrial accident rate	0.43	0.72	0.50
	No. of deaths	0	0	0
	No. of injured	1	2	2
	Duration of work-hour loss	46	46	42
Talent development	Total education budget	87	123	185
	No. of beneficiaries of education	235	277	401
	Training expenses per employee	372	445	462
	Average training hours per employee	N/A	13	10
	Ratio of labor costs to training expenses	0.68	0.78	0.87
	Ratio of female employees	13.19	11.55	13.97
	No. of female managers (manager level or higher)	7	7	10
	Ratio of female managers (manager level or higher)	2.98	2.53	2.49
	Basic salary and remuneration by gender	50	53	55
	Male (Average salary)	45	44	45
Female (average salary)	2	2	3	
Employee diversity	No. of employees with disabilities	2	2	3
	No. of senior employees (over 55 years old, excluding executives)	1	3	8
	No. of foreign employees	-	3	3
	No. of employees with high school diplomas but no college degrees	63	88	156
	No. of national veterans	2	2	2
	Ratio of employees with disabilities	0.85	0.72	0.75
	Ratio of senior employees	0.43	1.08	2.00
	Ratio of foreign employees	0.00	1.08	0.75
	Ratio of employees with high school diplomas but no college degrees	26.81	31.77	38.90
	Ratio of national veterans	0.85	0.72	0.50

Classification	Unit	2019	2020	2021
Mutual growth	Total No. of subcontractors	95	102	114
	Total purchase from subcontractors	46,471	49,792	71,199
	Support for SMEs	25,201	31,239	47,211
Fair trade	No. of violations of fair trade laws	-	-	-
	Fines imposed	-	-	-
Anti-corruption policy and procedures	Duration of ethics training	0.5	0.5	0.5
	No. of employees who have signed the ethics pledge	176	244	311
Violations of anti-corruption laws	Ratio of employees who have signed the ethics pledge	74.89	88.09	77.56
	No. of violations of anti-corruption laws	-	-	-
Information security breaches	Customer data spills, theft, losses	-	-	-
Complaints on discrimination in the workplace	No. of complaints on discrimination in the workplace filed and handled	-	-	-
Maternity leave	Employees who have taken maternity leave	4	10	9
	Male	4	7	6
	Female	-	3	3
Maternity leave	No. of employees who have returned to work after maternity leave	4	9	10
	Male	4	7	6
Maternity leave	Female	-	2	4
	Employees who have taken maternity leave	4	6	1
Maternity leave	Male	2	3	-
	Female	2	3	1
Maternity leave	No. of employees who have returned to work after maternity leave	3	1	6
	Male	1	-	4
Maternity leave	Female	2	1	2
	Average vacation days	120	233	304
Human rights policies and procedures	No. of employees who have worked over 12 months after returning from parental leave	5	6	6
	Male	-	1	2
	Female	5	5	4
Human rights policies and procedures	No. of hours for human rights training	-	-	1
	No. of employees who completed human rights training	-	-	369
	Ratio of employees who completed Human rights training	-	-	92.02
	Duration of education for prevention of workplace bullying	232 (1)	236 (2)	369 (2)
	Duration of education for sexual harassment prevention	232 (1)	236 (1)	369 (1)
CSR	Other education (Human rights education for people with disabilities, etc.)	232 (1)	236 (2)	369 (2)
	Investment in CSR (including donations)	0	0	0
	Cash donations	2	3	10
	In-kind donations	45	18	18
	Duration of volunteer work per employee	0.19	0.06	0.04
Direct and indirect beneficiaries of the support programs	20	65	86	

* Current employees: four registered executives and 29 outsourced staffers included

GRI Standards Index

Universal Standards

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**GRI 300
Environment**

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	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	6.4.4/6.8.7	57	●
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	404-1	Average duration of training per year per employee	6.4.7	74-93	●
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	404-3	Percentage of employees receiving regular performance and career development reviews		74-93	●
Diversity and equal opportunity	405	Topic-specific disclosures		32-33	●
	405-1	Diversity of governance bodies and employees	6.2.3/6.3.7/ 6.3.10/6.4.3/6.4.4	74-93	●
	405-2	Ratio of basic salary and remuneration of women to men		74-93	●
Human rights assessment	412	Topic-specific disclosures		23	●
	412-2	Employees training on Human rights policies or procedures	6.3.5	74-93	●
Local communities	413	Topic-specific disclosures		54-55	●
	413-1	Operations with local community engagement, impact assessments, and development programs	6.3.9/6.5.1- 6.5.3/6.8	60-61	●
	413-2	Operations with significant actual and potential negative impacts on local communities		X	●
Supplier social assessment	414	Topic-specific disclosures		30-31	●
	414-1	New suppliers that were screened using social criteria		X	●
	414-2	Negative social impacts in the supply chain and actions taken		59	●
Marketing and labeling	417	Topic-specific disclosures		X	●
	417-1	Requirements for product and service information and labeling		48-49	●
	417-2	Incidents of non-compliance concerning product and service information labeling	6.7.3	X	●
	417-3	Incidents of non-compliance concerning marketing communications		X	●

UN Sustainable Development Goals

The UN SDGs (Sustainable Development Goals, hereinafter referred to as SDGs), which replace the Millennium Development Goals (MDGs), are the common goals the United Nations and the international community aim to achieve from 2016 to 2030. The SDGs consist of 17 goals and 169 specific tasks for the sustainable development of all nations around the world, such as reduction of poverty and inequality and responses to climate change, as well as economic growth and job creation. Hansol Group's key issues for sustainable management align with the UN SDGs. For the responsible fulfillment of our tasks, we disclose our sustainability report.

Core issues	UN SDGs	Activities
1. Creation of a safe work environment	 	<ul style="list-style-type: none"> - ISO 45001 certification obtained By Hansol Paper, Hansol Logistics, Hansol PaperTech, Hansol Chemical, Hansol Technics, and Tapex - Improving the integrated safety management of the Hansol Paper supply chain - Expansion of safety and health management body at Hansol Logistics and Hansol Technics
2. Increase of product responsibility and customer satisfaction	 	<ul style="list-style-type: none"> - ISO 9001 and quality-related certifications obtained By Hansol Paper, Hansol Technics, Hansol Logistics, Hansol HomeDeco, Hansol Chemical, and Tapex
3. Focus on ethical management and eradication of corrupt practices	 	<ul style="list-style-type: none"> - Hansol Group employees complying with the code of ethics
4. Reduction of energy consumption and efficient management	 	<ul style="list-style-type: none"> - Energy management system applied to Hansol Group smart plants
5. Air pollutants management in the production process		<ul style="list-style-type: none"> - ISO 14001 certification obtained By Hansol Paper, Hansol PaperTech, Hansol PNS, Hansol Technics, Hansol Logistics, Hansol HomeDeco, Hansol Chemical, and Tapex - Hansol Paper with green certification - Afforestation in New Zealand By Hansol HomeDeco
6. Development and designing of eco-friendly products	    	<ul style="list-style-type: none"> - Expansion of the green product lineup By Hansol Paper, Hansol PaperTech, Hansol Technics, Hansol HomeDeco, and Tapex - Single-use items replaced with green products at Hansol Paper - Green packaging company Hansol BS acquired By Hansol PNS
7. Financial and non-financial risk response and management		<ul style="list-style-type: none"> - Hansol Group risk response process applied - M&A with new growth businesses - Sustainability management evaluation of Hansol Paper subcontractors
8. Safe discharge and management of waste, waste water, and chemical substances	 	<ul style="list-style-type: none"> - Hansol Chemical wastewater treatment plant denitrification expanded - Investment in environmental facilities for resource circulation by Hansol Paper - Investment in odor removal for local communities by Hansol PaperTech
9. GHG-emissions management in response to climate change	 	<ul style="list-style-type: none"> - Disclosure of Scope 1&2 GHG emissions of Hansol Group
10. In-house human rights policies & education		<ul style="list-style-type: none"> - Establishment of a human rights management system by Hansol Group
11. Work-life balance as part of corporate culture	 	<ul style="list-style-type: none"> - Hansol Paper, Hansol Chemical, and Tapex certified as family-friendly companies - Hansol Technics certified for work-study balance - Selective employee benefits programs introduced By Hansol Inticube

Independent Assurance Statement

To readers of HANSOL GROUP SUSTAINABILITY REPORT 2022

Introduction

Korea Management Registrar (KMR) was commissioned by Hansol Holdings 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 Hansol Holdings. KMR's responsibility is to perform an assurance engagement as agreed upon in our agreement with Hansol Holdings and issue an assurance statement.

Scope and Standards

Hansol Holdings 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 the Core Options of the GRI standards was included in the scope of the assurance. We have reviewed the topic-specific disclosures of standards which were identified in the materiality assessment process.

- GRI Sustainability Reporting Standards
- Universal standards
- Topic specific standards
 - Management approach of Topic Specific Standards
 - GRI 205: Anti-Corruption
 - GRI 302: Energy
 - GRI 303: Water
 - GRI 305: Emissions
 - GRI 306: Effluents and Waste
 - GRI 401: Employment
 - GRI 403: Occupational Health and Safety
 - GRI 412: Human Rights Assessment

As for the reporting boundary, the engagement excludes the data and information of Hansol Holdings' 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 Hansol Holdings 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 Hansol Holdings 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 applied the Core Option of the GRI Standards. Nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles.

Inclusivity | Hansol Holdings 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 | Hansol Holdings 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 | Hansol Holdings 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 Hansol Holdings actions.

Impact | Hansol Holdings 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 Hansol Holdings and did not provide any services to Hansol Holdings that could compromise the independence of our work.

July 2022 Seoul, Korea

(*as of June 2022)

Affiliates with Certifications

Affiliate	Certification				
	Environment	Quality	Safety and health	Family-friendly company certification	Others
Hansol Paper	ISO 14001 (Daejeon/Janghang/ Sintanjin/Cheonan Plants)	ISO 9001 (Daejeon/Janghang/ Sintanjin/Cheonan Plants)	ISO 45001 (Daejeon/Janghang/ Sintanjin/Cheonan Plants) KOSHA MS	Certified as a family- friendly company	Gold-certified in the Ecovadis sustainability evaluation
Hansol PaperTech	ISO 14001 (Headquarters)		ISO 45001 (Headquarters)		
Hansol PNS	ISO 14001 (Paper distribution division)				
Hansol Technics	ISO 14001 (Jincheon/Ochang Plants)	ISO 9001 (Jincheon/Ochang Plants) IATF 16949 (Automobile quality management system) certification	ISO 45001 (Jincheon/Ochang Plants)		
Hansol Logistics	ISO 14001 (Headquarters)	ISO 9001 (Headquarters)	ISO 45001 (Headquarters)		AEO certification (Excellent company for export/import safety management) Outstanding logistics provider (General logistics service area, international freight forwarding areas, trucking area)
Hansol HomeDeco	ISO 14001 (Iksan Plant)	ISO 9001 (Iksan Plant)	KOSHA-MS		
Hansol Chemical	ISO 14001 (Jeonju/Ulsan Plants) Green company	ISO 9001 (Jeonju/Ulsan Plants) IATF 16949	ISO 45001 (Jeonju/Ulsan Plants)	Certified as a family- friendly company	
Tapex	ISO 14001 (Yanggam/Paltan Plants)	ISO 9001 (Yanggam/ Paltan/Hyangnam Plants) IATF 16949 (Automobile quality management system) certification	ISO 45001 (Yanggam/Paltan Plants)	Certified as a family- friendly company	Materials/parts/equipment business (Korea Evaluation Institute of Industrial Technology)

Awards

(2020~Jun. 2022)

Affiliates	Awards
Hansol Holdings	Gold prize in the Sustainability Management Report Category at the 2020 Spotlight Awards Global Communications Competition
Hansol Paper	<p>The 14th Korea Packaging Fair (Minister of Trade, Industry and Energy Prize)</p> <p>2020 World Star Packaging Awards (Packaging Materials & Components)</p> <p>Packaging Materials & Components</p> <p>The 15th Korea Packaging Fair (President of the Korea Institute of Industrial Technology Award)</p> <p>The most respected company in Korea (ranked top in the paper sector)</p>
Hansol Technics	<p>Award Certificate from the Korea Commission for Corporate Partnership (Dec. 2020)</p> <p>Award Certificate for supporting the creation of the Mutual growth cooperation fund in rural areas By the Ministry of Trade, Industry and Energy (Dec. 2021)</p> <p>Appreciation plaque as a business with best practice for learning at work (Dec. 2021)</p>
Hansol PNS	Excellent business in corporate governance report disclosure (Korea Exchange, November 2021)
Hansol Chemical	<p>Merit for material parts equipment technology development - Industrial contribution category (Presidential Prize) in 2021</p> <p>Chosen for the World Class Plus Program in 2021 - Si cathode material (Minister of Trade, Industry and Energy)</p>

Local business sites

Hansol Holdings	Headquarters	25th Floor, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Headquarters	23rd-24th Floors, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Janghang Plant	149 Jangsan-ro, Janghang-eup, Seocheon-gun, Chungcheongnam-do, Republic of Korea
Hansol Paper	Daejeon Plant	50 Sinilseo-ro 68 beon-gil, Daedeok-gu, Daejeon, Republic of Korea
	Cheonan Plant	4186 Sejong-ro, Gwangdeok-myeon, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Republic of Korea
	Sintanjin Plant	60 Sinilseo-ro 126 beon-gil, Daedeok-gu, Daejeon, Republic of Korea
	Environmental Business Headquarters	3rd Floor, Ubiquitous Building, 68 Pangyo-ro 255 beon-gil (616 Sampyeong-dong), Bundang-gu, Seongnam, Gyeonggi-do, Republic of Korea
Hansol PaperTech	Headquarters	80 Daechi 7-gil, Daejeon-myeon, Damyang-gun, Jeollanam-do, Republic of Korea
Hansol PNS	Headquarters (paper distribution division)	5th Floor, Ilheung Building, 213 Toegy-eo, Jung-gu, Seoul, Republic of Korea
	Headquarters (IT Service Division)	13th-14th Floors, Business Tower, Nuritkum Square Building, 396 Worldcupbuk-ro, Mapo-gu, Seoul, Republic of Korea
	Chungmuro Center	1st-2nd Floors, 22 Changgyeonggung-ro 1-gil, Jung-gu, Seoul, Republic of Korea
	Paju Converting Center	108 Jikji-gil, Paju-si, Gyeonggi-do, Republic of Korea
	Paju IntegRation Center	96 Jikji-gil, Paju-si, Gyeonggi-do, Republic of Korea
Hansol HomeDeco	Headquarters	27th Floor, Specialty Contractors Hall, 15 Boramae-ro 5-gil, Dongjak-gu, Seoul, Republic of Korea
	TI Business Division	15th Floor, Jaram Building, 78 Mapo-daero, Mapo-gu, Seoul, Republic of Korea
	Iksan Plant	54 Seogam-ro 17-gil, Iksan-si, Jeollabuk-do, Republic of Korea
Hansol Logistics	Headquarters	22nd Floor, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Icheon Center	#202, 288 Cheongganggachang-ro, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea
	Gunsan CY Center	Gunsan Station, 197 Naeheung 2-gil (Naeheung-dong), Gunsan-si, Jeollabuk-do, Republic of Korea
	Gunsan Branch	Pier 5, Gunsan Port, 194 Seohae-ro (Soryong-dong), Gunsan-si, Jeollabuk-do, Republic of Korea
	Damyang Center	Hansol PaperTech, 80 Daechi 7-gil, Daejeon-myeon, Damyang-gun, Jeollanam-do, Republic of Korea
	Daejeon Center	Hansol Paper Daejeon Plant, 50 Sinilseo-ro 68beon-gil, Daedeok-gu, Daejeon, Republic of Korea
	Busan Center	11 Floor, Jungang Building, 89 Haegwan-ro (Daechang-dong 1-ga), Jung-gu, Busan, Republic of Korea
	Busan New Port Center	#202 Jian Square, 6 Hwajeonsandan 4-ro 30beon-gil, Gangseo-gu, Busan, Republic of Korea
	Samsung C&T Fashion Business Team	M1 Floor, Kendall Square Bucheon Logistics Park, 80 Sinheung-ro 511beon-gil, Bucheon, Gyeonggi-do, Republic of Korea
	Metropolitan Area Business Team	M2 Floor, Kendall Square Bucheon Logistics Park, 80 Sinheung-ro 511beon-gil, Bucheon, Gyeonggi-do, Republic of Korea
	Sintanjin CY Center	Sintanjin CY, 24-3 Pyeongchon-dong, Daedeok-gu, Daejeon, Republic of Korea
	Sintanjin Center	Hansol Paper Sintanjin Plant, 60 Sinilseo-ro 126beon-gil (Sinil-dong), Daedeok-gu, Daejeon, Republic of Korea
	Opo Center	Hansol REF, 34-16 Jangji 9-gil (Jangji-dong), Gwangju, Gyeonggi-do, Republic of Korea
	Suwon Center	4th Floor, Hansol REF, 55 Omokcheon-ro 132beon-gil (Gosaek-dong), Gwonseon-gu, Suwon, Republic of Korea
	Iksan Center	Hansol HomeDeco Iksan Plant, 54 Seogam-ro 17-gil, Iksan, Jeollabuk-do, Republic of Korea
	Janghang Center	Hansol Paper Janghang Plant, 149 Jangsan-ro, Janghang-eup, Seocheon-gun, Chungcheongnam-do, Republic of Korea
	Cheonan Center	Hansol Paper Cheonan Plant, 4186 Sejong-ro, Gwangdeok-myeon, Cheonan-si, Chungcheongnam-do, Republic of Korea
Hansol Technics	Headquarters	5th Floor, Pine Avenue Building B, 100 Eulji-ro, Jung-gu, Seoul, Republic of Korea
	Jincheon Plant	55 Hansam-ro, Deoksan-myeon, Jincheon-gun, Chungcheongbuk-do, Republic of Korea
	Ochang Plant	140 Gwahaksaneop 1-ro, Oksan-myeon, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, Republic of Korea
Hansol Inticube	Headquarters	13th-14th Floors, Business Tower, Nuritkum Square Building, 396 Worldcupbuk-ro, Mapo-gu, Seoul, Republic of Korea
Hansol Chemical	Headquarters	7th-8th Floors, K-Tower, 513, Teheran-ro, Gangnam-gu, Seoul, Republic of Korea
	Jeonju Plant	873 Gwahang-ro, Bongdong-eup, Wanju-gun, Jeollabuk-do, Republic of Korea
	Ulsan Plant	116 Napdo-ro, Nam-gu, Ulsan, Republic of Korea
Tapex	Headquarters	#812-813, 8th Floor, 17 Daehak4-ro, Yeongtong-gu (lui-dong, Ace Gwanggyo Tower 1-cha), Suwon, Gyeonggi-do, Republic of Korea
	Yanggam Plant	62-16 Chorok-ro 532beon-gil, Yanggam-myeon, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Hwaseong Plant	95-4 Goju-ri, Paltan-myeon, Hwaseong-si, Gyeonggi-do, Republic of Korea
	Uniwrap Plant	108 Mannyeon-ro, Hyangnam-eup, Hwaseong-si, Gyeonggi-do, Republic of Korea

Membership of Association

Hansol Holdings

Korea Listed Companies Association
Korea Investor Relations Service
Korea Employers Federation

Hansol Paper

Korean Federation of Design Industry Associations
Korean Standards Association
Korea Personnel Improvement Association
Korea International Trade Association
Korea Electric Engineers Association
The Institute of Internal Auditors
Seoul Chamber of Commerce and Industry
Daedeok Association
Korea Fire Safety Institute
Korea Chemicals Management Association
Korea Industrial Technology Association
Korea Industrial Safety Association
Korea Listed Companies Association
The Korea Employers Federation
Daejeon Chungnam Environmental Preservation Association
Korea Paper Association
Korea Energy Engineers Association
Fair Competition Federation
Daejeon Sejong Chungnam Environmental Engineers Association
Korea Society of Packing Science & Technology
Korea Exchange
KOREA Investor Relations Service
Korea Resources Circulation Industry Promotion Association (GR Association)
Korean Standards Association
Korea Package Design Association
Korea Chamber of Commerce and Industry (Associate Member)
Federation of Korean Industries
Construction Association of Korea
International contractors Association of Korea
Korea Construction Engineers Association

Korea Engineering and Consulting Association
Korea Electrical Contractors Association
Korea Fire Facility Association
Korea Electric Engineers Association
Korea Fire Safety Institute
Korea Specialty Contractors Association
The Seongnam Chamber of Commerce and Industry

Hansol PaperTech

Korea Paper Industry Cooperative
Korea Fire Safety Institute
Gwangju Jeonnam Jeju Area PSM Council
Korea International Trade Association

Hansol PNS

Korea Information Technology Quality Council
Korea International Trade Association
Korean Information & Communication Contractors Association
Korea Listed Companies Association
Listed Company CFO Forum

Hansol HomeDeco

Korea Industrial Safety Association
Korean Industrial Health Association
Korean Standards Association
Korea Electric Engineers Association
Jeonbuk Environmental Managers Council
Jeonbuk Branch of Korea Safety Association
Hansol Honam Council
Hansol Safety and Health Council
Korea Specialty Contractors Association Seoul Metropolitan City Council
Korea Wood Panel Association
Korea Exchange Seoul Office building
Iksan Business Environment Council
Iksan Regional Safety and Health Council
Korea Energy Engineers Association

Jeonbuk Environmental Preservation Association
Korea Waste Recycling Association
Jeonbuk Regional Chemical Plant Council
Hazardous Goods Fire Safety Council
Korea Exchange
Korea International Trade Association
Korea Listed Companies Association
Korea Franchise Association

Hansol Logistics

Korea Trucking Association
Korea Freight Forwarders Association
Korea Railroad Logistics Association
Korea Customs Logistics Association
Korea International Logistics Association
Korea International Trade Association
International Air Transport Association (IATA)
Korea Port Logistics Association
AEO Promotion Association
Korea Chamber of Commerce and Industry
Listed Companies Council

Hansol Technics

Environmental Preservation Association
Korea Industrial Safety Association
Korean Industrial Health Association
Korea Fire Safety Institute
Korean Nurses Association
Korea Photovoltaic Industry Association
Chungbuk Renewable Energy Association
Chungbuk Environmental Engineers Association
Korea Personnel Improvement Association

Hansol Inticube

Korean Information & Communication Contractors Association
Korea Software Financial Cooperative
Korea International Trade Association
KOSDAQ Listed Companies Association
Korea Artificial intelligence Association
Korea Chamber of Commerce and Industry

Hansol Chemical

Korea Chamber of Commerce and Industry
Korea International Trade Association
International Semiconductor Equipment and Materials Association
Korea Industrial Safety Association
Korea Fire Safety Association
Ulsan Environmental Engineers Association
Korea Energy Engineers Association
Jeonbuk Environmental Engineers Association
Wanju Environmental Engineers Association
Jeonbuk Chemical Plant Council
Jeonju Wanju Industrial Complex Fire Council
Jeonju Industrial Complex Safety and Health Managers Council
Jeonbuk Green Business Council
Jeonbuk Business Environment Council

Tapex

Korea Listed Companies Association
Hwaseong Chamber of Commerce and Industry
Korea International Trade Association
Korea Vinyl Environmental Council
Korea Industrial Technology Association
Korea Adhesive Industry Association
The Society of Adhesion and Interface, Korea
Korea Fire Safety Association
Korea Industrial Safety Association
Korea Electric Engineers Association
Korea Energy Engineers Association



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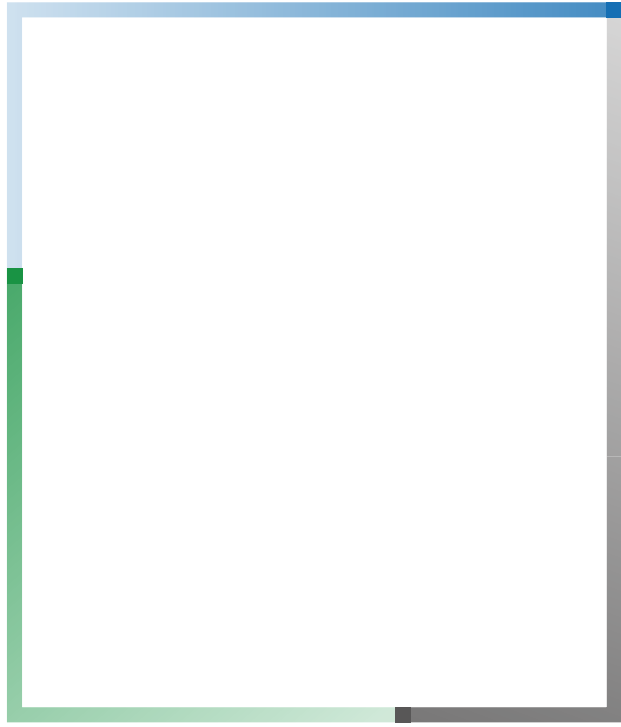
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This report is printed using soy ink that contains a high amount of vegetable oil extracted from soybeans. Due to the high concentration of vegetable oil, soy ink is highly biodegradable and low in volatile organic compounds (VOCs).



 **Hansol**

