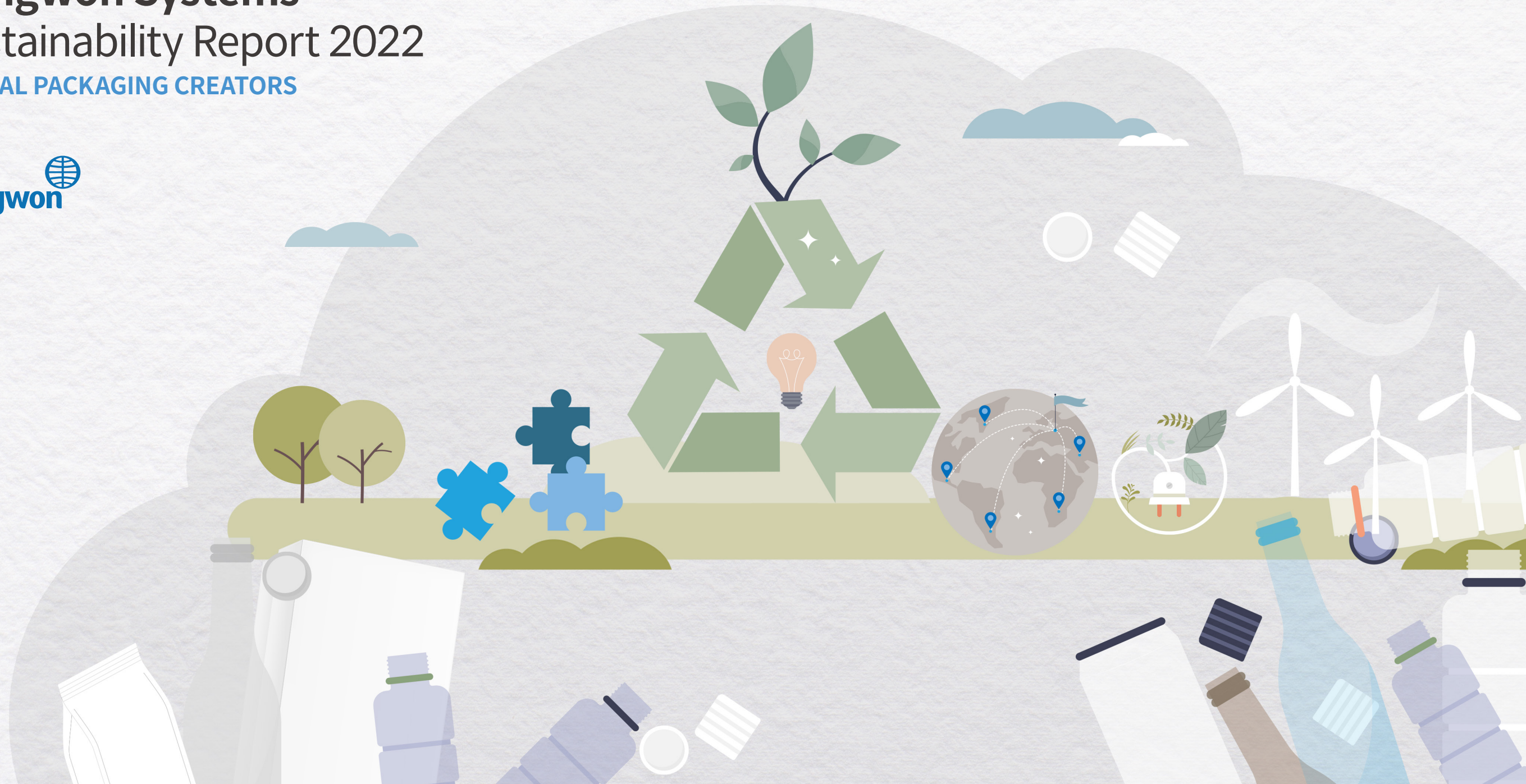


Dongwon Systems

Sustainability Report 2022

GLOBAL PACKAGING CREATORS



ABOUT THIS REPORT

Report Overview

Dongwon Systems is publishing its second sustainability report to transparently communicate the economic, social, and environmental value and performance created through its global business activities with various stakeholders. We hope to utilize this report as a communication channel to share Dongwon Systems' sustainability goals, activities, performance, and plans with stakeholders.

Reporting principles and standards

This report reflects the Core Option of the Global Reporting Initiatives (GRI) Standards, a sustainability reporting guideline, as well as indicators from the United Nations Sustainable Development Goals (SDGs), the Task Force on Climate-related Financial Disclosures (TCFD), and the Sustainability Accounting Standards Board (SASB). Financial information in this report is prepared in accordance with Korean International Financial Reporting Standards (K-IFRS).

Reporting period

This report covers our economic, social, and environmental performance and activities from January 1, 2022 to December 31, 2022. For quantitative performance, we used data from the previous three years (January 2020-December 2022) to show time-series trends. For material performance outside the reporting period, we have included issues from the first half of 2023.

Reporting Scope

The scope of this report covers Dongwon Systems headquarters and all domestic operations. For some topics, we report on all domestic and overseas business sites. Financial information is prepared on a K-IFRS consolidated basis, and some information that requires attention to the scope and boundaries of reporting is presented in separate notes to enhance the convenience of readers.

Reporting frequency

Annually (first published in 2022)

Independent Assurance

The financial information in this report has been independently audited by Hanyoung Accounting. The non-financial information has been certified in accordance with the Assurance Engagement other than Audits and Reviews of Historical Financial Information issued by the Korean Institute of Certified Public Accountants (International Standard on Assurance Engagement 3000 (Revised) as adopted by the Republic of Korea) by requesting third-party assurance from a specialized assurance firm, Shinhan Accounting. The detailed assurance opinion is included in the Appendix.

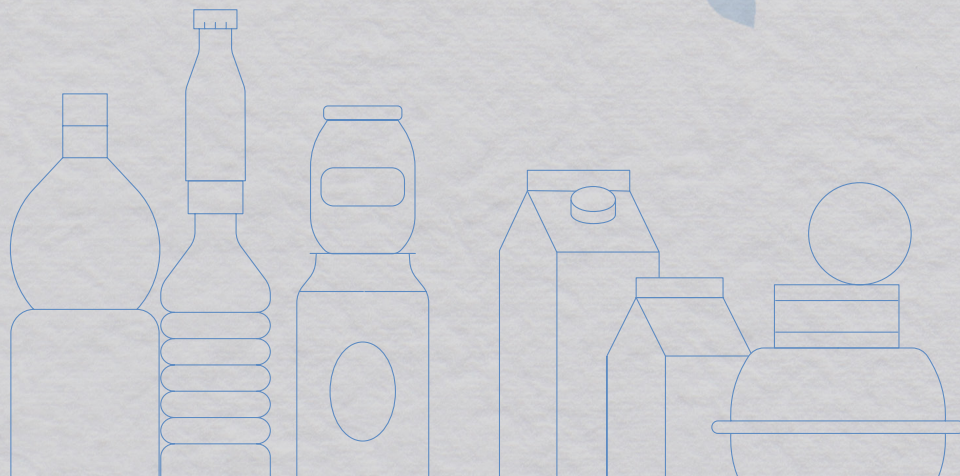
Inquiries : If you have any inquiries regarding this report, please feel free to contact us.

Department: Risk Management

Address: 100, Asanvalleydong-ro, Dunpo-myeon, Asan-si, Chungcheongnam-do, Republic of Korea

Email: limcholhwi@dongwon.com, jwhyun@dongwon.com

Tel : 02-589-4779





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INTRODUCTION

Dongwon Systems, a global packaging creator, is Korea's representative globalized packaging materials specialist.

Dongwon Systems, which set value creation for its customers as the first priority and relentlessly challenged its potential, has, as a result, written the history of packaging innovation in Korea.

We are always working with our customers to create exciting products that stand out while also touching the hearts of consumers with the belief that packaging is the art of presenting products attractively.

CEO Message

Our management strategy to secure future growth is as follows.



Dear stakeholders,

Dongwon Systems has grown into a global packaging material specialist with a flexible attitude that always responds to changes and a spirit that puts customer value first.

Building on its success to date, Dongwon Systems is simultaneously seeking to develop into a global company that pursues both social responsibility and environmental value, which means a solid strategy and execution through ESG management.

Our management strategy to secure our future growth is as follows.

First, we will pursue financial value creation and sustainable development simultaneously.

To this end, we will develop eco-friendly packaging materials through product lightening, expand investment in high-efficiency energy facilities and environmental pollution reduction facilities, and expand our secondary battery business to balance economic performance with environmental and social value creation.

Second, we will strengthen communication with our stakeholders, so that we can show you how we are fulfilling our social responsibility while growing as a company.

Through our sustainability report, we will further strengthen communication with our stakeholders while creating financial value.

Lastly, we will build an organizational culture to foster the best talent to achieve sustainable management together.

We have a Career Development Program to improve employees' work skills and an Open Door Policy to provide employees with the opportunity to freely communicate with the CEO at any time. We will also support employees to become the best in their fields and provide them with opportunities to expand globally by improving their work skills. Last but not least, we will take care to maintain work-life balance.

Based on our past performance and future growth potential, Dongwon Systems will make a real difference and further strengthen our ESG management strategies, including climate change, resource and waste management. Through these efforts, we will become a leader in the global packaging material industry, leading the health of the planet and the happiness of local communities.

In addition, Dongwon Systems will not rest on its laurels, but will continue to strengthen its core competencies and prepare for a solid future as a socially responsible company, striving to become "a company trusted and loved by customers" with products and solutions that provide the highest customer value. We also promise to fulfill our roles and responsibilities in ESG with the mission of creating a sustainable and better future, and will reward all stakeholders, including employees, customers, investors, local communities, and partner companies.

CEO **Sung-Hak Jang, Jum-Kun Cho, Bum-Won Suh**

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Company Overview

General information

Established in 1980, Dongwon Systems has grown and focused its organizational capabilities to provide the best products with high functionality and convenience with a challenging spirit that is not afraid of change and a caring heart that values customers.

As the largest comprehensive packaging material company in Korea, we have gained global competitiveness as a comprehensive packaging material specialist from materials to finished products through bold investment in R&D, development of differentiated new items, active overseas business promotion, and environmentally friendly efforts.

Dongwon Systems will continue to develop into an advanced global materials company by developing various functions that can be used in daily life, such as eco-friendly packaging materials and electronic component materials, based on its technology and competitiveness to produce high-quality functional packaging materials that can increase customer value.

(as of end of December 2022)

Company	Dongwon Systems Corporation
Founded	1980.5.10.
Listed	1994.3.29.
Head Office	68, Mabang-ro, Seocho-gu, Seoul, Republic of Korea
CEO	Sung-Hak Jang, Jum-Kun Cho, Bum-Won Suh
Website	http://www.dongwonsystems.com
Employees	1,686
Credit Rating	A+ (Corporate Bond: Korea Ratings, NICE Information Service)

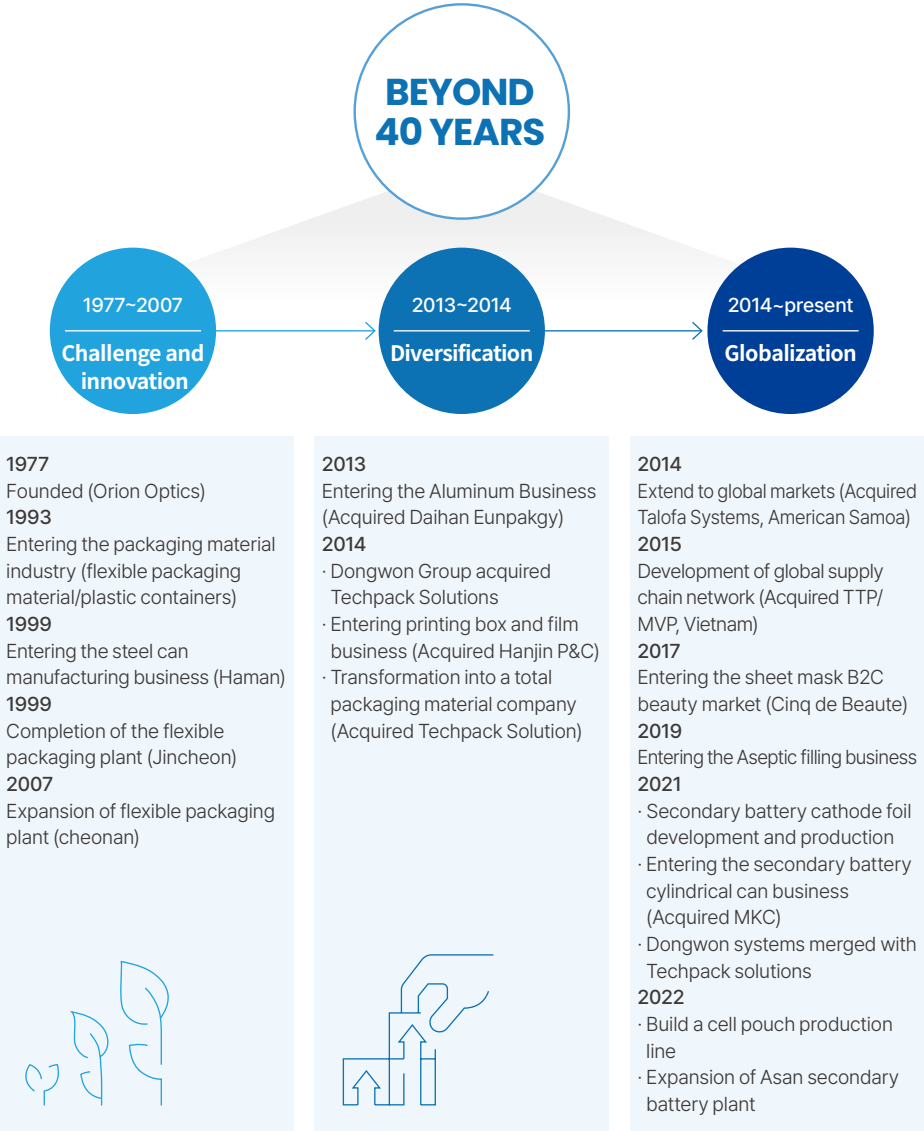
Key financial performance in 2022

(Unit: KRW million)

Total Assets	sales
1,451,669	1,436,999
Operating Profit	Net income
91,839	72,335

*Based on consolidated financial statements

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Corporate vision



ESG management organization

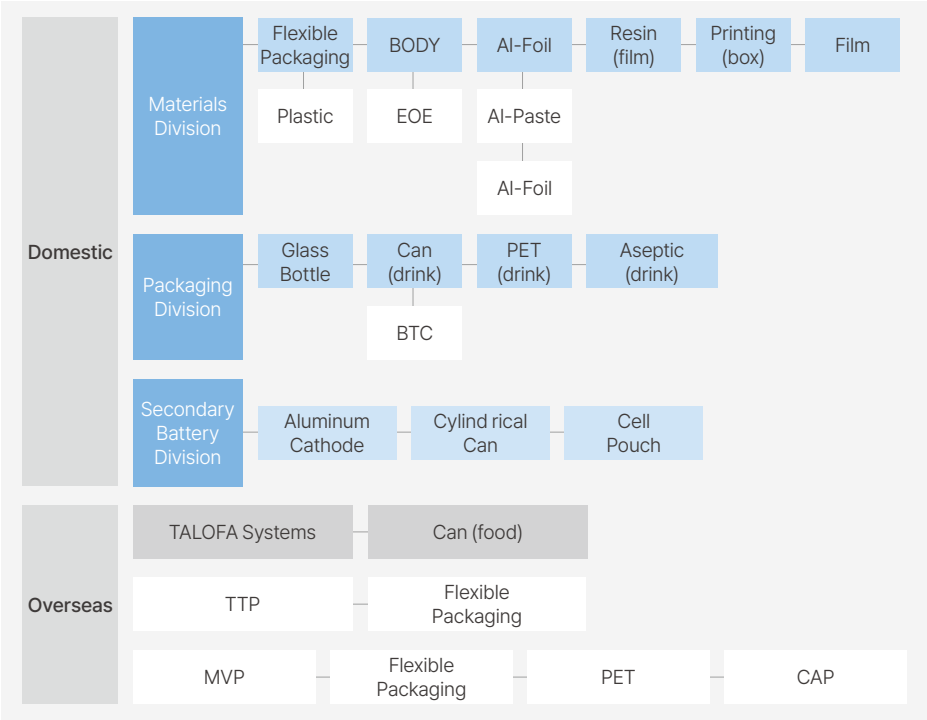
ESG governance

Dongwon has established a group-wide ESG management committee to actively implement ESG management for sustainable growth. The Dongwon ESG management committee, chaired by Jae-ok Kim, has been established to closely and systematically manage the ESG management of all group companies, as opposed to the previous method of establishing and operating ESG committees and working groups under the board of directors of each affiliate.

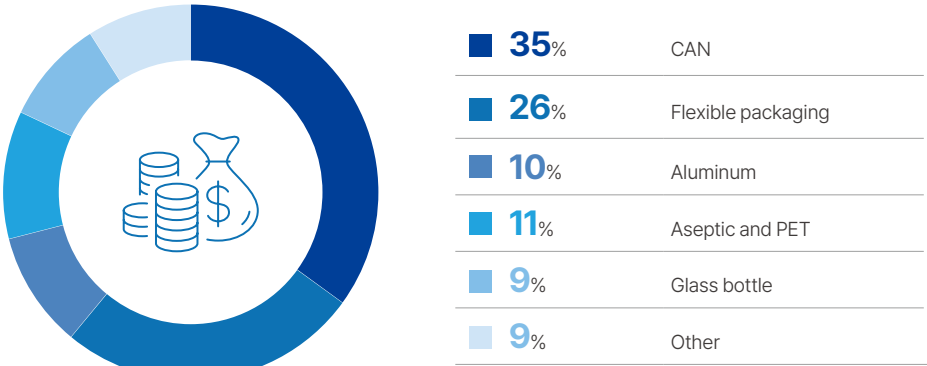
The group ESG management committee specifies the ESG management roadmap, including setting ESG core tasks and establishing KPIs for each affiliate, and conducts management supervision based on monthly performance. Dongwon Systems' ESG management implementation organization is composed of CEO Sung-Hak Jang and related working teams for environment, social and governance, and reports the execution of core tasks and results to the ESG management committee.

The overall ESG management is regularly reported to the boards of directors of group companies through the ESG management committee, and ESG management performance is reflected in the evaluations of key executives.

Business structure



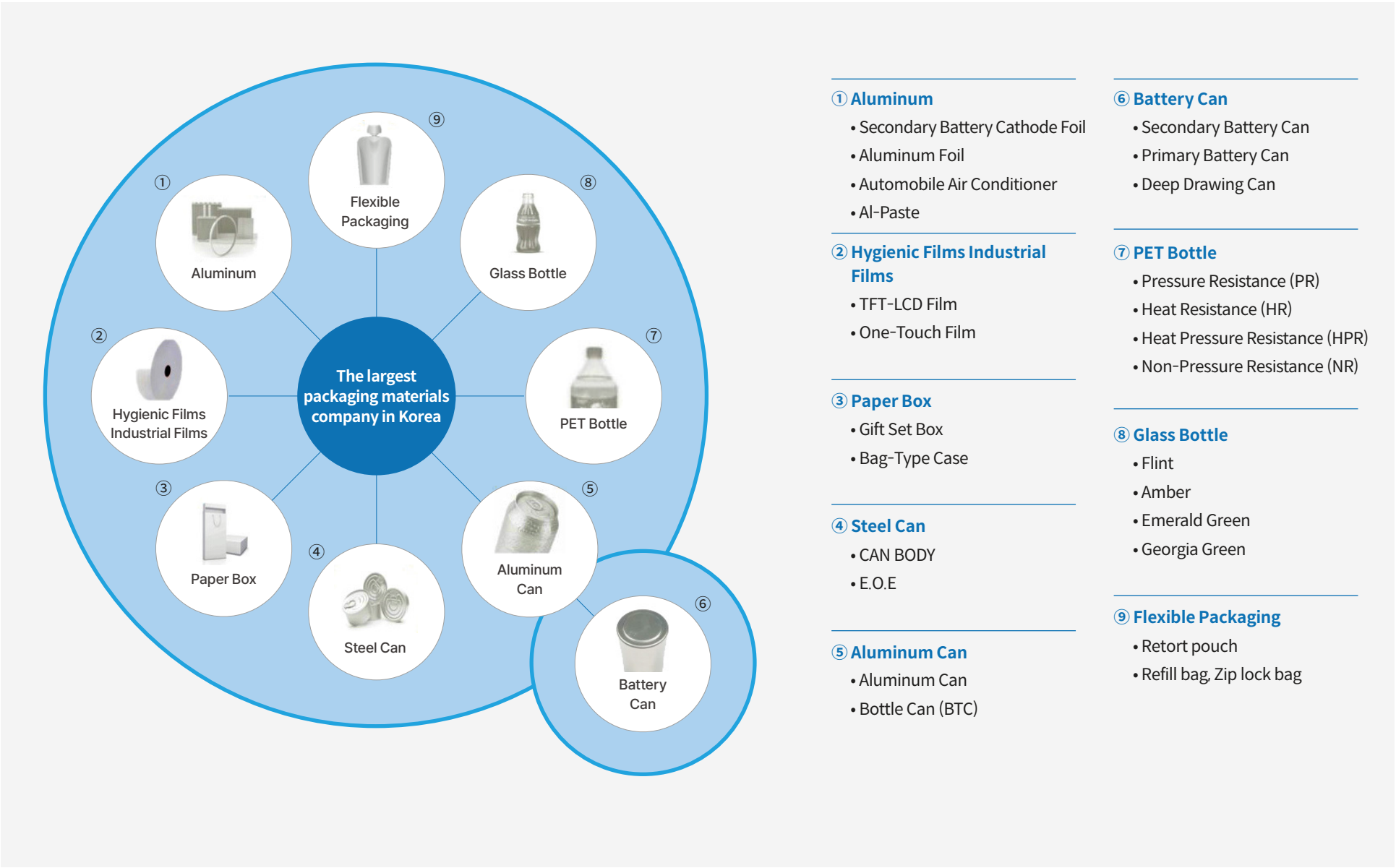
Share of sales for each category



*As of Dec. 31, 2022, consolidated

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Business area



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Materials business division

The materials business division produces packaging materials such as flexible packaging materials, bottles, CAN and E.O.E, industrial films, and aluminum foil. With expertise and advanced systems, we maintain long-standing partnerships with domestic companies as well as leading global companies, and strive for sustainable growth by developing not only high-quality functional packaging materials but also eco-friendly packaging materials.



Flexible packaging



Dongwon Systems supplies approximately 3,000 types of packaging materials, leading food packaging culture with high barrier and durability packaging. Through continuous technological development (Tear-Tab, leather texture printing technique, anti-counterfeiting patterns), it produces distinctive packaging. Furthermore, it is committed to sustainable management prioritizing environmentally friendly practices such as recyclable and biodegradable packaging development and solvent-free production processes.

Steel can



Dongwon Systems is leading the 2 Piece Can industry with a strict on-site management system equipped with the latest high-speed press facilities. After introducing the first distortion print method for edible cans in Korea, we developed DRD cans to help food companies secure quality. In addition, we have been steadily gaining favor in overseas markets by reducing costs and increasing delivery competitiveness by producing EOE domestically, which used to be entirely imported. We are also competitive in sustainable products by applying eco-friendly lacquer (NonBPA).

Aluminum



The Aluminum division provides Total Material Solutions in various industries, including packaging, air conditioning, automotive, secondary batteries, electronics, and more, using state-of-the-art equipment and over 40 years of expertise. Particularly, we supply high-strength, high-yield aluminum foil for secondary battery cathodes, leading the market with film-coating and surface treatment using precision rolling technology, advancing as a specialized secondary battery material company.

Printing business



We strive for excellence in commercial printing through accumulated printing technology and expertise. With equipment capable of handling various case structures from pre-press, offset printing, coating, die-cutting, to finishing and delivery, we supply over 1.5 million cartons daily. Serving diverse sectors including food, confectionery, and pharmaceuticals, our state-of-the-art machinery and skilled workforce support a One-Stop production line covering design development to delivery, ensuring top-notch customer service.

Film business



We are becoming a competitive leader in hygiene products, food packaging, and industrial films through our own technology development and patents.

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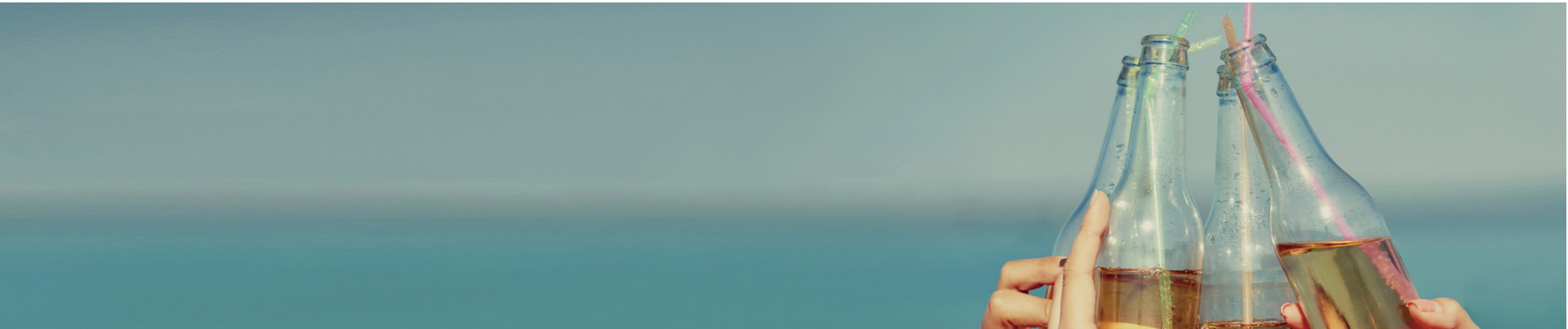
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Packaging business division

Since 1956, Dongwon Systems Packaging Division, a pioneer in the glass bottle industry, has led the market with top-notch technology. With diversification in mind, we entered the PET business in 1987 and merged with Doosan Can, a metal packaging specialist, in 1998. This transformed us into a comprehensive packaging company renowned for unmatched supply, technology, and quality, a stalwart in the domestic industry. Further, venturing into Aseptic Filling in 2019, we continue to drive innovation, leading the rapidly evolving beverage market.



Glass bottle



Through a partnership with global glass manufacturer Toyo Glass, we're enhancing quality. Using the NNPB method, we've achieved lightweighting of one-way bottles for the first time in Korea and have developed new colors of glass bottles such as Cobalt Blue and Sky Blue. With a broad supply system for liquor, food, beverages, and pharmaceuticals, we produce 260,000 tons annually—Korea's largest scale. Our range includes Flint, Amber, and Emerald Green colors, from 50ml to 5L bottles.

ALUMINUM CAN



We are leading the transformation and expansion of the can market through challenging technology development and investment, such as the first 2-piece aluminum can production in Korea and the introduction of bottle can facilities.

- Aluminum can: Our 2.8 billion yearly production meets diverse capacity needs promptly, reflecting customer demand.
- Bottle can: Korea's first bottle-shaped aluminum cans combine resealing convenience with luxury packaging. We're a leader in the 250 million annual domestic BTC market, expanding capacities and contents beyond coffee beverages. Continuous investment drives our market leadership.

PET bottle



We pioneered PET bottles for Coca-Cola in Korea and innovated the 1Piece carbonated bottle. Our sales strategy focuses on growth-oriented customers, shared growth systems, and in-plant investments. We expand our PET market role by addressing key customer needs. Simultaneously, we're committed to eco-friendly ESG practices like product lightweighting and chip recycling.

Aseptic beverages



Aseptic filled beverages are produced in a sterile environment, filling and sealing sterilized containers with sterile contents. Unlike high-temperature filling, aseptic filling is done at room temperature, enabling PET container lightweighting and eco-friendliness. Situated in Gangwon-do's clean area, we design per customer needs, develop beverages in pilot facilities, and produce HACCP and GMP-compliant products.

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Secondary battery business division

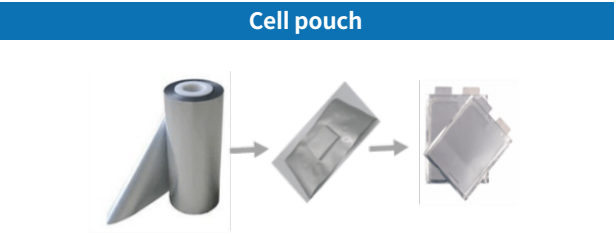
Dongwon Systems secondary battery business division has selected the secondary battery material and component business as a new growth driver based on its 40+ years of comprehensive packaging material technology and know-how, and has established research experts and infrastructure to strengthen the competitiveness of the business by constantly challenging differentiated technologies through R&D. Through this, we have secured global product competitiveness and market-leading technology competitiveness to become a global secondary battery material and component specialist. Currently, we develop, produce, and sell aluminum cathode foils and cylindrical cans for secondary batteries, and we are diversifying our portfolio as a secondary battery material component specialist by entering the cell pouch business for secondary batteries. We are growing into a battery solution company that provides the best products and services based on customer trust.



Aluminum cathode foil, a vital component in secondary batteries, enables electron movement in devices from mobiles to electric vehicles. It's a thin film, often 20μm thick or less. Dongwon Systems has pioneered a super-strong cathode foil with over 30kgf/mm² tensile strength, 15% higher than predecessors, now supplied to domestic battery makers. As demand for top-tier, efficient cathode foil rises, we predict global demand to surpass 1 million tons by 2030 from 100,000 tons in 2021. We're advancing tech and expanding facilities to accommodate this growth and serve more customers globally



Battery cans are vital components safeguarding batteries with outer cases. Our range includes various sizes like the 18650 and 21700 cylindrical cans, with increased energy capacity for EVs, power tools, and ESS. Also, the 4680 cylindrical can, having five-fold energy capacity, targets EV companies like Tesla. These are in mass production and sales and we expand facilities to meet battery demand surge and supply EV products to Samsung SDI and LG Energy Solution. With strong R&D, we developed corrosion-resistant tech, gaining product approval from battery firms. In addition, the 4680 cylindrical can is a product that Tesla is leading in the market, and Dongwon Systems is putting significant efforts into promoting it as a future flagship product.



A pouch-type battery is a secondary battery that consists of electrodes in the shape of a "jelly roll" with materials such as anode, cathode, and separator wrapped around it, or electrodes in the shape of a "stacking" with materials stacked layer by layer, wrapped in a cell pouch. In order to secure product competitiveness, Dongwon Systems declared its entry into the cell pouch business in 2021 and secured differentiated technologies and product performance by building an R&D organization and securing key personnel. In particular, Dongwon Systems aims to produce highly competitive products as a company that can manufacture cell pouches in batches from aluminum films produced in-house.

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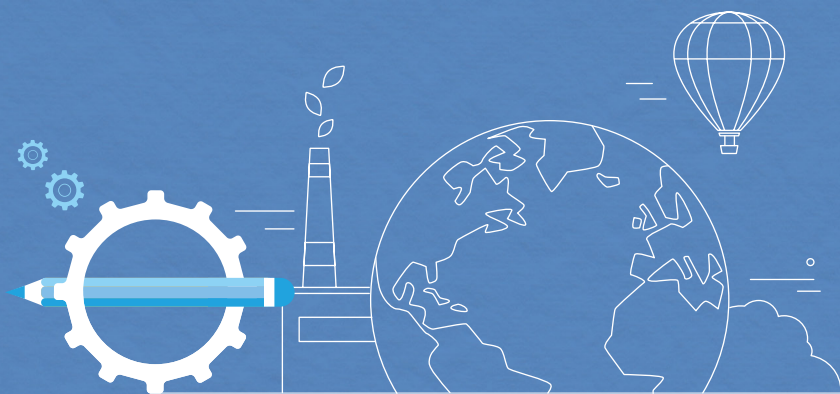
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ESG STRATEGY

Sustainable management is all about the organization and its members growing healthily and transparently and preparing for the future of change with stakeholders.


Dongwon Systems is preparing for the future of the global packaging industry by implementing sustainable management based on clear value chain.

ESG Management

ESG management system

ESG management strategy

Dongwon Systems established the ESG strategy to improve sustainability and become a global leader in the eco-friendly packaging business. We promise to continue to demonstrate our company-wide interest and commitment to ESG by actively implementing the ESG strategy and communicating the social value performance we create to external stakeholders.




ENVIRONMENT

Addressing climate change with Net-Zero

Strengthen Environmental Management
Establishing and implementing Net-Zero roadmap that aligns with the Paris Agreement scenario

Green Anchoring
Developing new technologies such as secondary batteries and eco-friendly materials. Transition to new green businesses.

Innovation that saves the planet Green earth systems
Producing eco-friendly product. Environmental improvement across the product life cycle.




SOCIAL

Sustainable growth with all stakeholders

Maximize member happiness
Respect of diversity & equity

Strengthen ESG ecosystem
Managing assessment of supply chain ESG and fostering eco-friendly ventures

Responsibility for the future Future growth systems
Supporting research grants at leading domestic universities and research institutes



GOVERNANCE

Board of directors-centric management system upgrade for ESG management

Strengthen board of directors leadership
Presenting mid- to long-term future strategies and ESG-centered decision-making based on board of directors




Strengthen global compliance
Compliance & risk prevention across domestic and international business sites

Spreading win-win advantage
Customers want to do business with company, shareholders want to invest in company, and employees want to work at company

ESG management roadmap

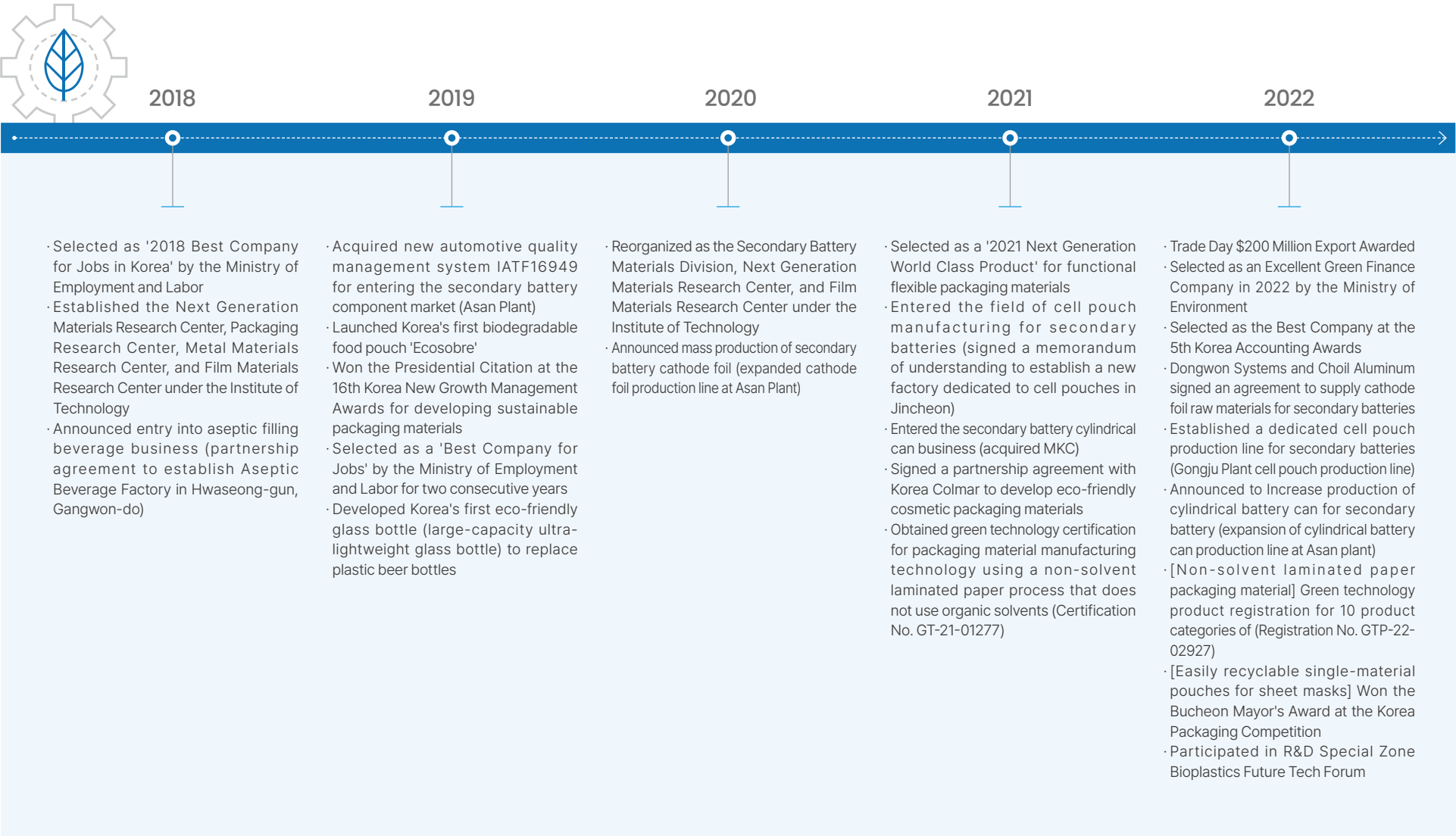
2023	2024	2025
Building a foundation for ESG management	Implementing ESG strategy and managing performance	Disclosure preparedness and advancing ESG management
<ul style="list-style-type: none">ESG core indicator selectionFinding green projectsRefining goals and objectivesData-based performanceGroup-wide ESG trainingDedicated ESG team	<ul style="list-style-type: none">Core indicators & taskGroup evaluations incl. IPM/qualityPerformance system stabilityLinking financial valueEmployee ESG education	<ul style="list-style-type: none">Internal SustainabilityQuantify ESG Performance for group/affiliateReset mid- to long-term goals

Strategic tasks implementation status




Category	Metrics	Metrics	2022 performance	Goals for 2022	2022 performance metrics
 Environment (E)	Product lightening	PET bottled water	776 tons	700 tons	<ul style="list-style-type: none">Eco-friendly packaging through lightweightingReduced CO₂e by 743 tons/year (114,000 trees)
	GHG emissions	Scope 1+2	279,076 tCO ₂ e	297,619 tCO ₂ e	<ul style="list-style-type: none">GHG intensity 2116.8 thousand tons below quota
	Management air/water pollutant emissions	NOx	187 tons	188 tons	<ul style="list-style-type: none">Reduced SOx, dust emissions from last year
		SOx	195 tons	200 tons	
		Dirt	15 tons	15 tons	
 Social (S)	Use of energy	Fuel, electricity, steam	4,917TJ	5,113TJ	<ul style="list-style-type: none">Energy intensity 0.4Enhanced efficiency in Gunsan Plant with efficient burner & oxygen useLowered power use via optimized compressor air operation
	Industrial safety training	Training Duration	27,754 hours	27,754 hours	<ul style="list-style-type: none">Strengthened industrial safety training
		Employee Participation	1,876	1,876	
	Industrial safety accidents	Industrial accidents	32 cases	25건	
 Governance (G)	Ethical management training	Employee Participation	406	300	<ul style="list-style-type: none">Reduced serious accidents compared to previous yearConducted fair trade training twice a year
	Board of directors	Board set up (Independent directors ratio)	25%	25%	<ul style="list-style-type: none">Compliance with legal requirements for independent directors (Article 542(8)(1) of the Commercial Code)
		Independent directors count	1 person	1 person	
	Shareholder/Investor Advocacy	IR performance	27 cases	27 cases	<ul style="list-style-type: none">Enhanced shareholder value through IR events

ESG History

By transparently disclosing ESG management activities to stakeholders, Dongwon Systems creates a window for communication management and strives to fulfill its role as an eco-friendly packaging company for sustainable growth.



2021-2022 ESG Key Figures

<div>Environment</div> <div></div>	<div>Entering the secondary battery materials field</div> <div>(cathode foil, cell pouch)</div>	<div>Earning a top green bond rating (G1)</div>	<div>Excellence Green Finance Company Awards in 2022</div>
	<div>Non-solvent flexible packaging recipes</div> <div>Earn green technology certification</div>	<div>environmental management system (ISO 14001) certification</div>	<div>Eco-friendly cosmetics Packaging material development</div> <div>Enter into a partnership agreement</div>
<div>Quality management system (ISO 9001) certification</div>	<div>2021 next generation world class product selection</div> <div>(flexible packaging material sector)</div>	<div>Safety and health management system</div> <div>new Certification (ISO 45001) for Gunsan/Icheon plant</div>	<div>Social</div> <div></div>
<div>Percentage of full-time employees in 2022 is 98%</div>	<div>Average worker tenure in 2022 is 12.1 years</div>		
<div>Governance</div> <div></div>	<div>Board of directors attendance in 2022 is 100%</div>	<div>Complying Dongwon charter of ethics and code of ethics</div>	<div>Operation of Ethical Management Reporting Center</div>
	<div>Shareholders cash dividend KRW 17.6 billion</div>	<div>Merger subsidiary (Techpack Solutions, MC)</div>	

Issues of materiality 01

Developing eco-friendly products



Significance of topic

Consumers are increasingly looking beyond performance, quality, and satisfaction to consider the development, production, and delivery of products and services and their impact on society. Many companies around the world are already focusing on the circular economy, not just minimizing waste in production, distribution, and consumption. As a leading packaging material company, Dongwon Systems is accelerating the development of sustainable packaging materials in line with this trend, and aims to realize the purpose of providing only products that are good for the global environment and society. We are also continuously conducting research and development on eco-friendly materials that have a positive impact on the environment and society.

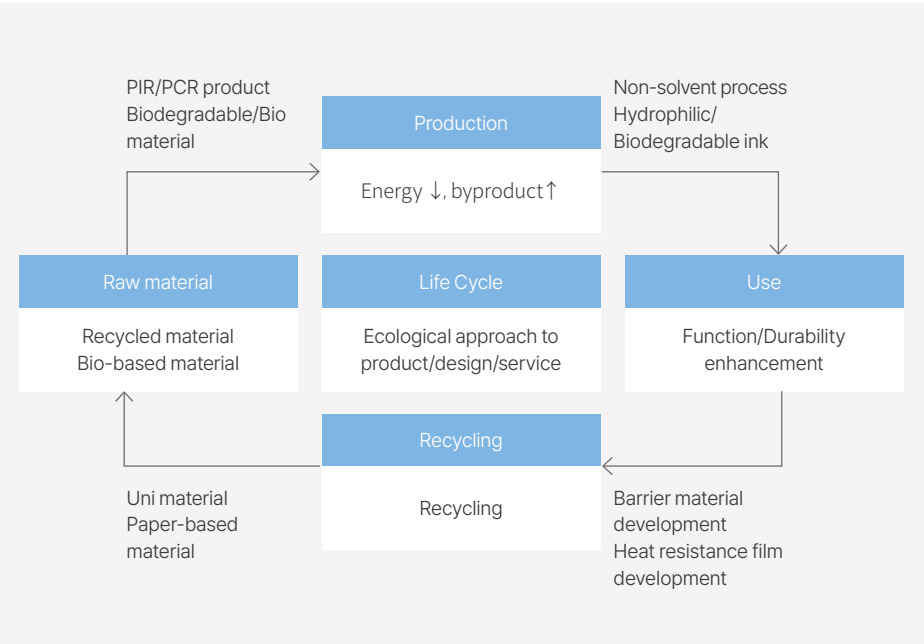
Method of approach

In 2021, Dongwon Systems became the first company in Korea to be certified as a 'green technology' for its 'non-solvent laminated paper' packaging manufacturing technology that does not use chemical organic solvents, and is leading the way in developing eco-friendly products by operating 'green technology products' that apply green technology to more than 130 packaging materials such as food, cosmetics, and household products. From 2022, Dongwon Systems will further expand its eco-friendly material business and eco-friendly packaging material technology development to fulfill its corporate environmental responsibility while introducing high-quality eco-friendly packaging materials that can increase customer value through product development for carbon neutrality.

Developing eco-friendly products

Dongwon Systems established and operates the Institute of Technology to secure sustainable product competitiveness and develop new materials for the future. The Next Generation Materials Research Center under the Institute of Technology focuses on research on the development of eco-friendly materials and packaging paper, and responds to environmental issues in products through the monthly 'Eco-friendly Technology and Product Development Meeting'. Dongwon Systems is striving to lead the greening of the packaging material market by being environmentally responsible so that we can provide better value to consumers.

Development direction



Product lightening

Plastic is one of the major contributors to environmental pollution as it accumulates without decomposition. Dongwon Systems is contributing to reducing carbon emissions by using lightweight water bottles that reduce the amount of plastic used by about 10% as of the end of December 2022. We are promoting the reduction of plastic use by applying lightening not only to the body of the bottle but also to the cap. In 2020, Dongwon Spring Water PET 500g, produced by Dongwon Systems, weighed 11.8 grams, ranking first in lightness among square bottles. Furthermore, we are making various efforts to further reduce plastic use by studying the cases of nitrogen-filled PET bottles from Niagara in the US, Vitaqua and MEG in Germany, and discussing advanced nitrogen gas bottle filling.

In addition to PET, we are also promoting the lightening of glass bottles and cans to efficiently utilize resources. In particular, to contribute to solving the environmental problems of beer bottles, which account for a significant portion of the domestic beer market, we developed the first eco-friendly beer bottle that can replace them. The 'LARGE-CAPACITY ULTRA-LIGHTWEIGHT GLASS BOTTLE', which remedy regular glass bottles' shortcomings that 100% recyclable, but heavy and fragile, has similar strength to regular glass bottles but is 43% lighter. In line with the eco-friendly era, Dongwon Systems will continue to take the lead in developing sustainable packaging materials.

Plastic reduction





Develop eco-friendly packaging material

In August 2019, Dongwon Systems became the first Korean company to develop and launch a functional biodegradable packaging material (Eco-Sobre) through its proprietary technology. The biodegradable packaging material is a plant-based plastic composed of paper and film, and minimizes negative environmental impacts by decomposing more than 90% within two years. In addition, we apply eco-friendly processes in manufacturing, such as water-based ink printing and non-solvent gluing.

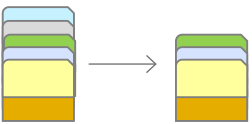
Dongwon Tuna reduced the amount of plastic by 50% compared to film-type packaging materials through paper-based plastic reduction packaging materials that can be used at cryogenic temperatures, and we are also developing and using paper-based biomass-based packaging materials for sheet masks and other packaging materials in the beauty field. In 2021, we exported eco-friendly packaging materials for sheet masks for the first time in Korea, and in recognition of our efforts, Dongwon Systems' functional flexible packaging material was selected as the next generation world class product by the Ministry of Trade, Industry and Energy in 2021. In November of the same year, we were certified by the U.S. Department of Agriculture (USDA) that more than 35% of our packaging materials consist of bio-based materials.

To expand the field of eco-friendly packaging materials, we are also working on partnership agreements with domestic companies. In May 2021, we signed an agreement with Korea Colmar to develop eco-friendly cosmetic packaging materials, which will provide better value to consumers by converting plastic-oriented cosmetic containers into eco-friendly ones. In 2022, we are accelerating the development of recyclable packaging material to achieve carbon neutrality.

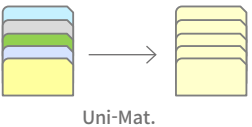
Recyclable packaging material is a packaging material that can be easily recycled by removing aluminum from the flexible packaging material laminated material and laminating it with the same material. The packaging material laminated with film, which is manufactured by applying recycled materials, is trying to secure objectivity for eco-friendly packaging materials through GRS and RCS certifications.



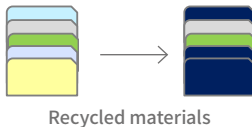
Plastic Reduce



Plastic Recyclable/Recycled



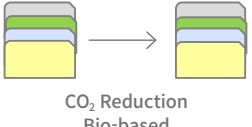
Uni-Mat.



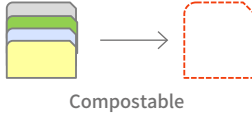
Recycled materials

Applying at least one layer of recycled material

Bio-Plastic



CO₂ Reduction
Bio-based






Compostable

CO₂,
H₂O conversion

Green certification status

Certification	Logo	Country	Date	Content
USDA Biobaased Product Label		USA	Jul. 2019	Packaging made from bio-based materials
FSC		Germany	Apr. 2021 (Jincheon) Oct. 2022 (Asan)	Paper produced from legally harvested forests through sustainable forest management system
Green Certification		Korea	Nov. 2021 Green Technology Apr. 2022 Green Product	Technologies that minimize greenhouse gas emissions by conserving energy and resources throughout the entire process of social and economic activities
GRS		Swiss	Dec. 2022	Products made with at least 20% renewable raw materials Demonstrate the use of renewable materials throughout the process




Packaging product status

Packaging material type	Status
 <div>Down-gauging</div>	<ul style="list-style-type: none">Minimized environmental and financial impact by changing and lightening packaging materials
 <div>Format switching</div>	<ul style="list-style-type: none">Increasing consumer demand and a growing focus on sustainability are driving the shift from traditional rigid packaging, metal, and glass products to flexible packaging.Compared to glass and metal packaging, sustainable packaging has advantages such as lower CO₂ emissions in production and reduced packaging weight. (e.g., porridge container → retort pouch, beverage bottle → pouch type)
Barrier solutions	<ul style="list-style-type: none">Increased demand for high barrier films for aluminum-free packaging materials due to recycling of packaging materials, convenience (e.g., microwavable).Global materials company continues to research new solutions for recycling high barrier films
Bioplastics	<ul style="list-style-type: none">Sustainability and ocean pollution concerns drive demand for bioplasticsBioplastic production increased from 1.5 million tons in 2019 to 3.2 million tons in 2024 due to increased focus on bio base, compostable, and marine biodegradable materials
 <div>Smart packaging</div>	<ul style="list-style-type: none">Self-venting (fresh packaging, oxygen-absorbing packaging, etc.), antibacterial packaging, and QR/AR codes are applied as technologies to improve packaging material performance or provide information.The smart packaging market is estimated to reach \$6.3 billion in 2020, with \$5 billion in active packaging and \$1.3 billion in intelligent packaging.



R&D Special Zone Bioplastic Future Tech Forum Launching Ceremony

State of eco-friendly Product Development

Product type	Development status
 <div>Paper-based packaging materials for cryogenics (Reduce)</div>	<ul style="list-style-type: none">Received a request to develop a paper packaging material that can be stored below minus 50°C (Dongwon Industry, May 2020)Completed cryogenic test at customer's site (Busan plant) (July 2020)Completed product suture evaluation test (January 2021)Launched the product at E-Mart and Homeplus and continues to sell (September 2021~)
 <div>Uni-material pouches (Recyclable)</div>	<ul style="list-style-type: none">Development of high barrier (aluminum → inorganic deposition PE) PET FOOD uni-material pouch (May 2022)PE uni-material pouch development approved by customer ('22 Oct) → All PE pouches with PE pocket zipper will be on sale in the first half of 2023Expected to improve recycling rates through material unification.
 <div>Industrial GRS-certified packaging material (Recycled)</div>	<ul style="list-style-type: none">Packaging material with at least 50% renewable content (carbon reduction)Under evaluation for customer factory application and planned for mass production in 2023.



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Issues of materiality 02

Employees’ safety and health management



Significance of topic

A safe, healthy and hygienic workplace is a natural and essential right of workers, and there is a growing national awareness of the need to prevent industrial accidents and ensure safety and health. Since 2022, the Serious Accidents Punishment Act has been in effect, and protecting the lives and health of employees at industrial sites has become a basic obligation of companies. Companies are responding by strengthening safety policies in their workplaces and appointing Chief Safety Officers (CSOs). In particular, due to the COVID-19 pandemic, hygienic environments and basic health management at workplaces have become equally important. Recognizing that the right of employees to work in a safe working environment is of great concern to governments and local communities, Dongwon Systems is participating in raising the level of safety at its workplaces by establishing a safety and health system and obtaining safety and health certification.

Method of approach

Dongwon Systems recognizes stakeholders' demands for enhanced safety and health levels as an opportunity, not a crisis, and has established an EHS management system that places safety as a top priority. We have established a safety and health policy common to all worksites and established safety and health governance with the board of directors as the final reporting authority. In practice, the safety and health secretariat in charge of company-wide environmental safety and health and the general manager of safety and health at each worksite interact organically to strengthen the safety system at worksites. In particular, we have established a response process for serious accidents with enhanced legal regulations and proactively respond to safety risks through harmful substance management systems and training.

Safety and health system

Safety and health policy

As industrial accidents continue to occur in the same industry and the Serious Accidents Punishment Act have been enacted, we are strengthening safety and health management and reducing the recurrence of industrial accidents through the EHS (Environment, Health, Safety) management system. We have established a safety and health policy for all worksites with safety as the top priority, and have established and operated a management system based on an annual safety and health plan. In addition, we are pursuing a virtuous cycle of safety and health management by proactively responding to safety risks and providing opportunities for improvement through safety inspections related to dangerous work and handling of harmful substances.



safety and health policy: Occupational Health & Safety Policy

Dongwon Systems places the highest value on safety and health management in all management activities with the mission of "establishing an advanced safety culture by realizing an optimal safety and health environment," and establishes and implements safety and health management policies as follows to achieve "no accidents" and "no diseases" in the workplace.

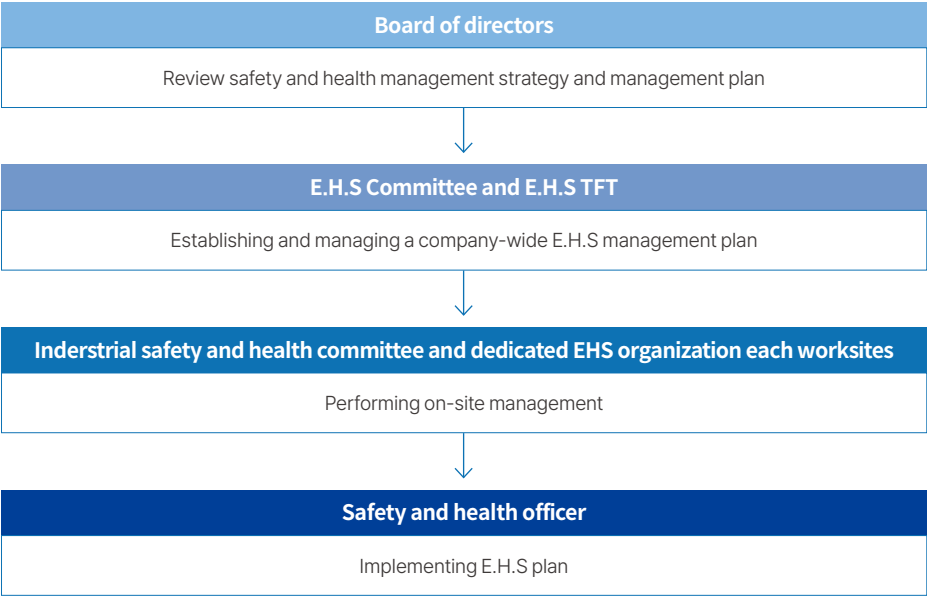
1. Establish an autonomous safety management system through safety and health management based on the basics and principles.
2. Implement a safe and comfortable work environment by eliminating potential and actual risk factors in advance through risk assessment.
3. Comply with safety and health-related laws and regulations and actively accept the views of stakeholders.
4. Support active safety and health management activities through continuous safety and health education and training for all employees and partner companies.
5. All employees actively participate in safety and health activities with a sense of mission to protect the safety and health of worksites.
6. Keep all facilities and work environments clean to promote the health of all employees and workers of partner companies.
7. Actively support human resources, expertise, and finances for the establishment and development of the safety and health management system.

All employees should thoroughly understand and comply with the above policies and expand their participation by actively promoting them to business partners, and do their best to realize a safe and clean workplace.



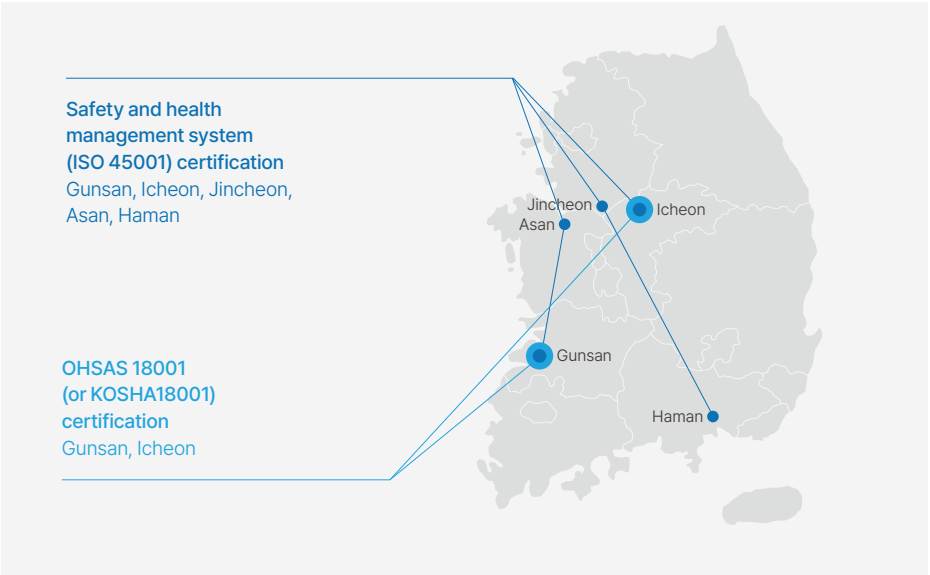
Safety and health management governance

To establish a company-wide safety and health management plan and systematically operate it, the board of directors and the safety culture secretariat, which was established in 2015, discuss the review of the safety and health plan and the status of related strategic tasks, and thoroughly review compliance with relevant laws and regulations, including major environmental safety issues and the prevention of serious accidents. In the future, we plan to strengthen responsible company-wide governance of safety and health by making major decisions on safety and health management plans and eco-friendly management through the ESG Committee. In addition, each business site has its own dedicated EHS organization, and a general manager of safety and health is designated to discuss and carry out major issues related to accident prevention and environmental safety. Through activities such as environmental impact management, safety education, supplier safety management, and work environment measurement, each business site provides a comfortable and safe workplace for workers and creates a safety-first culture.



Safety and health management certification status

Dongwon Systems has been certified as a safety and health management system through systematic safety and health management of the work environment. In 2021, we secured ISO 45001 certification for our Gunsan and Icheon plants through practical self-improvement activities, such as using automated robots in dangerous work environments and strengthening double safety devices. In 2023, we plan to expand the certification to other plants such as Gwangju Plant 1 and Hoengseong Plant.



Enhancing workplace safety and health

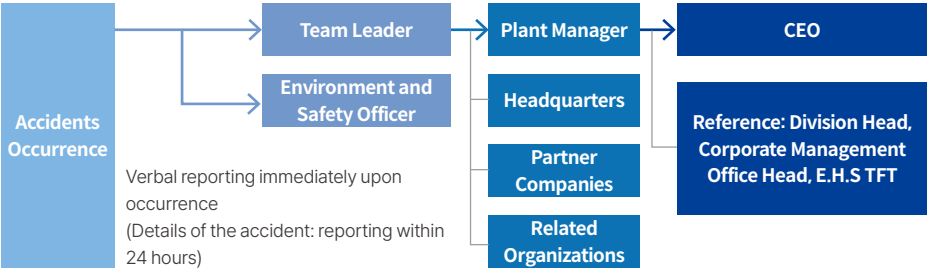
Accident prevention activities

Dongwon Systems proactively identifies and manages work-related risks through occupational risk assessments to ensure employee safety. Monthly performance meetings report safety incidents and actions taken, driving improvements based on this information. External safety inspections, in addition to internal checks, verify compliance with safety management practices and eliminate workplace hazards. Safety passages and guides are set up both inside and outside the facility, and continuous equipment stability improvements ensure a safe work environment for employees.

Industrial accidents response process

Dongwon Systems follows a process for responding to significant EHS-related incidents and regulatory violations. In cases of accidents that meet internal criteria, such as regulatory violations or incidents resulting in fatalities, a "Safety Responsibility System" is in place. The system collects accident reports from involved individuals, instills safety responsibility in all employees, and cultivates a safety-oriented work environment. Immediate accident reporting ensures quick responses. Witnesses of accidents notify the Environmental Safety officer(E.H.S) and relevant departments after providing initial emergency response. The officer head then communicates the incident details to the plant manager, headquarters, partner companies, and relevant related organization. For incident resolution, an accident response team is formed under the E.H.S officer to recover from accidents and devise improvement measures to prevent future similar incidents.

Procedures for reporting serious accidents



Record of responding to the Serious Accidents Punishment Act

Responding to the Serious Accidents Punishment Act	the first half year	the second half year	note
Evaluating eligible vendors	○	○	Implemented at all worksites
Evaluating the work of the responsible person	○	○	
Safety and health budget reporting	○	○	
Risk assessment	○	○	

Chemical substances management

Dongwon Systems has established a chemical substances management system and monitors chemical substances throughout the entire process of purchasing, manufacturing, and using chemical substances. We have designated chemical substances managers for each business site, and in accordance with the revision of the Chemical Substances Control Act, we thoroughly report the chemical substances we use and manage them to comply with the amount and method of use specified in the law.

At each site, we strive to establish a safe environment in the workplace by conducting periodic inspections of environmental facilities and taking corrective measures for nonconforming facilities. In addition, we installed a local exhaust system in the process facility where tandem methyl alcohol is used, which contributed to reducing the amount of chemical substances inhaled into the human body.

In the event of a chemical substance spill, we conduct emergency response drills every month to minimize damage through rapid response and improve deficiencies. In 2021, the Hoengseong Plant conducted a mock drill on a chemical substance spill near a nitric acid storage tank, organized by the Wonju Regional Environment Agency. The drill focused on initial response and evacuation of workers, and various organizations, including the Gangwon Provincial Office and the Hoengseong Fire Department, participated to strengthen cooperation among training organizations.

Safety and health training

Dongwon Systems provides specialized training for each risk factor to prevent safety accidents in advance and respond quickly in the event of an accident. We provide training for chemical workers to properly manage chemical substances that can have a fatal impact on the human body and the environment. The training provides relevant information on the types of chemical substances, their usage, precautions, and how to respond to accidents. For simulation drills, we conduct specialized simulation drills for each harmful substance such as hazardous gas, waste gas, and aluminium sodium dioxide according to the environment of each business site.

We also provide training to prevent fire accidents that cause a lot of human and material damage. Along with theoretical training such as the characteristics of each type of fire extinguisher and guidance on how to use them, we also conduct emergency fire drills to improve employees' fire response capabilities.

In addition, we train our employees to cope with various accidents through various situation-specific drills, such as response drills to prevent flood damage during heavy rains and emergency shutdown accident response drills for electrostatic precipitator and we also provide training on how to use CPR and AEDs to prevent human casualties.

In the future, we plan to expand safety and health training to our internal partner companies to strengthen safety and health capabilities across the value chain.

Safety training status

	2020	2021	2022
Number of persons that participated training	1,572	1,692	1,686
Total training hours	27,738	27,744	25,290
Training hours per person	17.6	16.4	15.0

Accident status

In 2022, Dongwon Systems had 16 industrial accidents and 16 official injuries. For all accidents that occurred, we categorize the type of accident and investigate the reasons for its occurrence, and make efforts to prevent recurrence. For the 32 accidents that occurred in 2022, 70% were identified as being caused by unsafe behavior, and we will strengthen safety education and management for workers and managers to prevent similar accidents from occurring in the future.

Accident Status

Category		2020	2021	2022
Accident types	Industrial accidents	7	8	16
	Official injury	7	12	16
Reason for the accident	Unsafe behavior (%)	79	70	70

Issues of materiality 03

Secure new growth drivers



Significance of topic

The discovery of new growth drivers can help companies overcome the limitations of existing industry or product structures and reduce uncertainty about the future. Continuous research and identification of new growth drivers can strengthen a company's growth potential and secure global competitiveness. In recent years, the battery industry has exploded with the rise of electric vehicles and the broader energy transition due to the global need to reduce extreme climate change impact, and secondary batteries, which are the power source for electric vehicles, are emerging as new growth drivers.

Method of approach

The secondary battery industry has been called the "second semiconductor" and is considered to have high growth potential in the future. With the development of industrial technologies such as portable electronics, electric vehicles, and robots, the importance of secondary batteries is increasing day by day. Dongwon Systems has set the secondary battery component business as a new growth driver and is strengthening the competitiveness of the business with differentiated R&D technology and constant challenges.

Development of new materials and new product

Dongwon Systems prioritizes innovative materials and product development in line with tech trends in materials and packaging. With rising ESG significance, Dongwon Systems focuses on eco-friendly product development. Our R&D teams at the Institute of Technology lead forward-looking R&D in secondary battery materials, next-gen materials, and films.

Institute of Technology	
Dongwon Systems aims to enhance non-food product market presence and manufacturing efficiency. The Institute of Technology drives this through advanced R&D and source technology acquisition. The Institute of Technology houses research centers for major business divisions, ensuring specialized expertise in each segment of development.	
Secondary Battery Material Research Center / Business Division	Material Development Lab
<ul style="list-style-type: none">• Developing a battery can• Developing a cathode foil• Developing a cell pouch• Discovering new materials/components for secondary batteries	<ul style="list-style-type: none">• Developing green materials and packaging• Discovering functional packaging materials• Developing functional coating materials• Identifying national project• Developing an industrial film

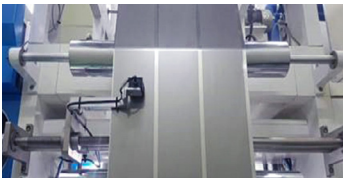
Upgrading pet food wrapper product

We developed TEAR, a packaging paper with an easy-to-open fishing line, setting it apart with a modified zipper. In addition, to meet the growing demand for pet food packaging materials, we continue to supplement our pet food packaging paper by developing leather texture effects and anti-forgery packaging materials.



Globalization of retort pouch

Initially confined to affiliated firms, the trading scope of retort pouches broadened significantly as we improved product quality, meeting stringent customer demands and globalizing Dongwon Systems' offerings.



Development of ultra-thin aluminum foil

Capacitors which are widely used in electrical and electronic components, have a higher capacity value the larger the surface area of the foil. By developing ultra-thin 4.5μm aluminum foil, we have developed a product that increases the capacity value and reduces the capacity deviation.

Expanding market share to develop beauty wrappers

Following the initial tri-fold pouch, modified pouch and laser cut products, we developed a wrapper utilizing a non-woven fabric that can give a paper-like texture.

Development of a secondary battery can

This is a molded product as one of the secondary battery packaging technologies, and we have developed and produced cylindrical can made of nickel-plated steel plates and applied the technology to 18650, 21700, 4680, earphone coin cell. To secure differentiated competitiveness, we have developed and applied durable mold design technology, high-speed deep drawing technology, and surface treatment technology with excellent corrosion resistance.



Product	Specification	Purpose
21700 CAN	Φ21 X 70mm	For xEV, ESS, IT
4680 CAN	Φ46 X 80mm	For xEV
Miniature wearable CAN	Φ9.7 X 5.1mm Φ10.7 X 5.1mm Φ11.4 X 4.7mm	For earphones (Air-Pot, Buzz)

Development of a current collector for a secondary battery

Aluminum foil is used for the anode of secondary batteries and copper foil for the cathode. Therefore, the Institute of Technology has developed and is mass-producing ultra-thin 9μm AL-Foil, which is used for the anode among the current collectors used in secondary batteries, and is developing and applying product differentiation technologies such as surface treatment and coating technologies to increase battery performance and cycle life.



Product	Specification	Purpose
Ultra-high strength Al foil	12~20μm	For xEV, ESS, IT
Coated Cu foil	6~10μm	For xEV, ESS, IT
Coated Al foil	10~15μm	For xEV, ESS, IT
High stability material coated Al foil	9~12μm	For IT
General material Al foil	10~30μm	For xEV, ESS, IT

Development of a cell pouch used for a secondary battery

The cell pouch is one of the secondary battery packaging technologies, which is composed of a multi-layer structure(PET/Nylon/Aluminum/Polypropylene). We are developing multi-layer Li-ion polymer battery cases with flexible, high temperature stability and electrochemical properties and focusing on the development of products that can increase product competitiveness by applying our own surface treatment coating technology, dry lamination technology, and extrusion lamination technology.



Product	Specification	Purpose
DW-153BP	153μm × Width Customized to customer specifications	For xEV
DW-113BP	113μm × Width Customization	For ESS
DW-88BP	88μm × Width Customization	For IT

Patents and technology development

Dongwon Systems is developing and patenting technologies that meet the diverse needs of customers and strengthening related quality verification. This contributes to securing competitiveness through innovative product development and technological superiority.

Category	Number of patents
Design	34
Trademark	11
Service Table	1
Patent	57
Utility Model	2

Entering the secondary battery industry

Dongwon Systems entered the secondary battery material industry by acquiring an aluminum specialist in 2012. Since 2016, we have produced and supplied aluminum cathode foil, a crucial component for secondary batteries, to global companies. In 2021, we acquired MKC, a battery can manufacturer supplying major domestic battery firms like Samsung SDI and LG Energy Solutions. This marked a significant step towards becoming a leading material component company for secondary batteries. In March 2022, we initiated mass production of 21700 cylindrical battery cans (21mm diameter, 70mm height), boosting energy capacity by over 30% compared to the conventional 18650 cans (18mm diameter, 65mm height).

For the cathode foil business, we introduced a wide-width rolling mill from Achenbach, a German machinery company. This enabled full-scale production of aluminum cathode foil with an annual capacity of 12,000 tons in 2022. Furthermore, a cell pouch plant for secondary batteries was completed in Gongju in H2 2022, enhancing product quality through collaboration with battery firms. Dongwon Systems aim to evolve into a battery solutions firm by consistently acquiring production-ready secondary battery components and enhancing our edge in advanced material technology.



Aerial view of the new Asan plant with battery can production line expansion



Dongwon Systems- Choil Aluminum, supply agreement for 'cathode foil raw materials for secondary batteries'



High speed pressing process line for battery cans



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ENVIRONMENTAL

In the spirit that nature is our life, Dongwon Systems will continue environmental management activities to reduce the environmental impact from our business activities.

ENVIRONMENTAL



Environmental Management

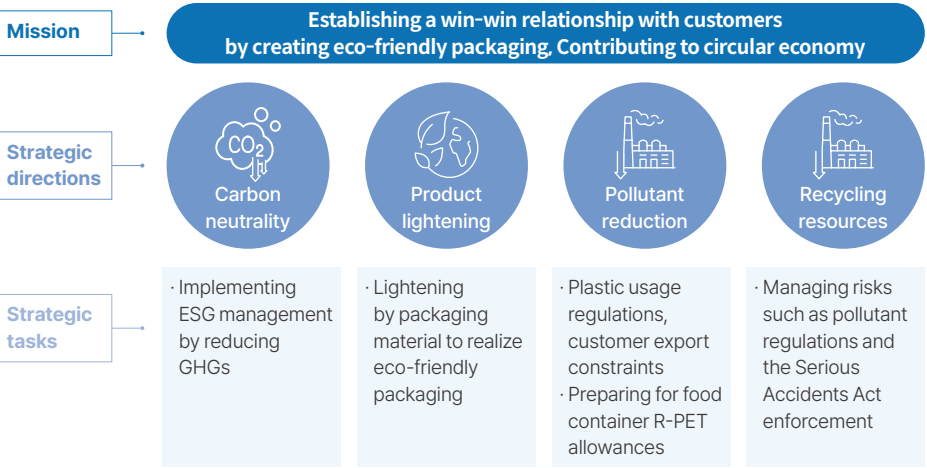
Environmental management system

Environmental management policy and strategy

Embracing nature's significance, Dongwon Systems adopts a green management approach, deploying an environmental management system to safeguard the global ecosystem and foster a comfortable living environment. We minimize environmental impact by prioritizing eco-friendly practices throughout our product production, including greenhouse gas reduction and enhancing our green management system. For this purpose, we've set up strategic environmental management tasks, plans, and indicators for our business to ensure effective management.

Dongwon Systems adopted ISO 14001 in 2008 for systematic eco-friendly management. Focusing on four key tasks - carbon neutrality, product lightening, circular economy, and pollutant reduction - we annually assess progress and plan improvements. In 2022, we enhanced our environmental management system, expanded green initiatives, and appointed dedicated departments for each strategic task to streamline implementation and management.

Environmental management strategy



Dongwon Systems environmental policy



Establishing environmental management goals

In order to conduct active environmental management activities, Dongwon Systems is committed to reducing environmental impacts by setting strategic tasks and establishing goals.

We aim to become a company that realizes social value through eco-friendly management through a growth process that lays the foundation for sustainable management from the traditional management of EHS at the level of compliance with legal standards. In line with the environmental management strategy centered on the four strategic directions of carbon neutrality, product lightening, circular economy, and pollutant management, we have set strategic tasks and key initiatives for environmental management. In addition, we have established green management goals in consideration of the industry of each business site and implemented detailed implementation plans centered on the designated implementation departments to proactively respond to the negative effects of climate change such as global warming. The Hanam Plant is planning to introduce an environmental management system aimed at recycling resources through lightening, while the Gunsan Plant is conducting continuous pollutant reduction activities with the goal of reducing pollutant emissions by 10% in 2024 compared to 2020. In 2023, we will establish GHG emissions reduction targets and lightweight targets for each packaging material, and strive to build a win-win relationship with customers and contribute to the circular economy through the implementation of eco-friendly packaging.

Environmental management goals




Strategic directions	Carbon neutrality (climate change)	Product lightening	Circular economy (recycling)	Pollutant reduction
Implementation	(1) Integrated carbon emissions management (building a CO ₂ inventory)	Can/ PET bottled water / Glass bottle / Aseptic preform lightening	Applying R-PET Chip Test Expanding recycling of glass bottles (establishing a system for collecting old bottles and automated shredding)	(1) Installing and expanding system that discharge less wastewater at workplaces (2) Introduction of air pollution prevention facilities (NOx, THC reduction facilities)
	(2) Energy reduction activities by business division			(3) Expanding the safety and health management system
Metrics and goals	Reducing CO ₂ emissions by 979 tons	Achieving lightening goal for glass bottles/can/ PET/AS	Applying new raw materials Increasing recycled content to 83%	(1) Reducing air pollutant emissions (NOx 18ppm) (2) Reducing wastewater discharge (47 tons/day) (3) Achieved zero safety and health violation

Environmental management certification status

Dongwon Systems has introduced an environmental management system to all production activities of the company, and conducts systematic environmental management in consideration of business areas and types of work performed. In 2015, Dongwon Systems received the Green Management Award in recognition of raising awareness of environmental management in the material/packaging industry and throughout the company, and spreading sustainable green management through external activities.

Since the introduction of the ISO 14001 environmental management system in 2008, the Gunsan and Icheon plants have been continuously improving their environmental management systems through inspection and evaluation of relevant items during annual environmental management reviews. In 2021, we introduced the ISO 14001 environmental management system at the Hanam plant and plan to expand the environmental management system certification to the Gwangju 1 plant and the Hoengseong plant this year.

Environmental Management Standard Certification Status

Standards Certification Status		 KOSHA OHSAS 18001	 ISO 14001	 ISO/FSSC 22000
Dongwon Systems	Jincheon Plant	○	○	○
	Haman Plant	○	○	○
	Asan Plant	○	○	○
	Gunsan Plant		○	○
	Icheon Plant		○	○
	Hanam Plant			○
	Eumseong Plant			○

Spreading a culture of environmental management

We regularly conduct environmental education and campaigns to improve and internalize employees' environmental awareness. Through training with different contents considering the characteristics of each business site, we are establishing environmental expertise linked to practice, and for proper management supervision, we provide training to environmental managers through external specialized organizations.

The Packaging Division Headquarters provides green management training programs for members of the EHS organization, the environmental management department. As GHG-related regulations have become stricter, the demand for experts such as internal auditors and verifiers has increased for the establishment of GHG management systems. Employees with extensive work experience and education on carbon neutrality and GHG measurement and management are qualified as internal GHG auditors, and we operate a program to train practitioners for GHG inventory construction. Participating employees are provided with practical training, including opportunities to attend government seminars on low-carbon and green growth, and are supported in their development as professional verifiers. In the future, we will expand the training program to our supply chain and partner companies to spread the culture of environmental management throughout the value chain.

Investment in environment

Environmental spending

Each year, Dongwon Systems establishes an investment plan for practicing environmental management and makes systematic investments based on it. We are expanding the purchase of recycled raw materials and fuels for efficient use of raw materials, and we are investing in replacing old facilities and converting to high-efficiency facilities to continuously save energy. In 2021, we invested KRW 30 billion in expansion of high-efficiency oxygen melting furnace and repair of related facilities to reduce gas consumption as a new expansion investment for old glass bottle melting furnaces. We also stabilized the system that discharge less wastewater to prevent an increase in the generation of water pollutants due to the increase in production volume, installed inverters at each business site, and replaced old compressors to reduce excess electricity usage and reduce energy consumption to reduce GHG emissions and respond to climate change.

As the standards for air pollutant emissions are tightening, we are actively investing in the introduction of DeNOx system to reduce pollutants, and we will continue to increase our investment for positive environmental improvement effects.

Environmental training status

	2020	2021	2022
Total training hours	3,878	4,064	3,791
Number of persons that participated training	1,576	1,576	1,692
Training hours per person	2.46	2.58	2.24

Green bond

A green bond is a special purpose bond that can be used to invest in eco-friendly projects such as renewable energy or social infrastructure. In October 2021, Dongwon Systems issued a green bond worth KRW 30 billion, which was rated G(Green)1, the highest possible rating, by Korea Ratings. In addition, it was evaluated as meeting the Ministry of Environment green bond guidelines and the standards of the International Capital Market Association (ICMA), and was selected as an excellent green finance company in 2022 in recognition of its appropriateness. The proceeds from the green bond will be used to invest in secondary battery materials related eco-friendly transportation vehicles and energy efficiency improvement. In addition, we plan to transparently disclose bond-related information once a year through the socially responsible investment bond segment of the Korea Exchange from the time of bond issuance.



Environmental assessment of partner companies

Dongwon Systems' environmental management is completed by working with partner companies. To this end, we have established various evaluation and management procedures to strengthen the environmental management capabilities of our partner companies. We recommend acquiring international management system certifications such as the environmental management system (ISO 14001), and we will further emphasize the importance of building and practicing an environmental management system by reflecting environmental issues such as compliance with environmental regulations, environmental impact, and energy management in regular evaluations of partner companies.

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Environmental Impact Management

Air pollution management

Management of air pollutants

Dongwon Systems deeply understands the seriousness of the air pollution problem and the need to improv it, and we are doing our best to reduce the generation of fine dust and emission of air pollutants to minimize the impact on the air environment caused by corporate activities, including installing additional air pollutant prevention facilities and monitoring emissions. Specifically, we have installed pollutant reduction facilities for each business site to stably manage and emit air pollutants in the workplace, and we are minimizing the emission of air pollutants through fuel switching. In addition, we are working to improve air pollutant emissions by utilizing the TMS (Tele-Monitoring System), which enables real-time monitoring, and periodic air sampling analysis.

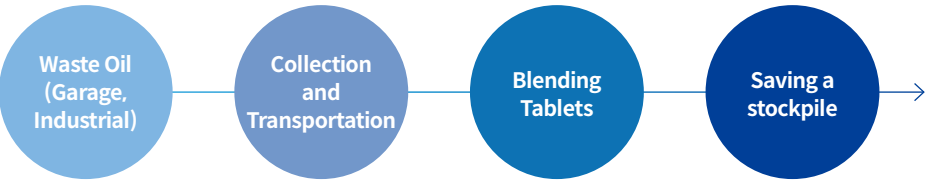
Reducing nitrogen oxide emissions

As the emission standard for air pollutants were tightened in 2020, we are responding to the regulations by installing a nitrogen oxide (NOx) reduction facility (SNCR) at the Gunsan Plant. By installing a SNCR at the Gunsan Plant, we aim to ensure that the NOx concentration emitted from the plant meets a stricter level than the emission standard (180 ppm). The facility started operation in July 2021 and reduced the emission concentration to 150 ppm, and we are considering additional installations. In addition to this, we have promoted the conversion from the existing air combustion method to the oxygen combustion method to eliminate nitrogen oxide emissions 100% in the combustion process. By installing more air pollution prevention and reduction facilities in the future, Dongwon Systems will actively work to create a clean air environment for local communities.

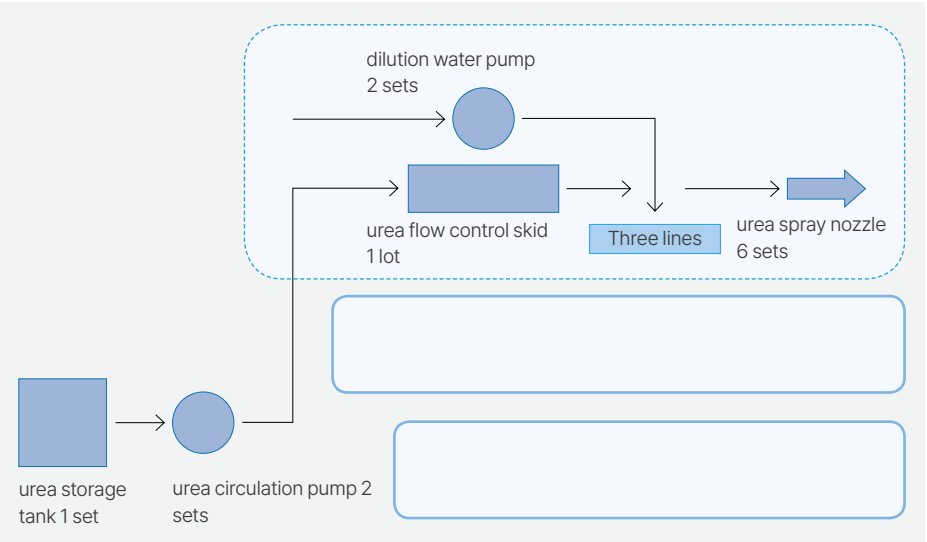
Utilizing renewable fuels

To minimize air pollutant emissions, we use recycled refined oil as a fuel for glass bottle manufacturing. Refined oil is produced by refining and blending waste oil, and reduces nitrogen oxides by 20% and sulfur oxides by 41% compared to the main fuel B-C oil.

Recycled refined oil incoming process



Flow Chart Diagram



Water resource management

Sustainable water resources

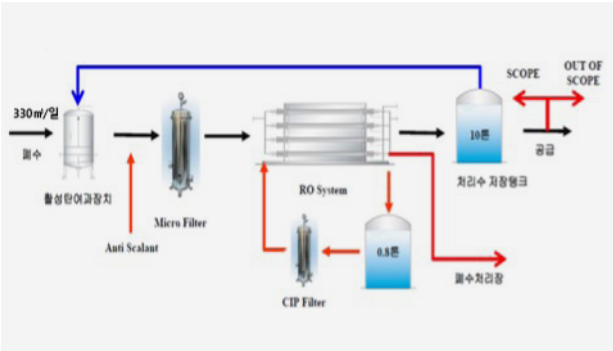
Amid water scarcity, rising treatment costs, and environmental concerns, Dongwon Systems invests in facilities to cut wastewater and conserve water due to stricter quality standards.

We use 0.84% of recycled water from water reuse facilities to reduce consumption at our sites. The reused water is used for landscaping and industrial purposes, saving about 13,391K tons of water in 2022 compared to the previous year. Also we monitor water pollution indicators like TOC, BOD, and SS regularly to prevent pollutant discharges.

Wastewater low discharge system

The local community's awareness of protecting the environment and water resources is growing, and the cost of wastewater treatment and related regulations are increasing. Our Icheon plant employs a low discharge system that minimizes effluent release by recycling and reusing water on-site. Effluent water is treated to meet local discharge standards, then released into a nearby river through filtration, and we have achieved a 65% to 98% reduction in wastewater discharge compared to before the system was introduced.

Wastewater low discharge system



- Activated carbon filtration: Removing chlorine and residual suspended solids in wastewater
- Micro Filter: Removing debris from activated carbon
- RO System: Removing organic and inorganic matter to produce clean water
- COP Filter: A facility that regenerates the RO system using chemicals when it is degraded.

Water and Wastewater

	Unit	2020	2021	2022
Water usage goals	Kton	58,444	52,899	39,508
Total water usage	Kton	58,444	52,899	39,508
Water supply	Kton	48,333	45,060	34,509
Groundwater	Kton	1,669	1,067	205
Industrial water	Kton	8,442	6,772	4,794
Recycled water	Kton	313	332	332
Amount of wastewater discharge	Ton	453,000	467,603	467,603
Amount of wastewater Recycling	Ton	314,052	379,104	379,104

Waste management

Waste management

Dongwon Systems strives to minimize waste generated in its operations and treat it eco-friendly. We have established management standards for each type of waste generated at our business sites and process them according to legal processes, and we strive to establish a virtuous cycle system for resources in the entire process of product production and processing, including raw material purchase, transportation, product sales, and management activities. We have established circular economy targets to promote recycling of waste, and we set and manage targets for reducing raw materials every year to reduce and manage waste generation.

Waste generation target (Unit: tons)



Waste reduction activities

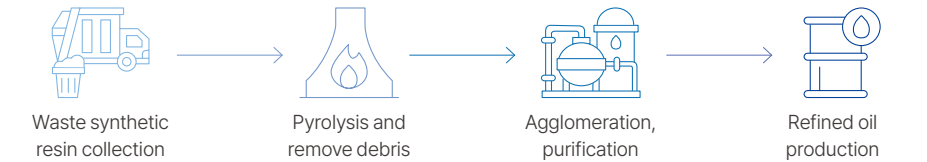
Dongwon Systems minimizes the amount of waste generated by implementing focused management of waste generation sources, and is building a circular economy system by thoroughly separating generated waste and maximizing resource utilization rates.

We conduct regular waste analyses to assess environmental impact, and manage waste storage facilities to prevent environmental harm. The stored waste is transported to the disposal company through a legally authorized professional contractor's vehicle and disposed of, and the process recorded and monitored via the government's 'Correctly System'. We also annually inspect contractors to ensure legal waste disposal to the designated company.

Circular economy

To more actively reduce waste generation, we are continuously researching recycling technologies to contribute to the virtuous cycle of waste. At our Gunsan plant, we've upgraded our sorting line for better waste glass quality, leading in resource recycling by enhancing white waste glass input. In addition, as interest in the circular economy grows, the importance of treating and managing waste plastics that cause ecological disturbances is increasing. In response, Dongwon Systems utilizes waste plastics to create renewable fuel through innovative technology. We aim to contribute to the circular economy by recovering waste synthetic resin from our business and daily life, refining it, and recycling it into fuel for glass bottle manufacturing.

Thermal cracking oil production process



*Pyrolysis process: A process in which waste is fed into a rotary kiln pyrolyzer and indirectly heated to break down carbon compounds in the internal organic matter to produce oil vapor.

Soil pollution management

Dongwon Systems conducts regular soil pollution inspections to prevent contamination from waste and protect the ecosystem. In addition, for hazardous chemicals that cause soil pollution, we minimize the impact on the soil by excluding underground storage facilities and installing separate storage facilities.

Response to Climate Change

In addition to responding existing climate change-related issues, Dongwon Systems connects climate change response to new business opportunities for growth. First, we set a goal to eliminate GHG emissions from all sites by 2050 and are actively reducing emissions. We're also addressing climate change risks through increased energy facility investments and TCFD reporting. In terms of business growth, we recently issued a new green bond and obtained the highest rating, and we are actively participating in the carbon emission trading system. We will continue to expand the proportion of eco-friendly products and services, such as eco-friendly packaging materials, to share in the global challenge of stopping climate change.

GHG reduction targets

Climate change response system

Global pressure to address climate change is rising, and failure to respond climate change could lead to a decline in corporate value. Dongwon Systems proactively addresses this by setting GHG reduction strategies and targets, while its governing body assesses climate change risks, opportunities, and key issues. We're establishing integrated carbon emissions management with GHG inventories for our nine business sites. Emission data will be transparently disclosed in our sustainability report for stakeholders.

2050 Net Zero

Globally, 'responding climate change' is being discussed as the biggest goal and risk of our time. In order to join the active movement Dongwon Systems has declared '2050 Net Zero', aiming for carbon neutrality by 2050 and outlining its implementation plan. To achieve our 2050 carbon neutrality goal, we've devised strategies to manage GHG emissions at our sites and enhance resource efficiency and circulation, including energy. When establishing detailed targets, we set reduction targets in relation to the national GHG reduction target and the government's industry-specific quota targets. Dongwon Systems is actively taking the lead in building a carbon-neutral society that involves both the company and its stakeholders through plastic reduction and eco-friendly material product technology development.

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GHG reduction efforts

Responding to the Carbon Emission Trading System

As an emissions trading allocation recipient, Dongwon Systems is obligated to report its GHG emissions annually and fulfill the purchase of excess emissions. With rising emission allowance prices, the need to mitigate risks linked to extra purchases has grown. Dongwon Systems is actively managing future emissions through a systematic calculation plan and an internal trading mechanism to respond to the carbon emission trading system.

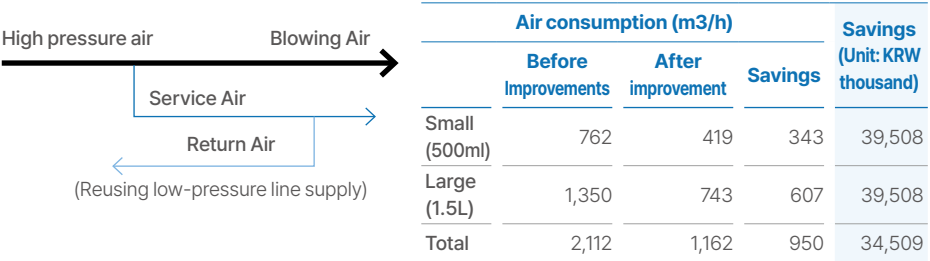
We've set up guidelines and procedures for efficient GHG emissions management at sites, monitoring compliance by calculating monthly emissions for each location. GHG emissions are subject to annual third-party assurance to ensure data transparency and objectivity. We have established an optimized management system to ensure that GHG emissions do not exceed the allowable emissions when investing in additional facilities for product production, and we periodically review whether additional GHG reduction processes are needed.

GHG reduction activities

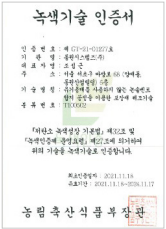
Dongwon Systems is promoting various GHG reduction activities to minimize the impact of climate change. We are continuously investing to improve old facilities that cause an increase in energy usage due to low thermal efficiency. By replacing old boilers and renovating business sites in consideration of eco-friendly design, we have reduced the amount of heat dissipation in facilities and are promoting the conversion to high-efficiency facilities. The Yeosu plant has introduced an air recycling system to reuse discarded air, which contributes to reducing electricity consumption. A portion of the blowing air wasted during the PET manufacturing process is recovered and used to reduce the pressure. In addition, we regularly conduct energy diagnostics to identify the current status of energy use and derive optimal improvement measures for energy reduction.

Meanwhile, Dongwon Systems' Institute of Technology obtained green technology certification for its non-solvent flexible packaging manufacturing method in November 2021. The company has been improving the manufacturing process of its products based on an assessment of potential environmental impacts by conducting a life cycle assessment (LCA), and has been evaluated as suitable for green technology because it is achieving energy savings by using technology that does not require a drying process. The introduction of green technology has reduced power consumption in the process by an average of 85%. This is expected to reduce carbon dioxide emissions by about 85%, which is equivalent to planting 5,800 pine trees per year for the production of 10,000 kilometers of packaging material.

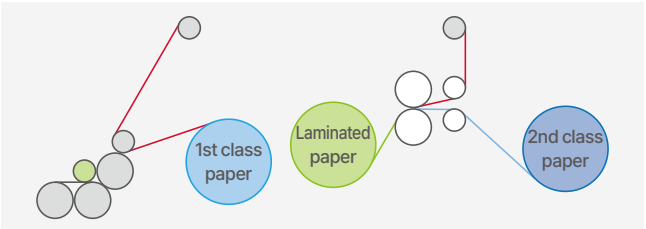
Air Recycling System



Green technology certification



Non-solvent laminated paper process diagram



GHG emission and energy consumption

In accordance with the Act on Low Carbon, Green Growth, Dongwon Systems transparently discloses its annual GHG emissions and energy consumptions to all stakeholders.

GHG emissions

(Unit: tCO₂eq)

	2020	2021	2022
Scope 1	118,766	128,510	127,006
Scope 2	98,666	149,615	152,070
Scope 1 + Scope 2	217,432	278,127	279,076

Energy consumption

(Unit: tCO₂eq)

	2020	2021	2022
Fuel	1,687	1,779	1,776
Electricity	2,245	3,093	3,111
Steam	1	25	30
Total	3,928	4,897	4,917

SPECIAL REPORT


TCFD Report

The Task Force on Climate-related Financial Disclosures (TCFD) is a global consultative body established by the International Financial Stability Board for the disclosure of information related to climate change, and has produced the TCFD Recommendations, which are standards for disclosing metrics and targets, governance, strategy, risk management for responding climate change.

Dongwon Systems transparently discloses climate change-related information in accordance with the TCFD guidelines in order to actively respond to climate change issues caused by global warming and actively communicate our commitment to GHG reduction to all stakeholders.

TCFD Recommendations

The four pillars of the TCFD



Governance	<ul style="list-style-type: none">· Oversight to the board of directors· Executive management's role
Strategy	<ul style="list-style-type: none">· Short-, medium-, and long-term strategy· Business, strategic, and financial planning implication· Evaluation of strategy appropriateness
Risk management	<ul style="list-style-type: none">· Processes related to organizational awareness and evaluation· Organization-wide response process· Process integration
Metrics and targets	<ul style="list-style-type: none">· Method for measuring opportunity and risk· Risk of GHG direct and indirect emissions· Organization goal and performance

Governance

Dongwon Systems has established an climate change response system between the executive management and the management team centered on the ESG management committee, which was established in December 2022, to assess and manage risks and opportunities related to climate change. The ESG management committee, comprised of the Chief Financial Officers of each affiliate, monitors environmental impacts and regularly reports to the board of directors on matters related to the environment, including addressing climate change, and the board of directors conducts board-level management and supervision of the reported matters. In particular, the board of directors continues its efforts to respond climate change by making major decisions on environmental safety and health management plans and eco-friendly management through the ESG management committee.

Strategy

Dongwon Systems is proactively managing risks by identifying internal and external risks and opportunities of climate change and comprehensively analyzing the impact on the company's business, strategy, and financial plans.

We categorize risks from climate change into transition risks and physical risks. Transition risks include legal, regulatory, technological, market, and reputational risks. Physical risks include acute risks such as typhoons and floods, and chronic risks such as sea level rise and average temperature rise. Dongwon Systems is conducting various activities in response to each risk as well as opportunity factors.

Climate change risk analysis

Risks based on scenarios (RCP 2.6 and RCP 8.5 scenarios) required by the TCFD recommendations were analyzed, and short- and long-term risks and opportunities related to Dongwon Systems were defined and analyzed. The identified risks are systematically managed in connection with the company's management strategy and specific activities.

Category	Time Horizon	Risk	Details	Potential impact	Dongwon Systems Response
Physical Risks	Acute / Chronic	Rising average temperatures and natural disasters due to climate change	Damage to business site caused by natural disasters such as flooding, landslides	Increasing losses and costs due to production delays and business sites recovery	· Capacity-building for business site safety management and emergency response management · Establishing a risk management system related to production, transportation, and material supply impacts by business site · Assessing and managing water stress risks by region
			Increasing raw material prices caused by change and destruction of natural ecosystem	Loss of competitiveness due to increased operating/production costs and product prices	· Securing stability in business operations by diversifying supply chain channels
Legal Regulations	Current	Strengthening environmental regulations	Strengthening environmental pollutant regulation and net-zero	Increasing costs of responding to regulations such as the carbon emission trading system	· Implementing site-specific activities to reduce GHGs · Investing in facilities to reduce GHG and water/air/soil pollutants at business sites · Managing supply chain environmental impacts including partner companies
	Current/ Emerging		Reinforcement of plastic use regulation	Incurring the cost of using chemicals and developing alternatives	· Planning for investment in developing new eco-friendly materials that are more recyclable/reusable
Technology/ Market	Emerging	Carbon border tax	Introducing the EU carbon border tax	Increasing packaging material costs as a result of product price pass-through effects due to the introduction of the carbon border tax	· Ensuring price competitive · Upgrading energy-efficient equipment and selecting optimized production sites · Utilizing renewable energy and heat
	Current/ Emerging	Growing demand for low-carbon and green products	Increasing demand for sustainability at all stages of the production process	Incurring costs for green process and product R&D Potential risk of competitiveness loss	· Developing eco-friendly products such as biodegradable packaging materials · Developing new technologies such as secondary batteries to expand business areas and transitioning to new green businesses · Developing and applying eco-friendly processes · Expanding the use of eco-certified raw materials · Obtaining eco-friendly certifications for products and technologies

Risk management

Dongwon Systems regularly analyzes and reviews climate change-related risks and opportunities in order to understand the impact of climate change issues and respond proactively. To this end, we operate a risk management system consisting of four main steps, and the results of the analysis are reflected in our management strategy to establish specific countermeasures and monitor them regularly.

Climate change risk analysis	Review of corporate countermeasures	Risk management and response activities	Risk response performance monitoring and improvement
<ul style="list-style-type: none">· Defining relevant risks· Analyzing risks (risk cycle, possibility of occurrence, financial, geographic, and temporal scope of impact if risk occurs)	<ul style="list-style-type: none">· Establishing strategy by topic<ul style="list-style-type: none">- GHG Reduction- Building and operating business sites- Products and services- Technology R&D- Cost of climate change response	<ul style="list-style-type: none">· Specific management activities<ul style="list-style-type: none">- Improving energy efficiency at business sites- Expansion of renewable energy- Promoting GHG reduction projects- Participating in climate change initiatives- Supporting reduction projects of partner companies	<ul style="list-style-type: none">· Monitoring performance· Evaluating activity results· Reflection and improvement of evaluation results· Planning annual activities for the next year

Metrics and goals

Dongwon Systems is continuously managing GHG and energy metrics to respond climate change and achieve carbon neutrality. Dongwon Systems has set a goal of reducing its scope 1+2 emissions by 37% compared to 2020 and is working to achieve it.

GHG emissions reduction targets			(Unit: thousand of tCO ₂ eq)
2020	2021	2022	
229,090	297,619	297,619	

Target around 11% (national plan around 6% by 2025)



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In order for a company to exist and grow in society, it needs to seek win-win development with society.

Dongwon Systems is striving to pioneer sustainable growth and the future by focusing on social value creation to realize a 'socially necessary company'.

SOCIAL

Human Resource Management

Human resource management

In order to respond to the rapidly changing external environment and ensure the company's continuous growth, it is necessary to continuously recruit excellent talents and develop the capabilities of employees. Dongwon Systems implements personnel policies that enhance the competence of employees by creating an organizational culture of learning to strengthen the competitiveness of employees and enhance the satisfaction of employees through fair performance assessment and reasonable compensation.

Dongwon's Values

People who think and act right

When making decisions, make sound judgments based on facts and considering various perspectives. We stick to our principles and try to implement the institutions and norms of society and organizations. We take responsibility for our work from start to finish and do our best to deliver the final result. Strictly separate work and personal matters and act consistently with objective and reasonable standards.

People who enjoy their work

Actively work to gain experience and acquire the basic knowledge and skills needed for the work you want to do. Plans thoroughly and takes the lead to keep things running smoothly and according to schedule. Adapts quickly to new situations and actively utilizes newly learned knowledge and information. Keeps own emotions stable and does not become frustrated by negative or difficult situations or failures.

People who want to be fresh

You are interested in looking at things from a new perspective and coming up with new and different ideas. You are not satisfied with what you do out of habit and are always trying new things. You are interested in various fields, strive to acquire knowledge, and strive to be an interdisciplinary thinker. When faced with a problem, you accurately identify the essence of the problem and come up with an effective solution.

People who are engaged and aligned with our goals

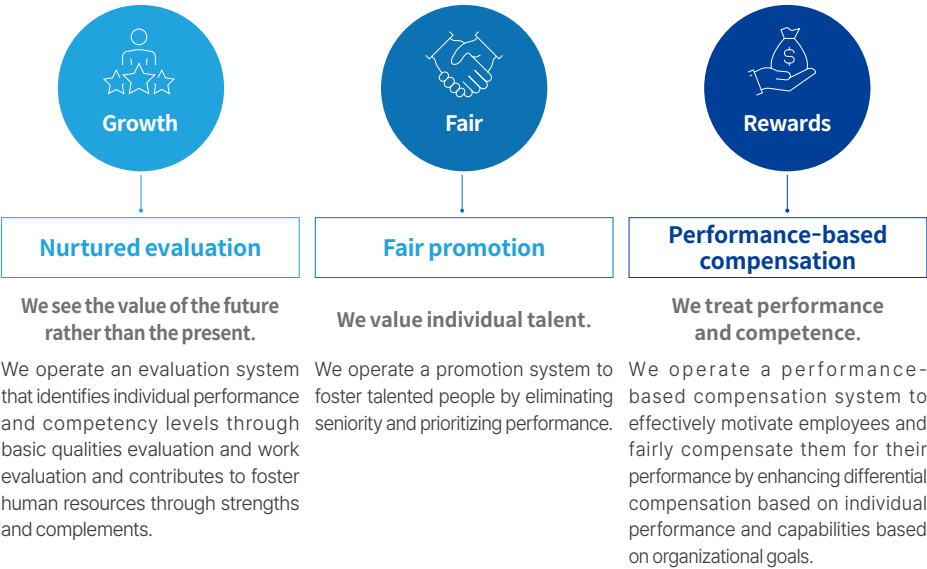
You have a "can-do" attitude and are committed and immersed in accomplishing what you set out to do. Constantly researching and learning to produce valuable results. You have a mindset and attitude of working with others to achieve positive results. You listen well to others, communicate in a way that builds empathy, and express your opinions persuasively.



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Dongwon HR System

Dongwon Systems operates a systematic and transparent human resource system based on Dongwon's overall values and human resource management policy. In addition, we appropriately link training and evaluation, work and compensation so that the company and employees can grow together.



Fair hiring policy

Dongwon Systems conducts open recruitment in a transparent and fair manner, with diversity, dignity, and equal employment opportunities for men and women as basic values. We're eliminating the specification factor from the application and selecting talent based on job skills on interview process. In addition, we operate an internship system linked to recruitment to provide interns with the opportunity to gain vivid on-the-job experience through practical experience and task performance, and after the end of the internship period, we confirm the hiring decision through fair evaluation. In addition, we are making flexible and competitive talent selection through various forms of employment creation efforts, including part-time and telecommuting recruitment and senior recruitment. In particular, to contribute to the employment of local talents, we have signed a partnership agreement with Suncheon Hyang University to actively recruit local talents.



Ration of permanent employee

Category	Unit	2020	2021	2022
Permanent employees	Person	1,543	1,655	1,645
Contract employees	Person	29	37	41
Total	Person	1,572	1,692	1,686
Ration of permanent employee	%	98.2%	97.8%	97.6%

Average employee tenure

Category	5 years or less	5 to 15 years	15+ years	Average
2020	580	401	591	12.8 years
2021	655	455	582	12.2 years
2022	651	471	564	12.1 years



Selected Best Company for Jobs in South Korea 2018

Dongwon Systems was selected as the '2018 Best Company for Jobs in Korea' by the Ministry of Employment and Labor for receiving high marks for '▷continuously creating new jobs', '▷ensuring employment stability by converting production workers to full-time jobs', '▷100% employment succession in mergers and acquisitions', '▷creating local jobs by hiring local talent first', and '▷expanding employment of young adults aged 34 years old by introducing wage peaks'. Selected companies will receive support for up to three years as an excellent company for employment creation, including preferential credit interest rates and tax inspection suspension. Dongwon Systems is taking the lead in creating a dynamic and enjoyable workplace through continuous improvement of the working environment and a win-win labor-management culture, and will continue to contribute to the development of society by creating high-quality jobs and sincere corporate management.



Creating jobs for socially disadvantaged

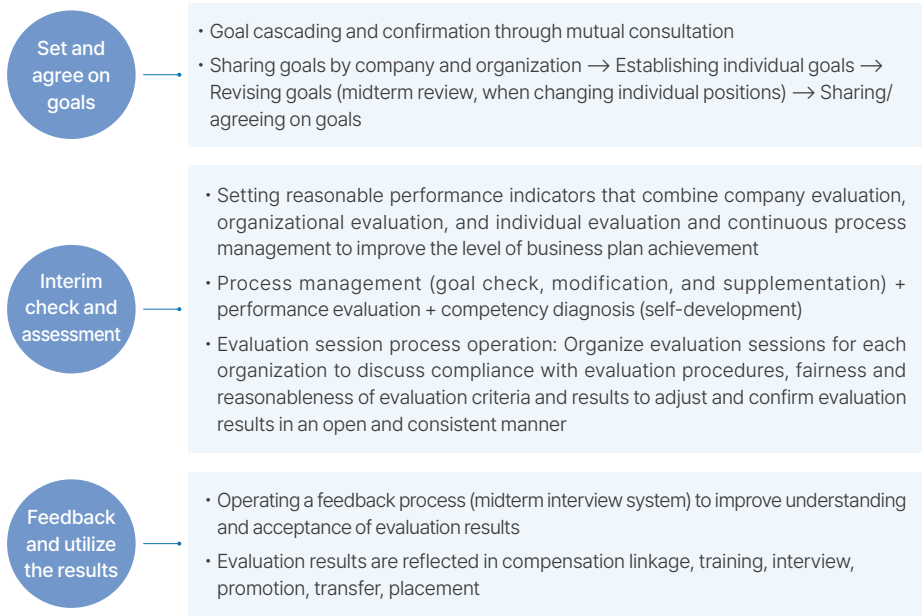
In order to create a society where all members of society can work happily and have equal opportunities, Dongwon Systems is taking the lead in creating jobs for people with disabilities, veterans, and other groups that need social consideration. Therefore, we are actively working to expand employment for such applicants through special recruitment and application of documentation points. Dongwon Systems will continue to fulfill its corporate social responsibility through various CREATING JOBS and recruitment policies that consider the socially disadvantaged.

Performance assessment scheme

Dongwon Systems evaluates performance on an annual basis and provides compensation accordingly. In addition, we operate an organizational evaluation system to enhance fairness in the distribution of wage increases and incentive resources, and to strengthen the compensation system based on performance. In detail, we separate the scope of performance evaluation and competency evaluation into compensation and nurturing and conduct organizational evaluation separately from individual evaluation to determine the final scope of compensation. The results of the achievement evaluation are reflected in promotions, base salary adjustments, and incentives, while the results of the competency evaluation are utilized as data for job transition placement.

Meanwhile, compensation such as wage increases and incentives are paid differentially based on a transparent and fair distribution rate that combines company, organizational, and individual evaluations. In addition, to minimize conflict of interest issues, we have introduced interview system to agree on goals for the next year, check progress, and provide feedback on the final evaluation.

Process of performance management



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Welfare benefit system

Through various welfare benefit programs, Dongwon Systems strives to create a working environment and atmosphere where employees can continue their working lives by improving their quality of life, inducing job immersion, and enhancing job satisfaction.

Support system	What's supported
Refresh leave	Refresher leave (up to 4 business days) and points (up to KRW 500,000/year) to rest and recharge
Providing employees perk points	Welfare points (up to KRW 300,000/year)
Long Service Rewards	Reward for long-term service (10 years, KRW 300,000) / (20 years, KRW 1.3 million) / (25 years, KRW 2.2 million)
Awarding year-end recognition	Each year, outstanding employees in each field are selected and awarded cash prizes (up to KRW 2 million/year), promotion points and recognition.
Providing health screening costs	Providing health screening costs (up to KRW 1 million/year)
Supporting expenses for congratulations and condolences	Supporting funeral services up to KRW 800,000 for mourning leave and funeral supplies, wreaths, etc.
Supporting school expenses	Supporting your child's education (up to KRW 3,000,000 per semester)
Providing vacation condo bookings	Family retreat support (once per month (up to 24 nights per year))
Supporting internal loans	Supporting in-house loans for employees (housing fund - up to KRW 50 million / life stability fund - up to KRW 20 million)

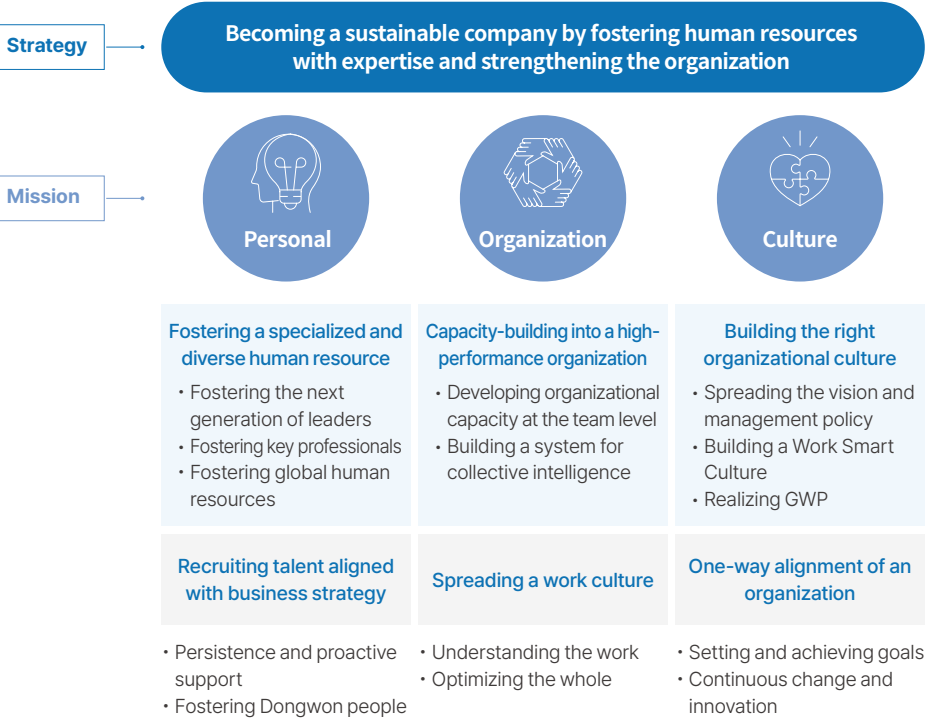
Retiree support system

We operate a retiree support system regardless of the reason for leaving the company, including retirement and involuntary separation. In consideration of retired employees who have worked at Dongwon Systems for a long time and contributed to the management and development of the company, we support them in forming a positive attitude toward the second half of their lives. For employees who leave the company involuntarily due to management needs, we provide reemployment support, which is expected to create a win-win situation for the employee and Dongwon Systems.

Fostering human resources

Strategy of fostering human resources

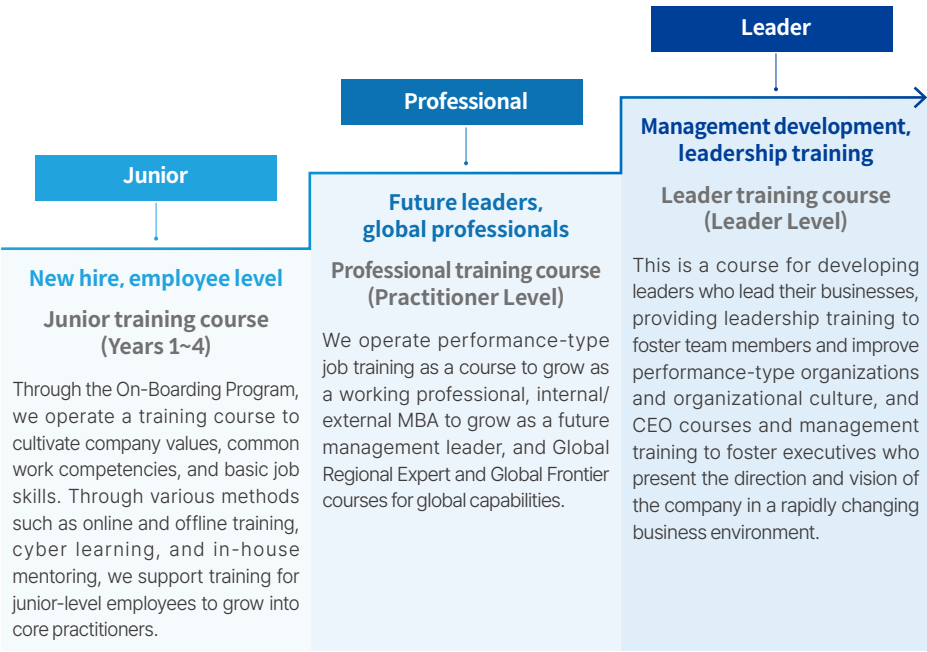
Dongwon Systems aims to become a sustainable company by fostering human resources with expertise and strengthening the organization. Therefore, we focus on capacity-building of employees based on the strategy of fostering human resources.



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Employees training system

Dongwon Systems supports the growth of its employees with a professional and diverse fostering human resources system based on the group's core values. Dongwon Systems operates a three-stage fostering system: Junior training course (1st-4th year), Professional training course (practitioner level), and Leader training course (leader level).



In addition, we provide educational support for employees to improve their capabilities and create performance through Thursday seminars for continuous growth, open job training with voluntary participation of employees, cyber/mobile/phone foreign language and reading education, and support for participation in external professional education.

Employees training hours

Category	Unit	2020	2021	2022
Total training hours	Hours	26,473	16,868	23,578
Training hours per person (White collar)	Hours	42.6	43.4	58

Communication with employee

Organizational culture strategy

Dongwon Systems aims for a vibrant and collaborative company culture through active employee communication. We enhance our organizational culture using 'Dongwon Culture 3.0', fostering a healthy environment for work immersion. Under 'Creating a performance-oriented healthy organization', we focus on 'establishing work immersion', 'expanding smart refreshment', and 'building flexible culture'

Dongwon Culture 3.0

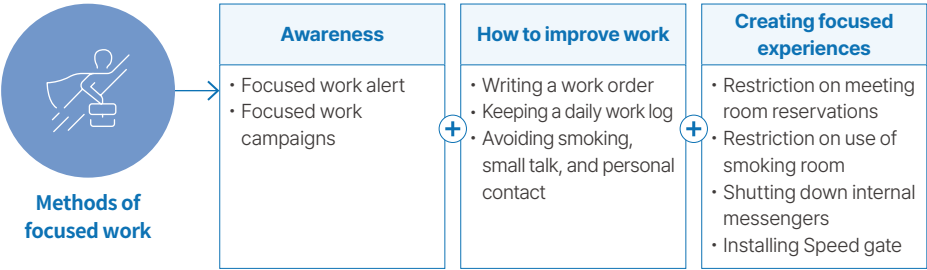
Direction for promoting	Dongwon Culture 3.0 Creating a healthy, performance-oriented organization		
Strategy	Setting the mood Work / Start-up	Expanding Smart Refresh Life / Step - up	Build a Flexible Culture/ Value up
What's next	1. Work Hour Management: <ul style="list-style-type: none">Registering for commute time onlineExpanding flexible work arrangementsStaggered commutes/telecommutingReduced work hours 2.Avoiding working holidays <ul style="list-style-type: none">Adjusting on-call payInforming holiday work standards 3.Improving meeting culture <ul style="list-style-type: none">Running meetings during work hoursFour practice meeting principlesSlim/Smart Meetings 4.Smart reporting <ul style="list-style-type: none">Streamline reportingStandardize documentation forms	1. Expanding the use of annual leave <ul style="list-style-type: none">Building the 4 Free-Day atmosphereIntroduction of infertility leave 2. Enhancing wellness support <ul style="list-style-type: none">Activating welfare pointsImproving reading education (seasonal reading)Operating a happy family class 3. Strengthening maternal protection <ul style="list-style-type: none">Providing Hello-Baby BoxProviding a CEO gift for a new babyOperation childbirth classes	1. Respectful Culture <ul style="list-style-type: none">Etiquette compliancePreventing sexual harassment prevention 2. Enhancing grievance handling <ul style="list-style-type: none">Systematizing grievance counselingIntroduction of a psychological counseling program 3. Strengthening communication channel <ul style="list-style-type: none">Enhanced employee communicationExpanded HR channels 4. Healthy Dining Culture <ul style="list-style-type: none">1·1·3 principles 5. Improving disclosure of personnel evaluations <ul style="list-style-type: none">Disclosing ratings and comments

Employees training costs

Category	Unit	2020	2021	2022
Total Costs	KRW Million	167.0	257.0	403
Cost per person (office job)	KRW 1,000/person	460	661	991

Activities to improve organizational culture

Dongwon Systems follows the "Universal Management Theory" that values people, aiming to enhance value beyond current operations. We're committed to an internal culture of open communication and efficient work. Specifically, we boost work focus and productivity by cutting unnecessary tasks during work hours and discouraging overtime. In particular, we set focus time according to work characteristics to improve work immersion and productivity. In addition, we are minimizing work instructions through SNS by introducing the 'SNS log-off system' and prohibiting work contacts after work through internal campaigns. In addition, we support employees to eliminate unnecessary work and focus on core tasks by simplifying reporting and approval and standardizing document forms.



Employees satisfaction survey

Dongwon Systems conducts annual employee satisfaction surveys (self-reports) at the group level. Employees' job satisfaction, immersion in organizational culture, organizational atmosphere, and various grievances are investigated at the time of year-end personnel evaluation. EMPLOYEE SATISFACTION SURVEYS evaluate whether employees understand and are familiar with Dongwon's core values and behavioral norms, and receive employees' grievances through various channels, including leadership evaluations of direct team leaders, organizational strengths and weaknesses, work-related grievances, and job transfer requests. We consider satisfaction surveys when considering transfer requests, and aim to move at least 30% of transfer requests within the first quarter. We use employee satisfaction surveys not only to express individual opinions, but also to identify the characteristics and trends of each organization, refer to them in the direction of work, and proactively respond to any inconveniences. In addition, Core values' understanding tracked yearly informs HR development. Survey analysis is submitted anonymously to heads and CEOs for effective management.

Labor-Management cooperation

Dongwon creates a labor-management culture in which employees recognize each other as partners who can trust and communicate with each other. We thoroughly guarantee freedom of association and collective bargaining. The labor union communicates about major management and labor issues through regular consultations and wage and collective bargaining, and the labor-management council reports, discusses, or resolves major changes in management status and human resource operations through regular meetings. In 2016, Dongwon Systems was awarded the Presidential Award for Labor-Management Culture by the Ministry of Employment and Labor in recognition of its contributions to establishing a win-win labor-management culture. For 26 years, Dongwon Systems has established a win-win labor-management culture based on four principles, including bargaining for labor-management interests, and has contributed to improving long working hours and stabilizing employment in middle and old age. As such, Dongwon continues to discuss and share important changes and internal issues with labor and management through regular dialogue and compromise.

Dongwon Systems labor union

Function	Maintaining/improving working conditions and improving the economic and social status of other workers
Key activities	68 annual wage negotiations in 2022 (average 14), 0 collective bargaining in 2022

Labor union membership status

	Number of members	Total employees	Sign up rate
Dongwon Systems labor union	1,179	1,686	69.6%

Customer and Product Responsibility

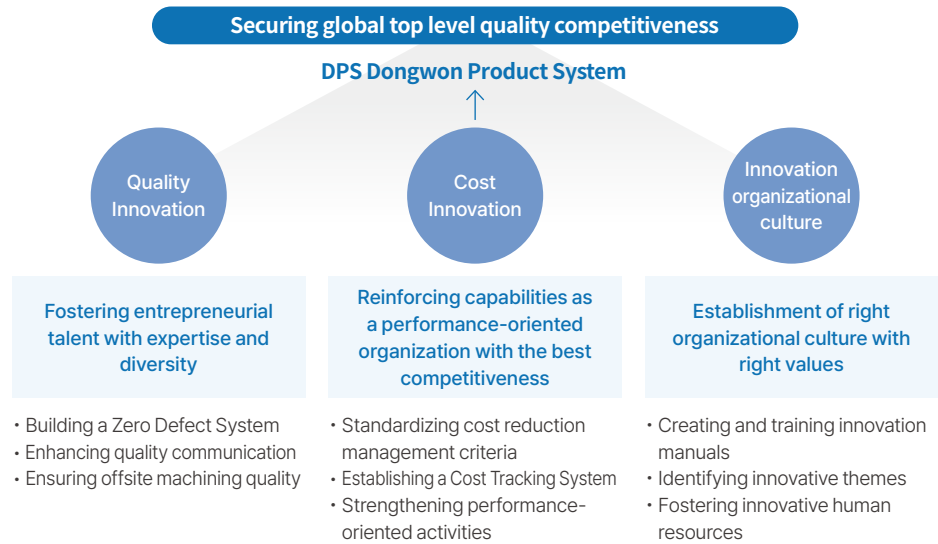
Quality and product innovation

Quality management system

Dongwon Systems provides responsible production and sustainable products and services by leading cost innovation, quality innovation, DPS innovation, and establishing an organizational culture. Based on our quality management system, we ensure the high quality of our products and services through various inspection processes from raw materials to manufacturing processes to finished products. Even after products are shipped, we collect customer opinions and complaints about products and share them with relevant departments in the factory to actively improve product quality.

In addition, we established and operate the Institute of Technology to maintain sustainable product competitiveness and realize customer satisfaction, and we are striving to focus on core competencies and discover new businesses under the mission of strengthening the technology of existing businesses and continuously developing high-value-added products.

Quality management strategy



Quality control capacity-building

Dongwon Systems systematically improves quality risks, both internal and external. Through regular evaluations, we analyze quality issues, determine causes, and innovate for better quality management. In addition, we provide relevant training for all employees to recognize the importance of quality management of products and services and strengthen their professional work capabilities. By establishing and operating a company-wide quality education system consisting of quality awareness and capacity-building training, we maintain a high-quality quality management system through the management of quality human resources who have secured qualifications in all areas related to quality.

Improvement of quality, production, and product safety

Dongwon Systems' quality assurance team addresses product quality across materials to finished goods. In accordance with the quality management system, we conduct quality assurance through IQC (import inspection), PQC (process inspection), and OQC (product inspection) from raw materials to manufacturing processes to finished products. We also collect product claims and customer opinions, sharing them with factory departments for quality improvement. Dongwon Systems obtains quality and food safety certifications to enhance customer trust and promote product quality. In 2010, we became the first Korean company to achieve food safety certification for glass bottles, cans, and PET packaging, demonstrating our commitment to responsible quality management.

Status of global certification

<p>Dec. 1994</p> <p>Achieved ISO 9001 quality management system certification</p>	<p>Jul. 2010</p> <p>First ISO 22000 certification in Glass, CAN, and PET packaging sectors</p>	<p>Jul. 2013</p> <p>Obtained Food Safety System Certification (FSSC) 22000 certification</p>
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Dongwon Systems selected '2021 next generation world class product'

Dongwon's affiliates, Dongwon F&B and Dongwon Systems, have been selected as the '2021 NEXT GENERATION WORLD CLASS PRODUCT' in the canned pork and functional flexible packaging material categories, respectively. The WORLD CLASS PRODUCT system, which is celebrating its 20th anniversary this year, is an evaluation system introduced in 2001 by the Ministry of Trade, Industry and Energy and the Korea Trade-Investment Promotion Agency (KOTRA) to raise the global status of excellent products developed by domestic companies and contribute to the revitalization of exports through brand certification. The 'NEXT GENERATION WORLD CLASS PRODUCT' designation is awarded to items that are predicted to achieve a global market share within the top five or more than five percent in the next seven years, following a review by external experts, and must meet the criteria every year to remain eligible. Dongwon Systems was awarded this certification in the functional flexible packaging material category based on its export performance of packaging materials for pet food and retort pouches for long-term storage. Dongwon Systems functional flexible packaging materials are made of multi-layer structured packaging material films that are stacked in multiple layers for long-term storage of products, and the company has recorded annual exports of KRW 75 billion to countries around the world such as the United States, Canada, and the Philippines in the pet food and retort fields.



Increasing customer value

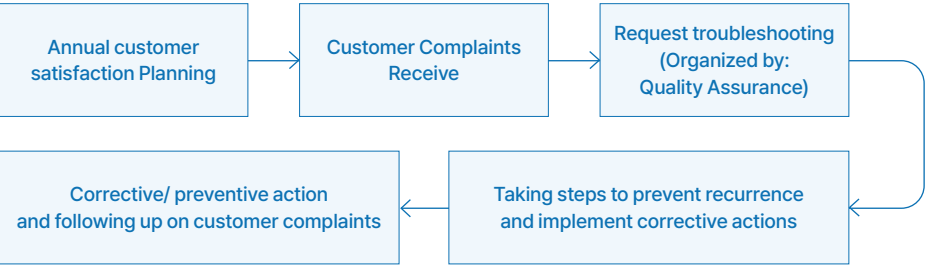
Response to customer satisfaction

Dongwon Systems aims to provide customers with the best quality products and services to enhance customer value, while contributing to a sustainable future for both customers and Dongwon Systems. We strive to achieve customer satisfaction by actively reflecting customer needs, such as identifying improvements to customer complaints based on customer satisfaction evaluations and reflecting them in performance indicators. We also strive to provide trust for customer satisfaction by conducting internal evaluations of VOC compliance as well as quality audits for products.

Personalized product merchandising

To improve customer satisfaction, Dongwon Systems analyzes customer requirements and actively reflects customer opinions throughout the entire value chain, from sales to the post-shipment management stage. To understand customer opinions, we conduct regular satisfaction surveys based on ISO 9001, and the VOCs are shared with relevant departments in real time and reflected in quality improvement and new product development for continuous customer satisfaction after action. In the future, we will provide customized products and services that are optimized for our customers by establishing continuous improvement measures for any problems found.

Claims Response Process



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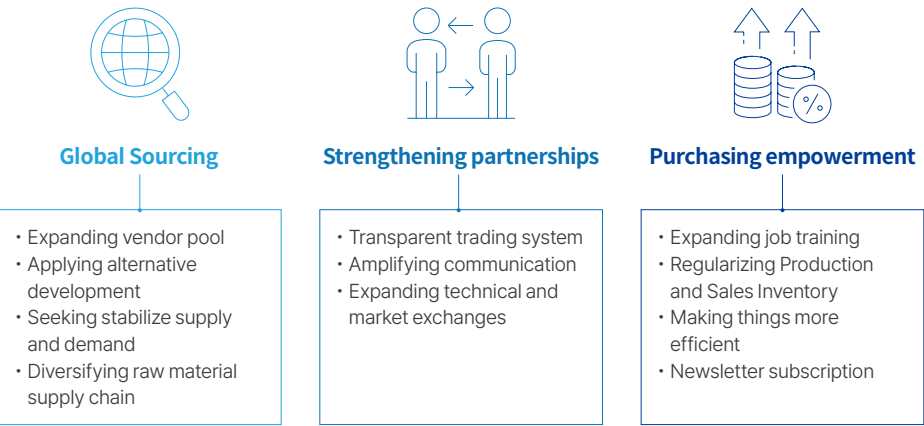
Mutual Growth

Building a sustainable supply chain

Mutual growth scheme

As a global comprehensive material and packaging material company, Dongwon Systems maintains partnerships with various domestic and overseas partner companies that have the technology and supply capabilities for the items required for product production. Mutual growth with partner companies is a key factor in building a sustainable supply chain. Dongwon Systems has established a partnership system that creates synergy with partner companies to develop mutually based on a cooperative relationship of mutual trust, and is pioneering a path of solid mutual growth by planning and supporting various programs for partner companies. Beyond a simple supply and purchase relationship, we will strive to build and operate a corporate value chain that grows and coexists with our partner companies.

Mutual growth management system



Mutual growth strategy

Based on the belief that capacity-building of partner companies and improvement of quality competitiveness lead to the strengthening of the company's competitiveness, Dongwon Systems adopts and operates the "Four Practices for Compliance with Subcontracting Laws and Regulations" established by the Fair Trade Commission to realize the value of establishing subcontracting transaction order and mutual growth, and maintains long-term friendly cooperation with partner companies as a win-win and more than a partner. In addition, we have signed mutual growth partnership agreements with partner companies to lay the foundation for win-win development based on mutual trust.

4 principles of mutual growth



Responsible sourcing of raw materials

Dongwon Systems is committed to purchasing ethically sourced raw materials to fulfill its social responsibility. We support the 10 principles of the UN Global Compact Network (UNGC) on human rights, labor, environment, and anti-corruption, and link them to our corporate management as basic values to be upheld for sustainable growth. In addition, to prevent supply chain risks that may arise when purchasing and procuring raw materials, we select sustainable and responsible partner companies in accordance with the company's rules for selecting and evaluating partner companies, and conduct due diligence and written evaluations based on internal standards such as performance and quality for partner companies that supply raw materials. For partner companies with low evaluation ratings, we communicate improvements and support follow-up management.

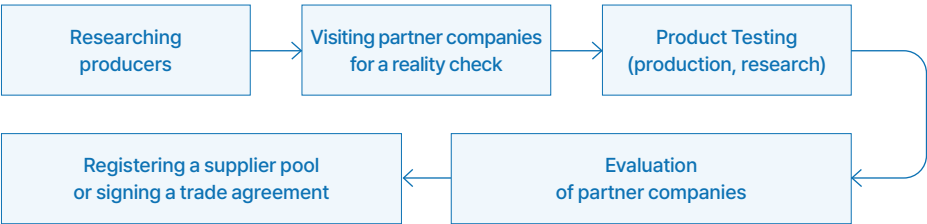
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Selecting and managing partner companies

Selecting partner companies

Dongwon Systems operates a new partner company selection process to select partner companies with excellent production capabilities. After inspecting partner companies and testing their products, Dongwon Systems reduces partner selection risks through inspections and tests, registering them in a partner pool or finalizing contracts based on evaluations including financial strength, safety, and product differentiation. In addition, when choosing partners and signing contracts, Dongwon Systems prevents contract changes by CEO approval for purchase processes, including partner selection and price modifications.

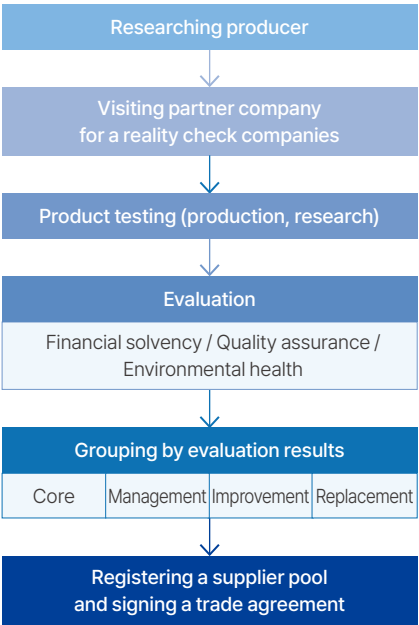
Partner company selection process



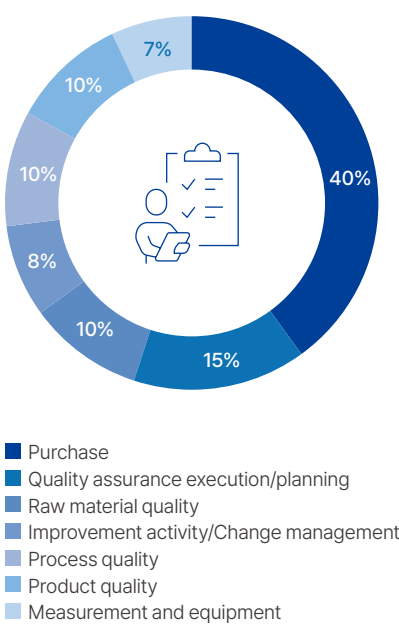
Regular evaluation of partner companies

Dongwon Systems conducts regular evaluation of its key partner companies' operations and supply to help them improve their management performance and voluntary capacity-building. Evaluations via written or on-site visits with feedback and quality researchers from Dongwon Systems visiting partner companies for in-depth discussions when necessary. Post-evaluation, partners are grouped (core, management, improvement, replacement) based on detailed evaluations, including quality credit management. Differentiated management systems are established per group to strengthen fair trade culture, maintain partner relationships, and encourage collaboration. In addition, Regular evaluation results guide decisions on continuing business with existing partners. Based on the results of partner company evaluations, We end partnerships below 60 points and reward those with 80+ points in bids based on evaluations.

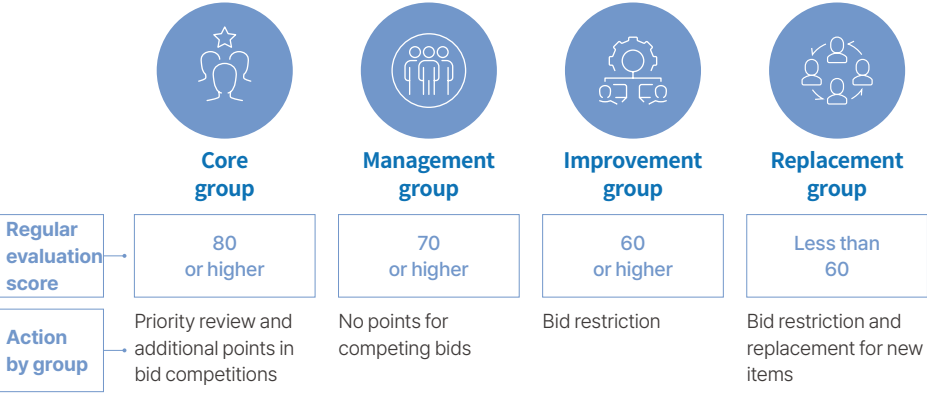
Process of partner companies regular evaluation



Criteria for evaluating partner companies



Management system partner companies





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Supporting mutual growth for our partner companies

Enhancing quality and safety of product

Dongwon Systems operates various support programs such as technology development, ESG management support, and ethics education to help partner companies grow and build their capacity. We regularly evaluate the product quality of major partner companies through written or on-site visits, and our quality researchers visit partner companies to provide technical support in case of quality deficiencies and improvements. Regular meetings with partners reinforce relationships and share information for quality, production, and safety enhancement. In the future, Dongwon Systems will enhance partner competitiveness and mutual growth through quality and technology programs.

Fair trade practice

Dongwon Systems operates a fair trade practice program with various partner companies to maintain mutually beneficial relationships and build fair trade relationships with partner companies. We have signed an ethics statement to ensure that both Dongwon Systems and partner companies are responsible for managing procedures related to fair trade, and we send ethical management letters to all partner companies during periods when fair trade violations are likely to occur, such as holidays, to create an environment where fair trade awareness can become a way of life.

Environmental and safety impact assessment

Dongwon Systems not only checks partner companies' compliance with occupational safety and health-related laws and regulations, but also raises safety and health awareness through the provision of safety and health information and educational materials. In addition, through safety and health-related risk discovery activities and symbiotic cooperation programs, we support the improvement of the working environment in the workplace and the capacity-building activities of partner company managers to promote healthy and safe workplace operations for partner companies. We aid partners in risk prevention and management by offering an SHE (Safety, Health, Environment) self-assessment checklist. The checklist consists of 21 check items based on 10 major categories, including occupational safety, emergencies, firefighting facilities, occupational health, hazardous substances, and environmental facility management.

Ethics statement for partner companies

Article 1 (Purpose)

The customer (referred to as the company) agrees to uphold Dongwon's ethical code for an honest corporate culture and promises to adhere to it in all future transactions, including contracts.

Article 2 (Effect of Agreement)

- ① The agreement takes effect upon conclusion and remains unaffected by individual contract terminations or temporary business suspensions.
- ② We confirm that it applies to all transactions with Dongwon, from initiation (bids, contracts) to continuation (performance) and termination (confidentiality after contract end).

Article 3 (Code of ethics to be followed)

We adhere to Dongwon's code of ethics and we do not engage in the following behaviors.

1. Providing money or gifts or entertainment to employees of Dongwon for fraudulent purposes in connection with the acts set forth in the preceding Paragraph 2, including the initiation of transactions.
2. Knowing Dongwon's business processing procedures, consulting with unauthorized Dongwon employees to process business differently (such as non-contractual mutual calculation, payment of transactions not through a transaction account, etc.) or agreeing on transaction terms, etc.
3. Causing or supporting violations of Dongwon employees' code of ethics (such as inducing the disclosure of business secrets).
4. Pursuing commercial activities such as establishing a company jointly with Dongwon employees.
5. Providing gifts, entertainment, etc. to Dongwon employees in excess of the scope recognized by social norms in addition to No. 1.
6. Divulging a Dongwon's business secrets.

Article 4 (authorization of penalties for violations of the code of ethics)

We accept Dongwon's penalties for violating this code of conduct.

Article 5 (Modification of Terms)

We authorize Dongwon to change this agreement at Dongwon's request when changes to this agreement are necessary, such as due to changes to Dongwon's code of ethics.

Sending ethical management letter

To: Partner companies

Subject: Request for assistance with the 'Practice of Ethical Management'

1. We wish your company all the best.
2. Dongwon Systems is constantly striving to create a fair trade order and foster mutual growth with partners. In addition, all Dongwon Systems' employees commit to ethical management through transparent and fair business practices. For the Lunar New Year, we wish to share Dongwon's commitment and request your understanding and cooperation.

----- Below -----

1. We will not accept any cases from partner companies. In accordance with the 'Dongwon code of ethics and enforcement regulations', all Dongwon Systems employees will not accept any benefits such as money, entertainment, or hospitality, even if it is recognized as a socially acceptable custom.
2. Providing rewards may result in transactional penalties. We ask for your understanding and cooperation, as not only our employees who received the rewards, but also the partner companies who provided the rewards may be considered unfair trade partners and be penalized in their transactions.
3. We're going to stop gift set sales pitches. Dongwon Systems prohibits Dongwon Systems employees from using their dominant position to force partner companies to purchase gift sets and strives to ensure that partner companies are not disadvantaged as a result.
4. We will establish fair trade practices with partner companies. We will support and nurture partner companies through fair selection and evaluation to build and develop a partnership that grows together.

We ask our partner companies' employees to actively participate in Dongwon Systems' 'Practice of Ethical Management' to become a transparent company, and inform you that if you contact us in the event of unfair behavior by Dongwon Systems' employees, we will take reasonable corrective measures and prevent any damage to the contacted person.

Audit.

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Social Contribution

Social contribution scheme

Social contribution policy

As a global packaging material company, Dongwon Systems has been actively engaged in two-way communication based on local communities. The social impact of Dongwon Systems' remarkable economic performance and brand value makes it imperative to contribute to local communities. Dongwon Systems has established a social contribution policy and conducts strategic social contribution activities accordingly.

Value system of social contribution



Engaging employees in social contribution activities

The material and packaging business provided by Dongwon Systems contributes to the provision of food products that consumers need and has grown based on the choices of consumers and local communities. As a result of this growth, it has become indispensable for Dongwon Systems to constantly interact with local communities and realize social responsibility. Dongwon Systems conducts social contribution activities at the company level and encourages employees to actively participate. We plan employee volunteer activities and participate in internal donation drives to increase participation in donation activities. In addition, we are also conducting awareness-raising activities to help employees recognize that participating in social contribution activities is not a non-work activity, but another management activity of Dongwon Systems based on the local community and a responsibility of employees.

Performance of social contribution

Dongwon Systems actively conducts social contribution activities to extend a hand of hope to local communities in need. Here are the results of our social contribution programs and donations over the past three years.

(Units: million, hour, number of case)

category		2020	2021	2022
Social contribution activities	Social contribution investment cost	1,166	707	887
	Total engagement hours in social contribution activities	-	366	221
	Hours of social contribution activities per person	-	3	2
	Number of people engaged in social contribution activities	-	122	147
	Number of social contribution activity programs	-	1	2

Social contribution activities

Dongwon Yukyoung Foundation

Dongwon established the Dongwon Yukyoung Foundation (licensed by the Ministry of Education) on July 2, 1979, based on the belief that Korea's growth depends on fostering excellent human resources, and for nearly 40 years has supported scholarships for elementary, middle, high school, and university students, youth soccer support, sea writing contests, picture books for infants and toddlers, and overseas trips for university students to foster human resources for the future of society. In addition, we have supported leading universities and research institutes such as Seoul National University, Korea University, Yonsei University, Chonnam National University, National Fisheries Research Institute, and Gwangju Institute of Science and Technology to contribute to improving the quality of national education.

In March 2017, Dongwon Yukyoung Foundation launched Life Academy, an education program for university students. The Life Academy is an education program that aims to foster talented individuals with harmonious knowledge and character, rather than focusing on piecemeal knowledge acquisition. Currently operating at 12 universities nationwide, including Seoul National University, Yonsei University, and Korea University, the foundation's nurturing Life Academy is open to all university students in the second through fourth grades, both domestic and overseas.

The wide world through picture books "Dongwon Bookworm" (2007~present)

Since 2007, Dongwon Yukyoung Foundation has been conducting 'Dongwon Bookworm', a mother-child reading campaign. We provide picture books to families raising children under the age of 6 with the belief that cultivating the habit of reading from an early age and raising children who love books is the foundation of human resources. We hope to foster good character traits such as warm conversation, consideration, and respect through reading time with their mothers.



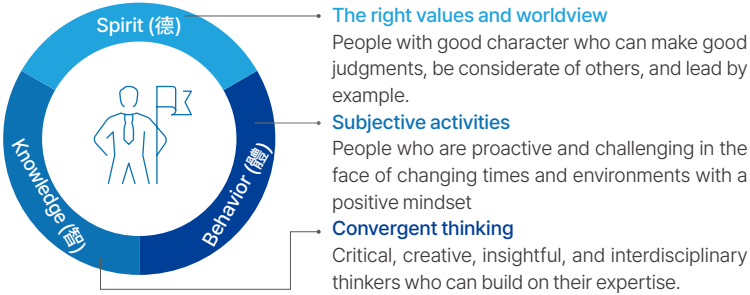
Life Academy, an education program

Mission

Through education, we aim to foster future human resources with harmonious knowledge and character, and to become a new spark that provides an alternative to existing education.

Vision and Value

Cultivating mission-driven and responsible people who are true to themselves and harmonize virtue, wisdom, and body.



Features

Through extensive readings and discussions, lectures by leaders in various fields of society, and various field experiences, Life Academy helps students develop communication and problem-solving skills to grow themselves and benefit the world.

- Life Academy operates in 12 other institutions across the country.
- Opened 3 universities in 2017: Yonsei University, Chosun University, and Pukyong National University
- Opened 6 universities in 2018: Sogang University, Hankuk University of Foreign Studies, Sookmyung Women's University, Korea University, Inha University, and Seoul National University
- Opened 3 universities in 2019: Youngnam University, Cheongju University, and Seoul National University

Global Explorer Project (2012~present)

Dongwon Global Explorer is an overseas exploration program designed to provide young people who will lead the world with the opportunity to cultivate a broader perspective, and supports two weeks of overseas exploration during summer vacation. The Dongwon Yukyoung Foundation helps university students travel across continents, understand Korea and their place in the world, and identify the coordinates of their future. More than just going abroad, the program provides constant feedback, teamwork, and small successes through the process of preparing, exploring, and sharing their findings with each other after returning home.



Donation to local community

Dongwon Systems' business sites have been conducting donation activities to coexist with the local community. The Haman Plant donated the winnings from the Dongwon FC soccer team's tournament to the Haman County Office, along with food items such as seaweed and tuna sets, to help neighbors in need. Jincheon Plant donated 100 cases of bottled water to the Jincheon Volunteer Center to support volunteers serving the community. Dongwon Systems labor union took the lead in supporting the underprivileged by donating love rice to the Administrative Welfare Center in Dunpo-myeon, Asan. Dongwon Systems will continue to care about the local community and further expand its social contribution activities.

Ensuring local community jobs

Dongwon Systems believes that increasing jobs and ensuring employment is the most effective way to realize social justice and create new value. With the belief that 'employment is social responsibility', we contribute to the economic development of local communities by ensuring quality jobs. Dongwon Systems has adhered to the principle of 100% employment guarantee in the course of three acquisitions and two mergers, including the current Asan plant, film plant, and printing plant. In addition, we have secured technical manpower, mainly from term workers at the printing/film plant, and have implemented a policy of gradually converting 150 contract employees to regular employees in order to create high-quality regular jobs. Dongwon Systems' efforts were also recognized externally when it was selected as the '2018 Best Company for Jobs in Korea'.



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GOVERNANCE

Dongwon Systems is accelerating ESG management by establishing transparent and sound governance and building a management environment that enables reasonable decision-making.

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Corporate Governance

Dongwon Systems practices responsible management, centered on an independent and professional board of directors. We maintain a transparent board of directors that upholds corporate value and respects shareholders' rights. We also appoint independent directors capable of functioning autonomously from management and shareholders/investors. Furthermore, we include experts in materials and packaging fields on our board of directors to enhance their meaningful contribution to Dongwon Systems' management endeavors. Therefore, the board of directors is anticipated to provide diverse perspectives, fostering objective decisions through effective discussions. In the future, we plan to boost the ratio of independent directors for greater independence and management oversight, while enhancing diversity in knowledge, experience, race, and gender for harmonious dynamics.

Organization and operation of board of directors

Roles of board of directors

Dongwon Systems establishes transparent governance for sustainable development and stakeholder protection, including shareholders.

As the core of governance, Dongwon Systems' board of directors holds supreme decision-making power on significant management issues, oversees its duties' execution, addresses legal, regulatory, and Articles of Incorporation matters, and handles responsibilities delegated by shareholders' general meetings. In addition, We work to boost corporate transparency and responsible governance via ongoing governance enhancements.

As of December 2022, Dongwon Systems' board of directors consists of four members, three internal directors and one external director, and the CEO serves as the chairman of the board of directors in order to stably conduct external affairs in accordance with the board of directors' operating regulations.



Composition of board of directors

Category	Name	Job Title	Gender	Careers	Tenure
Internal directors	Jum-Kun Cho	CEO Chairman of the board of directors	male	<ul style="list-style-type: none">• Bachelor of Financial Information, Chusung University• Completed the Seoul National University CEO Program• Formerly worked at Dongwon Precision/ Dongwon E&C	~03.24.2023
	Bum-Won Suh	CEO	male	<ul style="list-style-type: none">• Graduated Dongguk University• Formerly worked at Doosan Glass• Former CEO of Techpack Solutions	~08.31.2023
	Sung-Hak Jang	CEO	male	<ul style="list-style-type: none">• Bachelor of Electronics, Kyungpook National University• Master of Science in Computer Science, Ajou University• Formerly worked at Samsung Electronics	~03.24.2024
Independent directors	Ji-Hwan Lee	Independent director	남	<ul style="list-style-type: none">• Graduated Seoul National University• Master of Business Administration, Seoul National University• Doctor of Business Administration, London Business School, UK• Former professor at Ewha Womans University• Currently a professor at KAIST Graduate School of Technology Management	~03.24.2023

(*1) Mr. Jae-Kwon Song resigned from the board of directors on March 24, 2020 for personal reasons.
(*2) Mr. Sung-Hak Jang was newly appointed as a director at the 42nd annual general meeting of shareholders (03.24.2022).

Professionalism and transparency of board of directors

In order to secure the expertise of the board of directors, Dongwon Systems appoints independent directors who have sufficient expertise as accounting, management, and legal experts. In addition, from the candidate selection process, Dongwon Systems establishes a management system to maintain the independence policy of the board of directors by selecting individuals who do not have material conflicts of interest with Dongwon Systems and who can make transparent judgments for the management of the company from a position independent of management and controlling shareholders.

For board transparency, directors seek prior approval for business opportunities benefiting the company now or later and we manage conflicts of interest as per relevant laws, like Articles 397 and 398 of the Commercial Code.

Director election process and criteria

Directors of Dongwon Systems are appointed at the general meeting of shareholders in accordance with the Commercial Code and the Articles of Incorporation, and we appoint competent people with expertise and responsibility in various fields who can contribute substantially to the management of the company.

Independent director candidates are chosen based on independence, expertise, and diversity, enhancing the board's management and supervision from multiple viewpoints. In addition, in order to prevent conflicts, we exclude those with excessive dual positions or industry-related outside directorships from consideration for outside director roles.

Operation of board of directors

The board of directors is held regularly in accordance with the board of directors operating regulations to deliberate and resolve major issues for corporate management. In principle, regular board of directors meetings are held every quarter, and temporary board of directors meetings are held when necessary to improve the efficiency of operations. The chairperson of the board of directors is the CEO or a director if there is a director designated by the board of directors, and the convener is the same. An extraordinary board can be requested by the chairman or 1/3 of directors, with a written or oral notice posted on the company's website three days prior. We respond to questions and requests for additional materials from directors prior to the date of the meeting, and strive to ensure that deliberations on each agenda are carried out faithfully.

In 2022, the BOD convened 21 meetings, discussing 35 agenda items and internal and independent directors' attendance rate was 98%. Main resolutions, attendance, etc. are disclosed in quarterly and business reports.

Board of directors key activities

Category		Unit	2020	2021	2022
Number of board of directors meetings		case	16	22	21
Number of agenda of board of directors			19	34	35
Attendance of board of directors	Internal directors	%	100	100	98
	Independent directors		77.3	87.5	100



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Evaluation and compensation of board of directors

Evaluation of board of directors

For internal directors, Dongwon Systems conducts regular evaluations through CEO company evaluations. Independent directors are evaluated at the end of their term of office to determine not only whether they have provided appropriate advice on major management decisions as experts in their fields, but also whether they are professional and active as independent directors, including their attendance at board meetings and whether they have effectively expressed their opinions on board meeting agenda items. Independent directors are evaluated qualitatively through comprehensive consideration of their activities, and the results are comprehensively reflected in the decision to re-appoint them, encouraging them to actively perform their duties and manage their responsibilities.

Compensation of board of directors

Directors' remuneration is determined by resolution of the general meeting of shareholders within the limit of directors' remuneration determined by the general meeting of shareholders of Dongwon Systems, and the approved remuneration limit and payment status are transparently disclosed through the business report. In the event of a director's retirement, remuneration is paid in accordance with the provisions for executive severance pay resolved by the General Meeting of Shareholders. As of the end of December 2022, the total amount of remuneration for five directors and auditors was KRW 1,276,058,860, with an average remuneration of KRW 255,211,772 per person.

Compensation of board of directors

(as of Dec. 2022, Unit: KRW 1,000)

Category	Number of people	Total compensation	Average compensation per person	Remarks
Registered directors (excluding independent directors and audit committee members)	3	1,137,949,700	379,316,567	-
Independent directors (excluding audit committee members)	1	36,000,000	36,000,000	-
Audit	1	102,109,160	102,109,160	-

Operation of audit

Role of audit

Dongwon Systems does not have an audit committee, but one auditor appointed by resolution of the general meeting of shareholders performs audit duties. The auditor, who has specialized expertise in accounting, law, etc., can attend the board of directors and independently supervise the work of the directors, and can request the submission of relevant books and documents on the company's business to the relevant departments. In addition, the Management Team is a support organization for the audit and supports the appointed auditor in performing effective and independent audit work. One member of the Management Team assists the Audit in performing its duties with respect to the overall management, financial statements, and activities of the Board of Directors.

Personnel data of the audit committee (audit)

Name	Careers	Remarks
Jong-Hwan Oh	<ul style="list-style-type: none">• Bachelor of Accounting, Busan University of Foreign Studies• Former team leader of Netmarble's Executive Team• Former Dongwon Enterprise full-time audit	Full-time audit



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Shareholder-friendly management

Status of stock and shareholder

Currently, the total number of shares available for issuance under Dongwon Systems' Articles of Incorporation is 200,000,000, with a par value of 5,000,000 won per share. As of the end of December 2022, the total number of outstanding shares of Dongwon Systems was 29,255,393 due to the reduction of capital through the cancellation of treasury shares on August 2, 2022 as the demutualization date. The status of capital reductions share is as follows, and the largest shareholder is Dongwon Industrial, which owns 71.04% of common shares and 30.91% of preferred shares.

Status of capital reductions share

Types of capital reductions share	Capital before reduction (number of issued shares)	Number of capital reductions shares	Reduction ratio	Capital after reduction (number of issued shares)
Common stock (treasury stock)	145,942,055,000 (29,188,411 shares)	197,129 shares	0.68%	144,956,410,000 (28,991,282 shares)
Preferred stock (treasury stock)	1,326,790,000 (265,358 shares)	1,247 shares	0.47%	1,320,555,000 (264,111 shares)
Total	147,268,845,000 (29,453,769 shares)	198,376 shares	0.67%	146,276,965,000 (29,255,393 shares)

Type of share and voting rights (as of Dec. 2022, Unit: stock)

Types of share	Total number of issued shares	Number of shares without voting rights	Number of shares excluded from voting	Number of shares available to exercise the voting right
Common Stock	28,991,282	-	-	28,991,282
Preferred Stock	264,111	-	264,111	-
Total	29,255,393	-	264,111	28,991,282

Enhancing shareholder value

Dongwon Systems strives to fully disclose information on the time, place, and agenda of the general meeting of shareholders in advance and to make it easier for shareholders to exercise their rights.

In accordance with the Articles of Incorporation, a regular general meeting of shareholders is held within three months after the end of each business year, and an extraordinary general meeting of shareholders is held as needed. When holding a general meeting of shareholders, we endeavor to hold it outside of the general meeting of shareholders concentration days to ensure that more shareholders attend and exercise their voting rights.

Dongwon Systems also practices good communication with shareholders through electronic disclosures, corporate IR briefings, investor meetings, and production line tours, and actively provides relevant information on corporate management and performance to shareholders.

Shareholder return policy

Dongwon Systems has established a dividend policy in its Articles of Incorporation as a means to return a portion of the company's profits to shareholders, who are important stakeholders of the company, and to promote the interests of shareholders, and has implemented dividends accordingly. In accordance with the policy, we pay a certain level of dividends every year, and for the last three years, we have paid dividends with an average dividend yield of 1.5% per common share. Dongwon Systems will continue to strive to return shareholder value by refining its dividend policy and setting mid-term goals.

Shareholder Composition (Dec. 2022, based on common stock)

Shareholders	Relationships	Number of shares	Ownership shares (%)
Dongwon Industries (*1)	Largest shareholder	20,597,057	71.04
Jum-Kun Cho	Related parties	5,771	0.02
Bum-Won Suh	Related parties	698	0.00
Chung-Han Kim	Related parties	12,645	0.04
Ho-Rang Kim	Related parties	70,300	0.24
Do-Han Kim	Related parties	9,390	0.03
STARKIST CO.	International Affiliates	3,569,900	12.31

(*1) Dongwon Enterprise Co., Ltd. was absorbed and merged into Dongwon Industries Co., Ltd. with a merger date of November 1, 2022.

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Dividend status

Category	Types of shares	2020	2021	2022
Par value per share (KRW)		5,000	5,000	5,000
(Consolidated) Earnings per share (KRW)		2,003	1,499	2,470
Total Cash Dividends (KRW millions)		15,425	17,566	17,566
(Consolidated) Cash Dividend Payout Ratio (%)		25.03	36.49	24.28
Cash dividend rate (%)	1.9	1.9	1.2	1.4
	2	2.0	1.3	1.5
Cash dividend per share (KRW)	600	600	600	600
	650	650	650	650

(*1) Dongwon Enterprise Co., Ltd. was absorbed and merged into Dongwon Industries Co., Ltd. with a merger date of November 1, 2022.

Dividend history

Number of consecutive dividends		Average dividend rate	
Quarterly (intermediate) dividend	Year-end dividend	In the last three years	In the last five years
0	9	1.5%	1.58%

Ethical Management

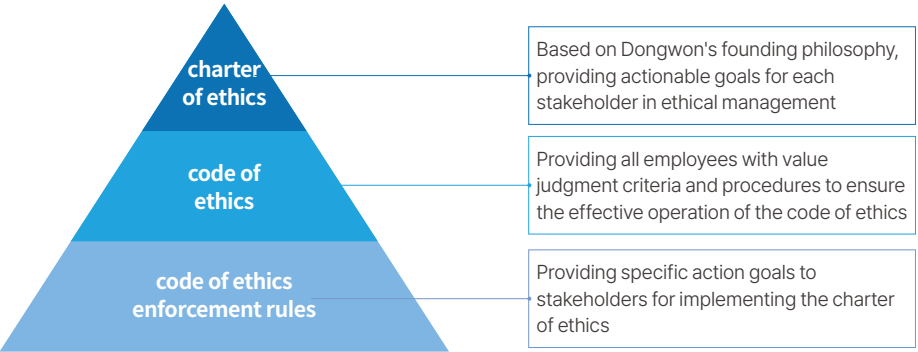
Ethical management system

Dongwon’s ethical management

Dongwon Systems strives to fulfill its corporate social responsibility and realize fair and transparent ethical management through Dongwon's founding philosophy of 'realizing social justice through sincere business activities'. We use ethical thinking and responsibility based on honesty as the value judgment criteria for management activities, and we make every effort to ensure that there are no ethical problems in all management activities in the consciousness of all employees. Through this, we aim to establish Dongwon's corporate culture of honesty for ethical thinking and responsible business activities.

Ethical management principles and practices

Dongwon Systems has established an ethical management system consisting of the Charter of Ethics and the Code of Ethics Enforcement Regulations to establish Dongwon's honest corporate culture and practice ethical management. We have established the 'Dongwon Charter of Ethics' and the 'Code of Ethics' as value judgment standards for all management activities, and we post them on our official website to communicate Dongwon's ethical values to all stakeholders. In addition, we have established and distributed the Code of Ethics Enforcement Regulations based on the Charter of Ethics and the Code of Ethics to promote management activities that consider the Code of Ethics.





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Charter of ethics

The Charter of Ethics aims to establish an honest corporate culture for employees' ethical thinking and responsible business activities.

Dongwon contributes to the national economy and social development through continuous employment creation and sincere tax payment.

Think and decide from the customer's perspective for a happy life and always act to create customer value.

Do our best to improve shareholder value through rational and transparent management activities.

Coexist and co-prosper with partner companies based on mutual trust, fair opportunities and transparent transactions.

Create a working environment where employees can work autonomously and creatively, and achieve a mature and clean workplace culture based on mutual trust and understanding.

Pursue personal growth and company development simultaneously through self-definition of desirable human resources and continuous self-development.

Code of ethics

The code of ethics provides value judgment standards and procedures to all employees for the effective operation of the charter of ethics.

[Six ethical responsibilities].

01. Responsibilities to customers

- Prioritizing customer satisfaction
- Respect for Customer Opinion/Customer Centricity
- Customer information protection

02. Responsibilities to employees

- Respect for individual creativity and creative management
- Respect for diversity and reward fairness
- Enhancing talent development

03. Responsibility to country and society

- Job Creation Mandate and Shared Prosperity
- Complying with international agreements and accounting standards
- Combating political activity, including lobbying

04. Responsibilities to shareholders and investors

- Transparent decision-making and efficient management
- Continuous growth and evolution
- Communicating reliable and useful information

05. Fair competition and trade

- Respect market boundary order
- Fair trade compliance
- Developing partner collaboration relationship

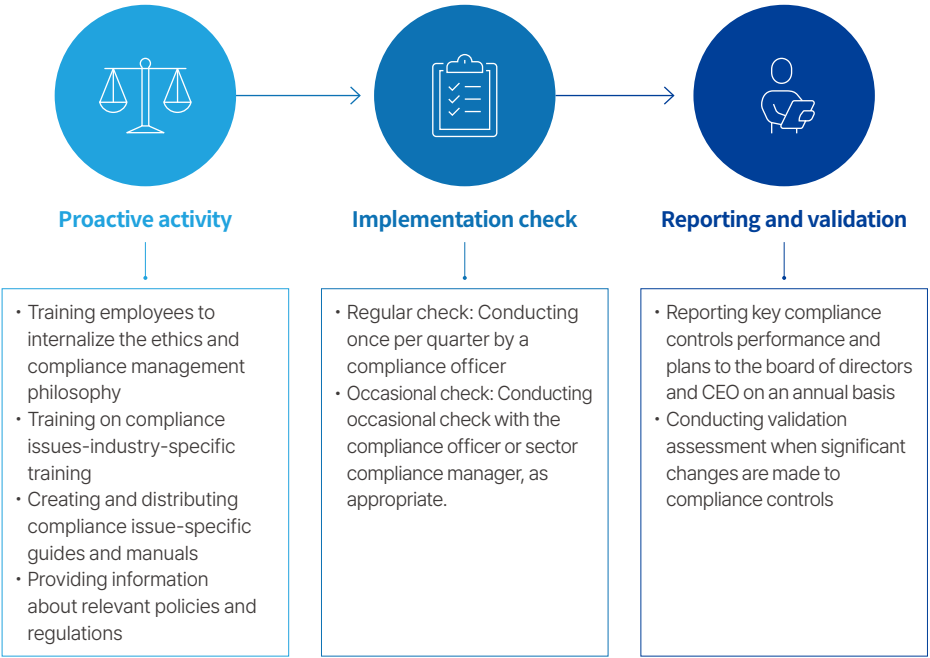
06. Responsibilities of employees

- Complying with our code of ethics
- Building mutual trust and a healthy organizational culture
- Combating extortion and information security

Compliance management processes

Dongwon Systems realizes ethical management centered on the Compliance Team and the Executive Management Team. The Compliance Team handles ethical management reports and monitors compliance issues, provides ethical management education, and strives to spread an ethical management culture.

Compliance is not just a matter of following the law, but an important activity that must operate as a core value in all aspects of corporate activities. Dongwon Systems has established and is continuously strengthening its compliance management system to establish and effectively implement compliance management. We manage compliance activities within the organization through the procedures of prevention, implementation inspection, reporting, and effectiveness evaluation, and support necessary ethical and compliance activities in various areas such as fair trade, personal information protection, employee human rights, and anti-corruption.



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Ethical management activities

Raising employee ethics

Dongwon Systems administers an annual code of ethics pledge for employees to heighten ethical awareness, coupled with yearly educational programs on the code of ethics and regulations. Annually, we provide online training on anti-corruption, fair trade, sexual harassment prevention, workplace harassment prevention, personal information, and disability awareness to foster a transparent and ethical organizational culture. Along with the code of ethics, we distribute the 'Workplace Ethics Self-Diagnosis Sheet' to enhance employees' ethical management awareness.

Category			Unit	2020	2021	2022
Ethical management training	Office management job	Training Hours	Hours	363	371	406
		Number of employees participating in training	Person	363	371	406
		Training hours per person	Hour/Person	1	1	1
Sexual harassment prevention training		Training Hours	Hour	1,576	1,643	1,643
		Number of employees participating in training	Person	1,576	1,643	1,643
		Training hours per person	Hour/Person	1	1	1
Course to raise awareness of persons with disabilities		Training hours	Hours	1,576	1,643	1,643
		Number of employees participating in training	Person	1,576	1,643	1,643
		Training hours per person	Hour/Person	1	1	1

Check the status of ethical management implementation

Dongwon Systems holds routine annual company-wide management meetings and occasional special sessions at the management team room, reporting outcomes to the board of directors. The person in charge of compliance inspection for each department conducts a self-inspection on the items of the compliance checklist and submits a supplementary plan and countermeasure plan to the management team room in case of non-compliance, and stipulates a management system to monitor the implementation. Additionally Dongwon Systems has a law violation reporting system that safeguards informants' anonymity and prevents their disadvantage, aligned with compliance control standards.


Operation of an ethical management reporting center

Dongwon is conducting various activities to establish a correct and honest corporate culture. In particular, the Group Integrated Ethical Management Reporting Center has been in operation since January 2018. The Reporting Center is available to all stakeholders, including employees, customers, and partner companies, for the purpose of establishing an honest corporate culture at Dongwon. The center protects the confidentiality of all reports received, including the contents of the report and the personal information of the reporter, and ensures that there are no disadvantages or punishments. Information on relevant stakeholders is also thoroughly protected. The handling of reports is carried out by a limited number of people in the Group Compliance Team who have pledged strict confidentiality to the contents of the report, and we take corresponding measures in case of violation of the pledge of confidentiality.

Process of ethical management reporting



Types of reporting

- 
 - Bribery/Graft/Hospitality
 - Embezzlement and self-dealing
 - Work-related sexual harassment and demeaning behavior toward one another
- Company information and workforce leakage behavior
 - Unfair collusive behavior (Collusion)
 - Other fraudulent cases

How to report

- 
 - Internet <https://www.dongwon.com/ethics/report/contact-us>
 - Phone 02-589-3127 Dongwon Corporate Management Office Compliance Team
 - E-mail ethics@dongwon.com
 - Mail 19th Floor, Dongwon Industrial Building, 68 Mabang-ro (Yangjae-dong), Seocho-gu, Seoul

Status of report Center operations

Category	Unit	2020	2021	2022
Received	Number of cases	0	1	4
Processed	Number of cases	0	1	4
Processing ratio	%	-	100	100

Reporting Principles and Reporter Protection Policy

1. Processing principles

- Ⓢ We receive reports of unfair treatment of employees, unfair demands using their positions, and irregularities, which are handled in a strictly confidential manner.
- Ⓢ For the sake of accuracy, we will only use the real name of the source.
- Ⓢ Unfounded libel, personal attacks, and matters related to your personal life will not be handled.
- Ⓢ Your words are the cornerstone of our management.
- Ⓢ In principle, customer complaints are handled by the customer complaints department.

2. Report Type

- Ⓢ Accepting anything of value (money, gifts) / monetary transactions / hospitality
- Ⓢ Embezzlement and sabotage
- Ⓢ Workplace sexual harassment and demeaning employee behavior
- Ⓢ Company information and workforce leakage behavior
- Ⓢ Unfair business practices (e.g., unfair trade practices, discrimination, misconduct, etc.)
- Ⓢ Other fraudulent cases

3. Process

- Ⓢ This can be done by phone, email, or in writing, but the Ethical Management Reporting Center on our website is highly recommended.
- Ⓢ The report will be investigated by the Executive Management Team, and the results will be available on the homepage under 'Answer Check'. (Reporters are required to set a password when making a report, so third-party verification is not possible)
- Ⓢ For the sake of accuracy, only the real name of the source is used.

4. Reporter Protection Policy

- Ⓢ The company protects the confidentiality of the reporters and ensures that there will be no penalties or punishment for the contents of the report and the personal information of the reporters. Information about relevant stakeholders is also thoroughly protected.
- Ⓢ The reporting system is protected by a thorough and secure security system, and the processing of reports is carried out by a limited number of people who have pledged strict confidentiality to the Group Compliance team, and any violation of this pledge will be punished.

Risk Management

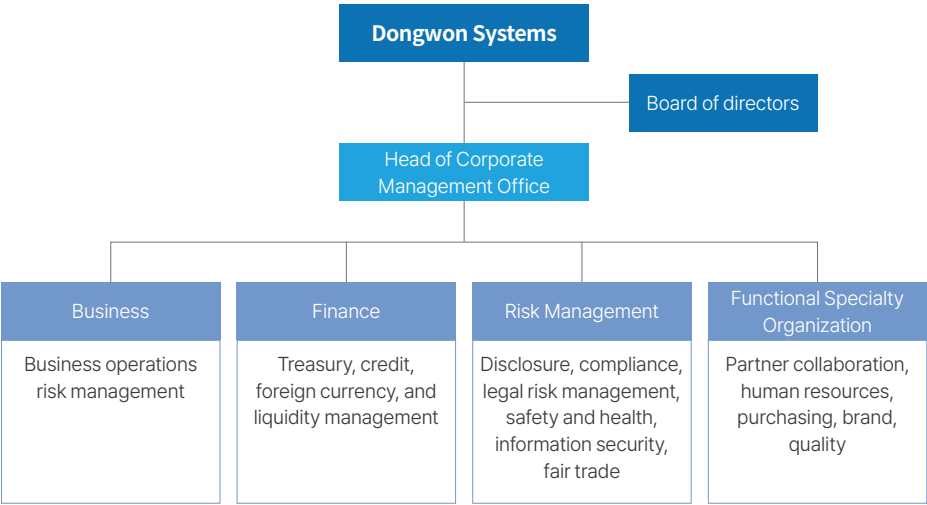
Risk management system

Risk management governance

Dongwon Systems has established a proactive risk response system to identify risk factors that affect the company's business activities and to respond quickly and appropriately in the event of a problem situation. We have established procedures to detect financial risks, such as market risk, liquidity risk, and credit risk, as well as non-financial risk factors, including sustainability risk, in advance and report them to top management and the board of directors. Management and response measures for risk factors are prepared by the Risk Management Team under the Corporate Management Office. The treasurer is responsible for the overall management of financial-related risks and serves as the company's Chief Risk Officer (CRO). The CFO regularly meets with representatives from legal, human resources, compliance, communication, external cooperation, safety and health, win-win, and quality to segment and systematically manage risks. A full-time auditor regularly reviews issues such as compliance, EHS, and information security, which fall under non-financial risks, and suggests improvements.

In order to respond to sustainability risks, we will establish an ESG Committee to conduct company-wide risk management and monitoring. In the ESG Committee, top executives and representatives from each business site will participate to continuously improve risk management policies and establish an enterprise-wide ESG risk management system through appropriate division of roles among departments.

Risk management system



Risk management by type

Financial risk management

Dongwon Systems is exposed to various financial risks such as credit risk, liquidity risk, interest rate risk, and price risk in connection with its business and financial instruments. Therefore, in order to maintain a sound capital structure and financial soundness, we manage financial risks with the aim of identifying potential risks affecting the company's financial performance, reducing risks to an acceptable level, avoiding risks, and eliminating risk factors.

In particular, as Dongwon Systems operates in a global environment, it is exposed to the risk of fluctuations in foreign currency exchange rates such as the United States (USD), Japan (JPY), the European Union (EUR), Canada (CAD), and Vietnam (VND) in connection with export and raw material import transactions and foreign currency facility investments. The management and finance team internally measure and manage the risk of foreign currency exchange rate fluctuations from time to time.

Manage financial risk by type

Credit risk	Meaning	<ul style="list-style-type: none">• The risk that the counterparty to a financial instrument will not fulfill its obligations under the contract, resulting in financial loss.• It can arise broadly from financial transactions to generate operating revenues and from other financial instruments, such as deposits with financial institutions and loans, which are included in cash and cash equivalents and financial assets.
	How to manage risk	<ul style="list-style-type: none">• Building a relationship with a counterparty with a certain level of creditworthiness.• Having policies and procedures in place for credit enhancement of financial assets.• Periodically re-evaluating the creditworthiness of counterparties to revisit credit limits and readjust collateralization levels.• For financial assets that are delayed in recovery, report the status of delayed recovery and recovery measures on a monthly basis, and taking appropriate measures depending on the reason for the delay in recovery.
Liquidity risk	Meaning	<ul style="list-style-type: none">• The liquidity risk that an entity will have difficulty meeting its obligations related to financial liabilities that are settled by delivering financial assets such as cash.
	How to manage risk	<ul style="list-style-type: none">• Establishing a short-term and mid-to-long-term money management plan• Continuous analysis and review of budgeted and actual cash outflows to address the maturity of financial liabilities and financial assets.• Entering into overdraft arrangements with banks to manage temporary liquidity risk
Exchange rate risk	Meaning	<ul style="list-style-type: none">• Risk of exchange rate in the US, Japan, Europe, Canada, and Vietnam for export and raw material import transactions
	How to manage risk	<ul style="list-style-type: none">• Measuring exchange rate risk internally for fluctuations in foreign currency exchange rates from time to time• Contracting exchange rate derivatives
Interest rate risk	Meaning	<ul style="list-style-type: none">• The risk that the fair value or future cash flows of a financial instrument will fluctuate due to changes in market interest rates.
	How to manage risk	<ul style="list-style-type: none">• Maintaining the right balance of fixed- and variable-rate borrowings

Tax risk management

Dongwon Systems faithfully fulfills its tax obligations as a member of the local community and the countries where it conducts business activities. We prevent tax risks by strictly complying with laws and regulations related to taxation and fulfilling our obligations to file tax returns and pay taxes. In particular, as a company that has entered global markets such as China, Japan, Europe, and Southeast Asia, we proactively deal with tax risks by appointing experts who are fluent in overseas tax laws. In line with diversifying business fields and changing tax policies, the in-house tax law department continuously monitors changes in tax laws and regulations and evaluates the impact on future business activities to form transparent tax relationships.



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Non-financial risk management

As sustainable management becomes more important, non-financial risk management is being recognized as critical, and related domestic and international regulations are being strengthened. Dongwon Systems continuously monitors policy trends and regulatory situations related to its business activities and responds proactively. To manage non-financial risks internally, we have established a response system for each field, including ethical management, fair trade, environmental safety and health, and information protection, and thoroughly manage them through policies and manuals.

Ethical management

To establish an honest corporate culture, Dongwon has established an ethical management system consisting of an ethical charter and a code of ethics. Based on this, Dongwon Systems, together with the Group Compliance Team, establishes ethical management policies and conducts activities to promote ethical management. In addition, to ensure that ethical awareness is settled and reflected in employees' work, we have implemented a pledge to practice the Code of Ethics and are conducting annual training programs.

Environmental safety and health

Dongwon Systems has established an EHS management system and systematically manages risks to minimize environmental impact, prevent safety accidents, and ensure employees' working environment. We have established an environmental policy and a safety and health policy for all employees to follow, and established a safety culture secretariat to upgrade safety management. In addition, we are promoting environmental safety management at workplaces through the introduction of the environmental management system (ISO 14001) and certification of the safety and health management system, and plan to expand the number of certified workplaces.

Supply chain management

Dongwon Systems operates a systematic process from the selection of partner companies to management and regular evaluation in order to maintain excellent product quality and stably manage supply chain risks. After the process of selecting new partner companies, the selected partner companies are categorized into four groups according to their capabilities and managed, and regular evaluations are conducted every year to check the continuity of the transaction. In addition, in order to establish fair trade relationships with partner companies, Dongwon Systems and partner companies both sign an ethics statement to prevent possible risks in the supply chain.

Information Security

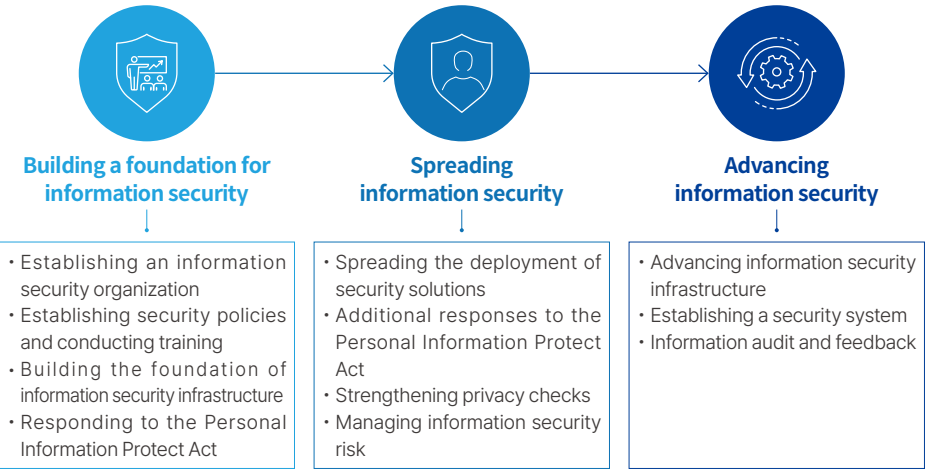
Information security

Information security policy

Protecting corporate and customer information is the key to safeguarding the "trust" of our customers. In order to fulfill our legal responsibilities for information assets and customer information, as well as to ensure that customers, shareholders, and all employees can safely use Dongwon Systems' products and services, we established an information protection policy (Security Policy) in 2013 that applies to all group companies and establishes the direction of employees' behavior and related rules of conduct. Based on the Information Protection Policy, we have established an information security roadmap and implemented stability measures to protect personal information.

Dongwon Systems has an information protection policy and system to protect intellectual property rights, trade secrets, and research and development-related information held by the company in accordance with the Group's information protection policy, defines the information assets to be protected, and systematically controls the leakage of the company's information assets through system and document security.

Information security roadmap





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Dedicated information protection organization

The acceleration of the IT convergence environment and decentralization due to the development of information technology are changing the security paradigm for information protection. Dongwon Systems is proactively responding to this by establishing a system for information protection and building a dedicated organization. We have appointed a Chief Information Security Officer (CISO) to oversee the company's systematic information protection management and security incident prevention. The CISO is the chief information protection officer and is responsible for the overall management of the company's information protection system. Under the management and supervision of the CISO, the information protection organization is in charge of implementing the security policy to form an efficient information protection promotion system, and regularly shares information protection-related issues and discusses ways to strengthen the security system.

Information protection enhancement activities

Reinforcement foundational security posture

Dongwon Systems has established and operates PC security, document encryption, and a behavior-based terminal threat detection system to safely protect essential corporate information and valuable customer information. When accessing servers and DBs, we strongly control access by unauthorized persons through the access control system, and designate a person in charge of managing the company's internal information to strengthen the basic security system. In addition, Internally, we enhance security by enforcing one account per person and access control limited to designated terminals by the responsible party.

We've implemented a DB encryption system and SSL, DLP, and DRM tools to secure personal information and prevent external leaks. Our future plans include enhancing information security through self-assessment and employee training in collaboration with Dongwon affiliates' information security departments.

Malicious email response training

We conduct biannual drills simulating malicious email responses to heighten employees' incident awareness and prevent such occurrences. Training scenarios include malicious code emails (ads, phishing), assessing security awareness through link clicks, attachment downloads, and execution. If an employee participating in the training executes a malicious file, a pop-up message is displayed to raise the level of individual discernment and security awareness, and we strive to prevent information security incidents by sharing how to deal with malicious emails.

Management of customer privacy

Dongwon Systems bolsters infrastructure for customer info protection and employs cutting-edge tech to preemptively address security breaches. We collect customers' personal information at the minimum level required by the Personal Information Protection Act. We encrypt and store collected personal data, securely managing, and destroying customer info that has served its purpose in line with laws. When entrusting customer information, we regularly check the trustee's handling of customer information to ensure that personal information is not leaked, altered, or damaged. In 2021, we effectively secured customer information, with no reported incidents of leakage.

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Information protection capacity-building

Information security risk management

To protect information, we are not only strengthening related infrastructures, such as building systems against cyber attacks, but also proactively introducing the latest technologies to prevent security incidents from occurring. If we are faced with an unexpected crisis, we have secured information security risk management capabilities so that we can immediately resolve the problem.

Raising information protection awareness

Dongwon Systems continuously conducts information protection campaigns to raise information protection awareness. We share various information protection-related incident cases on company-wide bulletin boards from time to time to raise employees' security awareness. For the information protection organization, we provide enhanced information protection training to improve the security knowledge and awareness of those in charge. We strive to protect information by conducting regular security diagnosis and monitoring through the company-wide information protection campaign. We conduct monthly clean desk campaigns to demonstrate security checks in the workplace and strengthen the level of information protection.

Information security training programs

Dongwon Systems conducts systematic information security training according to the target employees and training contents. The information security basic training is designed to raise employees' awareness of information security. It introduces major policies and laws related to information security, and promotes the 10 information security practices that employees should follow. The information security job training is held at various times throughout the year for security managers of Dongwon and is information security training according to the job characteristics of Dongwon affiliates. In addition, training courses on the establishment and operation of information security systems are held at various times throughout the year for IT security managers, and regular training is held twice a year at the level of the Dongwon Group for personal information handlers of each company.



Status of information protection training

	Category	Unit	2020	2021	2022
Information security training	Training Hours	Number of cases	363	389	406
	Number of employees participating in training	Number of cases	363	389	406
	Training hours per person	%	1	1	1

Status of information protection violation

	Category	Unit	2020	2021	2022
Information protection violations	Number of customer information protection violations and customer information losses	Number of cases	-	-	-

Status of information protection investment

	Category	Unit	2020	2021	2022
Investment in information protection	Ratio of nformation protection investment (*)	%	-	4.8	4.8

(*) Investment budget for information protection / overall IT budget

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APPENDIX

Materiality Assessment

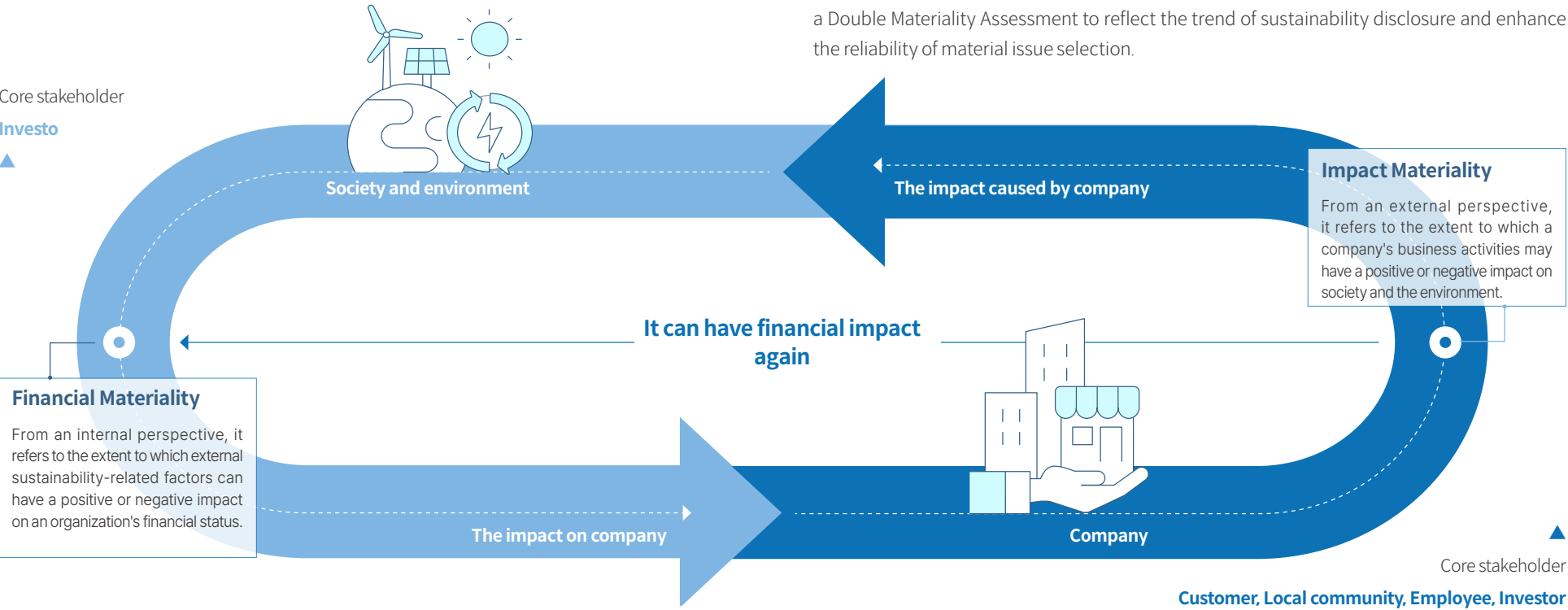
Dongwon Systems conducted a materiality assessment to identify issues related to sustainability management across the economy, environment, and society, as well as key concerns of stakeholders, and to effectively reflect them in management activities. A pool of sustainability issues was composed based on ESG-related initiatives, global sustainability standards, and media research analysis, and then the materiality of the issues was analyzed by comprehensively considering peer benchmarking, internal and external surveys, etc.

Dongwon Systems will continue to identify and manage sustainability issues by conducting regular material assessments, transparently disclose a series of activities through sustainability reports, and communicate with stakeholders.

Concept of double materiality assessment

Double Materiality Assessment is an assessment method that simultaneously considers financial materiality, which evaluates the impact of ESG issues on a company's financial condition, and social and environmental materiality, which evaluates the impact of a company's business activities on society and the environment. This enables companies to improve business performance and actively reflect social and environmental values by identifying the concerns and interests of internal and external stakeholders in detail and reflecting them in corporate management activities.

As the concept of dual materiality, which simultaneously reflects the internal and external perspectives of companies according to global sustainability disclosure guidelines such as the EU's Corporate Sustainability Reporting Directive (CSRD) and Global Reporting Initiative (GRI) Standards, has become more important worldwide, Dongwon Systems also conducted a Double Materiality Assessment to reflect the trend of sustainability disclosure and enhance the reliability of material issue selection.

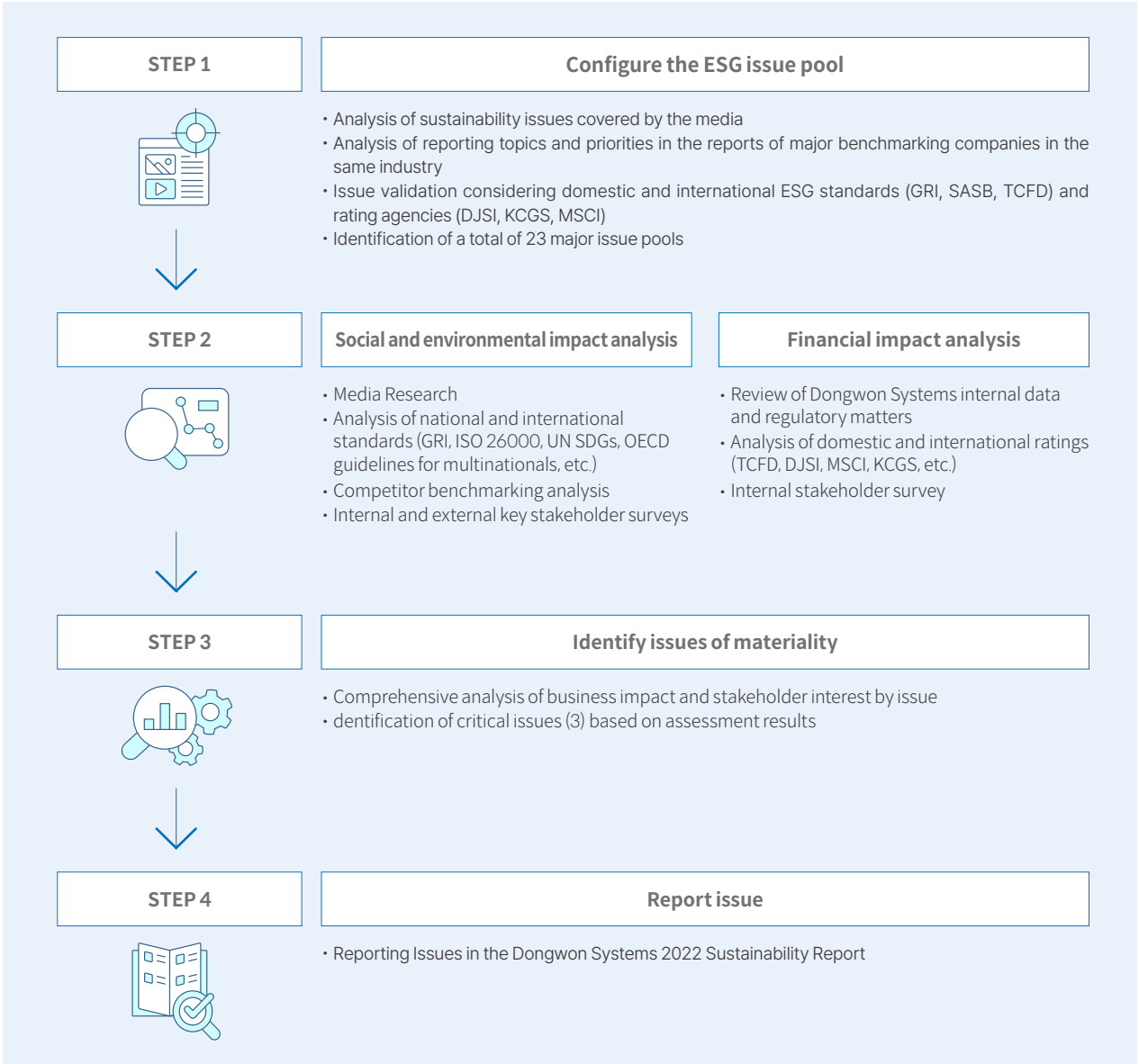


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Process of double materiality assessment

The materiality assessment was conducted through a four-step process including organizing ESG issue pools, analyzing social and environmental impacts and financial impacts, identifying issues of materiality, and reporting issues. A total of 23 issue pools were organized for the materiality assessment, and issues of materiality were selected through a detailed process including media research, ESG standard scoring, and internal and external stakeholder surveys.

Materiality assessment process

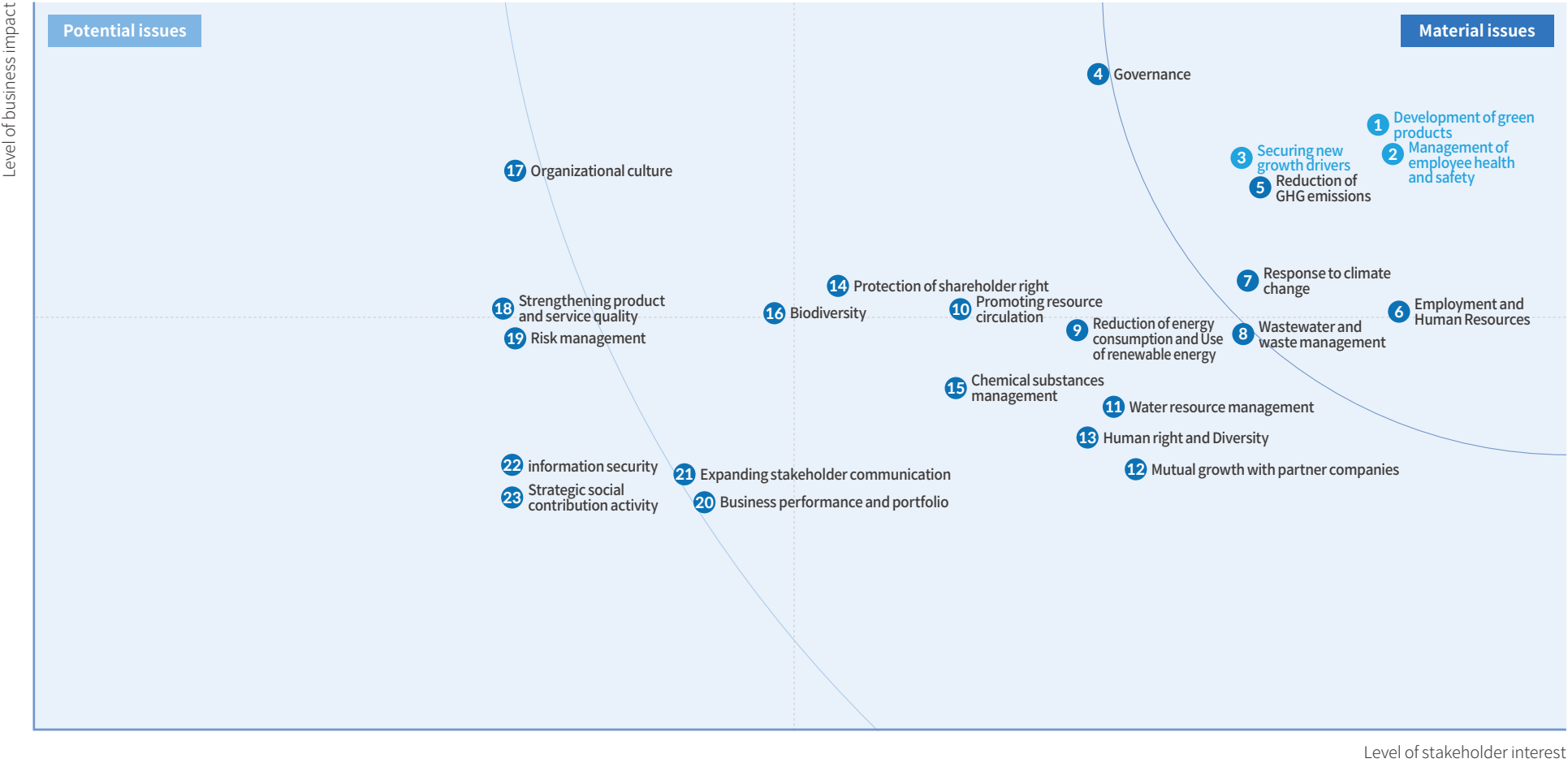


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Results of double materiality assessment

Through the materiality assessment process for 23 issue pools, Dongwon Systems identified 1) eco-friendly product development, 2) employee safety and health management, and 3) securing new growth drivers as issues of materiality. The materiality assessment is categorized into a four-step process, and based on the results of the issue assessment, Dongwon Systems' material sustainability issues are derived.

Materiality assessment matrix



Analysis of material issues and impact

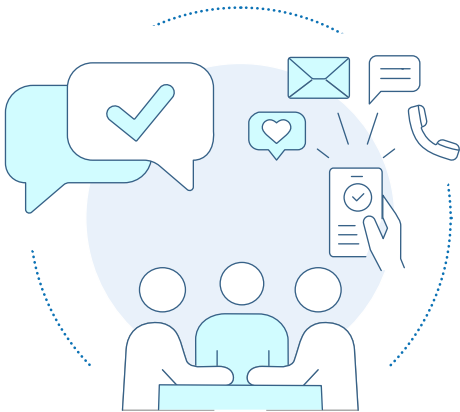
●●● High ●●○ Medium ●○○ Low

Materiality	Category	Sustainability issues	Stakeholder impact	Business impact	Page
1	Core Issue	Development of green products	●●●	●●●	P17~20
2		Management of employee health and safety	●●●	●●○	P21~25
3		Securing new growth drivers	●●○	●●●	P26~28
4	Common Issue	Governance	●●○	●●●	P57~61
5		Reduction of GHG emissions	●●○	●●●	P36~37
6		Employment and Human Resources	●●○	●●○	P42~46
7		Response to climate change	●●○	●●○	P36~40
8		Wastewater and waste management	●●○	●●○	P35~36
9		Reduction of energy consumption and Use of renewable energy	●●○	●○○	P36~37
10		Promoting resource circulation	●●○	●●○	p34~36
11		Water resource management	●●○	●○○	P35
12		Mutual growth with partner companies	●●○	●●○	P50~52
13		Human right and Diversity	●●○	●●○	P43
14		Protection of shareholder right	●●○	●○○	P60~61
15		Chemical substances management	●●○	●○○	P24
16		Biodiversity	●●○	●○○	p34~36
17		Organizational culture	●○○	●●○	P46~47
18		Strengthening product and service quality	●●○	●●○	P48~49
19		Risk management	●●○	●●○	P64~66
20		Business performance and portfolio	●●○	●●●	P6~7
21		Expanding stakeholder communication	●●●	●○○	P74
22		Information security	●●○	●○○	P66~68
23		Strategic social contribution activity	●●○	●●○	P53~55

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Stakeholder Communication

Dongwon Systems recognizes communication with stakeholders as the key to implementing sustainable management. We define customers, shareholders and investors, partner companies, local communities, governments, and employees as key stakeholders who directly or indirectly have a significant impact on our business activities, and we have established various communication channels to collect their opinions. Based on active communication, we will continue to conduct transparent and sustainable management with our stakeholders.



Stakeholder Economic Value Allocation

(Unit: KRW million)

Category	Calculation basis	2020	2021	2022
Government	Corporate tax payments	23,902	17,242	19,453
Shareholders	Total cash dividend	15,425	17,566	17,566
Employees	Salary, severance pay, and welfare benefit costs	129,807	135,765	139,854
Partner companies	Amount of purchase	398,215	562,743	653,225
Creditors	Cost of interest	10,095	11,128	15,409

Stakeholder status and key activities and communication channels

Dongwon Systems operates various communication channels to build trust with stakeholders.

Key stakeholder	Concerns	Communication channels	Dongwon Systems's main activities
Customers	<ul style="list-style-type: none">• Providing safety and competitive services• Producing sustainable products	<ul style="list-style-type: none">• Homepage (year-round)• Media coverage (year-round)• Interviews (year-round)	<ul style="list-style-type: none">• Demand analysis to meet customer needs• Enhancing customer satisfaction and trust
Shareholders Investors	<ul style="list-style-type: none">• Enhancing enterprise value• Risk management• Activating shareholder-friendly management	<ul style="list-style-type: none">• General meeting of shareholders (once a year)• Extraordinary general meeting of shareholders (as necessary)• Conference call (quarterly)• Various reports (year-round)	<ul style="list-style-type: none">• Transparent disclosure through publication of business report, corporate governance report, and sustainability report• Implementation of a shareholder proposal system• Shareholder return policy
Employees	<ul style="list-style-type: none">• Work-life balance• Fair performance assessment• Win-Win labor relations	<ul style="list-style-type: none">• Consultation center (year-round)• Employee satisfaction surveys (year-round)	<ul style="list-style-type: none">• Employees capacity-building program• Improvement of performance assessment system• Employees welfare benefit system• Creating a safe workplace and work environment
Partner companies	<ul style="list-style-type: none">• Expanding Win-Win management• Building a fair partnership• Fair trade	<ul style="list-style-type: none">• Partner companies meeting (once a year)• Training for partner companies (year-round)	<ul style="list-style-type: none">• Visit to partner companies and technical support• Implementation of the fair trade guiding principles• Fair trade agreements with partner companies• Establishing and operating a win-win fund
Local community	<ul style="list-style-type: none">• Contributing to local community development through social contribution activities and creating social value	<ul style="list-style-type: none">• social contribution project (year-round)• Dongwon Yukyoung Foundation Operation (year-round)• NGO Collaboration activities (year-round)	<ul style="list-style-type: none">• Social contribution activities• Creating a transparent donation culture
Government	<ul style="list-style-type: none">• Legal and regulatory compliance• Strengthening public-private partnerships	<ul style="list-style-type: none">• Joining international association• Obtaining international certifications	<ul style="list-style-type: none">• Participating in government projects• Conducting business with governments and public organizations• Faithfully paying taxes

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Financial Performance

Summarized Consolidated Balance Sheet

Classification	Unit	2020	2021	2022
Total assets	KRW 1 million	1,255,817	1,492,015	1,451,669
Current assets	KRW 1 million	453,802	638,499	550,242
Non-current assets	KRW 1 million	802,015	853,516	901,427
Total liabilities	KRW 1 million	639,356	826,642	722,040
Current liabilities	KRW 1 million	450,668	514,874	420,866
Non-current liabilities	KRW 1 million	188,688	311,768	301,174
Total equity	KRW 1 million	616,461	665,373	729,630
Total equity attributable to owners of parent	KRW 1 million	484,476	662,983	728,055
Non-controlling interests	KRW 1 million	131,985	2,390	1,575

Summarized Consolidated Income Statement

Classification	Unit	2020	2021	2022
Sales	KRW 1 million	1,078,540	1,250,882	1,436,999
Cost of goods sold	KRW 1 million	925,624	1,095,287	1,274,202
Gross profit	KRW 1 million	152,916	155,595	162,797
Operating profit	KRW 1 million	97,672	89,997	91,839
Net profit before corporate tax expense	KRW 1 million	85,327	65,232	78,695
Net profit	KRW 1 million	61,635	48,135	72,335
Profit (loss), attributable to owners of parent	KRW 1 million	51,477	39,871	72,337
Profit (loss), attributable to non-controlling interests	KRW 1 million	10,158	8,264	-2
Earnings per share (KRW)	KRW	2,003	1,499	2,470

Credit Rating

Classification	2020	2021	2022
Corporate Bond: Korea Ratings	A0	A0	A0
NICE Investors Service	A+	A+	A+

R&D Investment Status

Classification			Unit	2020	2021	2022
Intellectual property right	R&D investment cost	SG&A	KRW 1 million	3,914	4,425	6,152
	R&D investment cost compared to sales		%	0.36	0.35	0.37
	Patent and trademark application (cumulative)	Domestic	Cases	9	6	8
		Overseas	Cases	1	3	3
	Patent and trademark registration (cumulative)	Domestic	Cases	4	2	3

Business Site

Classification		Unit	2020	2021	2022
Business site	Head office	Numbers	1	1	1
	Research institute	Numbers	1	1	1
	Overseas corporation	Numbers	3	3	5
	Plant	Numbers	17	17	14

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Governance Performance

BOD Independence

Classification		Unit	2020	2021	2022
BOD independence	Average tenure of BOD	Years	4	3	5
	Ratio of independent directors with conflicts of interest	%	0.00	0.00	0.00

BOD Operation Status

Classification			Unit	2020	2021	2022
BOD independence	Scale of the BOD	Total	Persons	4	4	4
		Number of independent directors	Persons	1	1	1
		Ratio of independent directors	%	0.25	0.25	0.25
	BOD diversity	Number of female registered executives	Persons	0	0	0
BOD meetings	Number of BOD meetings held		Times	16	22	21
Agenda items	Total agendas		Cases	19	34	35
	Resolution agendas		Cases	15	30	25
	Reporting agendas		Cases	4	4	10
Opinions by agenda	Vote for		Cases	19	34	35
	Vote against		Cases	0	0	0
	Amend		Cases	0	0	0
	Abstain		Cases	0	0	0
Attendance rate	Total		%	100	100	100
	Ratio of independent directors		%	87.50	77.30	100.00

BOD Committee Activity

Classification		Unit	2020	2021	2022
Management committee	Number of directors	Persons	-	-	3
	Number of committee meetings held	Times	-	-	3
	Attendance rate	%	-	-	100
	Resolution agendas	Cases	-	-	3
	Reporting agendas	Cases	-	-	0
	Ratio of non-executive directors	%	-	-	0
Internal transaction committee	Number of directors	Persons	-	-	2
	Number of committee meetings held	Times	-	-	3
	Attendance rate	%	-	-	100
	Resolution agendas	Cases	-	-	4
	Reporting agendas	Cases	-	-	4
	Ratio of non-executive directors	%	-	-	50

Remuneration

Classification		Unit	2020	2021	2022
Registered directors	Number of directors	Persons	2	3	3
	Total remuneration	KRW 1 million	519	845	1137
	Average remuneration per person ¹⁾	KRW 1 million	260	282	379
Non-executive directors	Number of directors	Persons	1	1	1
	Total remuneration	KRW 1 million	36	36	36
	Average remuneration per person ¹⁾	KRW 1 million	36	36	36
Audit committee	Number of directors	Persons	1	1	1
	Total remuneration	KRW 1 million	66	90	102
	Average remuneration per person ¹⁾	KRW 1 million	66	90	102
Employee remuneration	Average employee remuneration ²⁾	KRW 1 million	58	65	71

1) Average remuneration per person is calculated by dividing the total remuneration by the number of persons in office as of the date of the report

2) [Business Report] Average salary per person for men and women

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Audit

Classification		Unit	2020	2021	2022
External audit engagement status	Auditor	-	Hanyoung Accounting	Hanyoung Accounting	Hanyoung Accounting
	Audit content	-	Review quarterly and half-year financial statements, Audit separate and consolidated financial statements	Review quarterly and half-year financial statements, Audit separate and consolidated financial statements	Review quarterly and half-year financial statements, Audit separate and consolidated financial statements
	Total remuneration	KRW 1 million	345	406	420
	Total time spent	Hours	3800	4200	4643
External auditor opinion	Auditor	-	Hanyoung Accounting	Hanyoung Accounting	Hanyoung Accounting
	Audit Opinion	-	Appropriate	Appropriate	Appropriate
	Audit report exception	-	Prepared in accordance with IFRS	Prepared in accordance with IFRS	Prepared in accordance with IFRS

Ethical Management

Classification		Unit	2020	2021	2022
Reporting center operation status	Number of reports received	Cases	0	1	4
	Number of reports processed	Cases	0	1	4
	Ratio of handled reports	%	100	100	100

Social Performance

Employees

Classification			Unit	2020	2021	2022 ¹⁾
Overall employee status	Total number of employees		Persons	1,572	1,692	1,686
	Status by gender	Male	Persons	1,470	1,568	1,551
		Female	Persons	102	124	135
	Status by age	Ages under 30	Persons	247	288	272
		Ages 30 to 49	Persons	838	883	896
		Ages 50 and above	Persons	487	521	518
	Status by region	Domestic	Persons	1,572	1,691	1,686
		Overseas	Persons	0	1	0
	Status by position	Staff	Persons	1,509	1,615	1,605
		Manager	Persons	52	64	66
		Executive	Persons	11	13	15
	Status by occupation	Management (executive, non-executive director, advisor, etc)	Persons	16	18	20
		General	Persons	324	351	339
		Research	Persons	7	16	40
		Clerical	Persons	1,196	1,270	1,246
		Professional (lawyer, auditor)	Persons	0	0	0
		Contract	Persons	29	37	41
		Status by employment type	Full-time	Persons	1,545	1,658
	Temporary		Persons	27	34	41

1) Headcount includes retirees as of Dec. 31, 2022. Total headcount excluding retirees is 1601.

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Non-Employee Worker

Classification		Unit	2020	2021	2022
Non-Employee Worker	Number of non-employee workers	Persons	24	24	24

Diversity

Classification		Unit	2020	2021	2022
Gender balance	Total number of female employees ¹⁾	명	102	124	135
	Managerial female	명	4	6	7
	Executive female	명	0	0	0
	Newly hired female ²⁾	명	8	24	28
Employees with disabilities	Number of employees with disabilities ³⁾	명	35	35	34
Employees of national merits	Number of employees of national merits	명	8	8	8

1) Ministry of Employment and Labor's Affirmative Action (AA) reporting standards
2) Employment insurance standards
3) Handicapped employment levy reporting standards

Recruitment and Turnover

Classification			Unit	2020	2021	2022
New recruitment	Total number of new recruitment ¹⁾		Persons	145	282	183
	Status by gender	Male	Persons	134	255	155
		Female	Persons	11	27	28
	Status by age	Ages under 30	Persons	63	153	101
		Ages 30 to 49	Persons	68	104	63
		Ages 50 and above	Persons	14	25	19
	Status by region	Domestic	Persons	145	282	183
		Overseas	Persons	0	0	0

Classification			Unit	2020	2021	2022
New recruitment	Status by position	Employee	Persons	144	277	182
		Executive	Persons	1	5	1
	Status by employment type	Full-time (new)	Persons	4	43	99
		Full-time (experienced)	Persons	130	218	58
		Temporary (exclude dispatched worker)	Persons	11	21	26
Voluntary turnover	Total voluntary turnover		Persons	112	164	182
	Status by gender	Male	Persons	101	151	160
		Female	Persons	11	13	22
	Status by age	Ages under 30	Persons	37	72	87
		Ages 30 to 49	Persons	60	80	85
		Ages 50 and above	Persons	15	12	10
	Status by region	Domestic	Persons	112	164	182
		Overseas	Persons	0	0	0
	Status by position	Employee	Persons	111	160	182
		Executive	Persons	1	4	0
	Voluntary turnover reason	Desired retirement	Persons	0	0	0
		Voluntary retirement	Persons	112	164	182

1) Including full-time and contract positions, career recruitment and transfers to group company. By international age

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Classification		Unit	2020	2021	2022
Involuntary turnover (death, retirement, termination)	Total involuntary turnover	Persons	47	36	83
	Status by gender	Male	Persons	45	33
		Female	Persons	2	3
	Status by age	Ages under 30	Persons	1	0
		Ages 30 to 49	Persons	10	6
		Ages 50 and above	Persons	36	30
	Status by region	Domestic	Persons	47	36
		Overseas	Persons	0	0
	Status by position	Employee	Persons	46	36
		Executive	Persons	1	0
Involuntary turnover reason	Regular retirement	Persons	25	28	40
	Disciplinary dismissal	Persons	1	0	2
	Recommended resignation	Persons	21	8	41
Retirement ratio		%	10%	12%	16%
Average years of tenure		Years	13	13	12

Parental Leave

Classification		Unit	2020	2021	2022
Number of employees who used parental leave	Total	Persons	4	9	9
	Male	Persons	2	7	4
	Female	Persons	2	2	5
Number of employees who returned after parental leave	Total	Persons	2	8	6
	Male	Persons	1	6	3
	Female	Persons	1	2	3
	Male ratio	%	50	75	50
	Female ratio	%	50	25	50

Classification		Unit	2020	2021	2022
Number of employees who have worked for more than 12 months after returning from parental leave	Total	Persons	2	4	0
	Male	Persons	1	3	0
	Female	Persons	1	1	0
	Male ratio	%	100	50	0
	Female ratio	%	100	50	0

Retirement Pension System

Classification		Unit	2020	2021	2022
Defined benefits (DB)	Total number of subscribers	Persons	973	1,000	1,070
	Operating amount (separate)	KRW 100 million	194	527	603
Defined Contribution (DC)	Total number of subscribers	Persons	399	395	364
	Operating amount (separate)	KRW 100 million	143	175	198
Retirement pension subscription ratio		%	85	82	85

Performance Evaluation and Reward

Classification		Unit	2020	2021	2022
Performance evaluation status	Ratio of employees receiving regular performance evaluation	%	100	100	100
	Subject of performance evaluation	Persons	318	317	320
	Number of employees who received regular performance evaluation	Persons	318	317	320
Reward	Ratio of new grants of stick options	%	0	0	0
	Female reward for new employees /Male reward for new employees	Persons	97.4	97.4	97.7
	5th year salary/1st year salary	Persons	119.4	119.8	117.4

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Supporting Member Growth

Classification		Unit	2020	2021	2022
Training and education hours	Total training hours	Hours	26,473	16,868	23,578
	Training hours per person (office job)	Hours	43	43	58
	Number of people to train	Persons	363	389	407
Training and education costs	Total training and education costs	KRW 1 million	167	257	403
	Training and education cost per person (office job)	KRW thousand/person	460	661	991
Training program	General education (job, leadership) hours	Hours	11,595	12,804	23,578
	General education participants	Persons	363	389	407
	ESG training hours	Hours	3,878	4,064	3,791
	ESG training participants	Persons	1,576	1,576	1,692

Industrial Accident

Classification		Unit	2020	2021	2022
Status of industrial accident occurrence	Employees	Cases	14	20	32
	Partner company's employees (sales, field staff, etc.)	Cases	0	0	0
Industrial safety training	Total training hours	Hours	27,738	27,744	25,290
	Number of employees participating in training	Persons	1,572	1,692	1,686

Corruption and Human Rights¹⁾

Classification		Unit	2020	2021	2022
Anti-corruption effort	Fair trade/Anti-corruption training	Hours	0	0	3,202
Reports and violations	Number of whistleblower reports received	Cases	0	0	1
	Number of requests for the whistleblower protection system	Cases	0	0	4
	Number of cases of discrimination in the workplace	Cases	0	0	0
	Number of cases of child labor	Cases	0	0	0
	Number of cases of forced labor	Cases	0	0	0

1) Number of cases in a year

Safety Management System

Classification		Unit	2020	2021	2022
Safety and health management system(ISO45001) certification	Number of certificated business sites	Numbers	3	5	5
	Number of business sites to be certificated	Numbers	3	5	5
OHSAS 18001 (or KOSHA 18001) certification	Number of certificated business sites	Numbers	2	2	2
	Number of business sites to be certificated	Numbers	2	2	2

Partner Transaction Status

Classification		Unit	2020	2021	2022
Partner status	Total partners	Numbers	2,906	3,010	3,313
	New partners	Numbers	156	104	180
	Number of partners under regular evaluation	Numbers	270	270	79
Purchase size	Total purchase amount of partner companies ¹⁾	KRW 1 million	398,214	562,742	653,225
	Total purchases from small businesses	KRW 1 million	250,917	303,250	287,419
	Total Purchases from Major Suppliers	KRW 1 million	147,297	259,492	365,806

1) Total amount of purchase tax invoices



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Fair Trade Violation

Classification		Unit	2020	2021	2022
Status of fair trade violations	Number of violations	Cases	1	0	0
	Penalty amounts	KRW 1 million	0	0	0

Disclosure Management Status

Classification		Unit	2020	2021	2022
Disclosure status	Number of companies to be disclosed	Numbers	44	47	49
	Types of languages in which reports are published	Numbers	1	1	1
Disclosure performance	Imperfection of disclosure	Cases	0	0	0
	Penalty for missing disclosures (number of omissions)	10,000 KRW (Cases)	0	0	0

Training Status

Classification			Unit	2020	2021	2022
Status of employee training	Training costs	Total training costs	KRW 1 million	167	257	403
		Training costs per person (office job)	KRW 1,000/person	460	661	991
	Training hours	Total training hours	Hours	26,473	16,868	23,578
		Training hours per person (office job)	Hours/person	43	43	58

Performance of Social Contribution Program

Classification		Unit	2020	2021	2022
Social contribution investment cost		KRW 1 million	1,166	707	887
Total hours of employee participation in social contribution activities		Hours	0	366	221
Participation hours per employee in social contribution activities		Hours	0	3	2
Number of people participating in social contribution activities		Persons	0	122	147
Number of social contribution activity programs		Units	0	1	2

Ethical Management Activity

Classification			Unit	2020	2021	2022
Promoting employee ethics awareness	Ethical management training	Training hours	Hours	363	371	406
		Number of employees participating in training	Persons	363	371	406
		Training hours per person	Hours/person	1	1	1
	Sexual harassment prevention training	Training hours	Hours	1,576	1,643	1,643
		Number of employees participating in training	Persons	1,576	1,643	1,643
		Training hours per person	Hours/person	1	1	1
	Disability awareness training	Training hours	Hours	1,576	1,643	1,643
		Number of employees participating in training	Persons	1,576	1,643	1,643
		Training hours per person	Hours/person	1	1	1

Information Protection

Classification			Unit	2020	2021	2022
Information protection training	Information protection training	Training hours	Hours	363	389	406
		Number of employees participating in training	Persons	363	389	406
		Training hours per person	Hours/person	1	1	1
Information protection investments	Ratio of information protection investment ¹⁾		%	-	4.8	4.8
Information protection violation	Number of violations of customer information protection and loss of customer information		Cases	0	0	0

1) Formula = (Investment budget for information security / Total IT budget) * 100

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Environmental Performance

Investment for Environmental Status

Classification		Unit	2020	2021	2022
Status by investment area	Number of investment plans established	Cases	0	0	27
	Amount of investment plan	KRW 1 million	0	0	2,155

Action Plan for Environmental Management Activity

Classification		Unit	2020	2021	2022
Green supply chain	Green purchasing results	KRW 1 million	0.0	0.0	126
	Share of green purchases	%	0.0	0.0	0.3
Green products and services	Green product and services sales results	KRW 1 million	0.0	0.0	194
	Share of sales of green products and services	%	0.0	0.0	0.0
Zero-emission vehicle	Ratio of zero-emission vehicles	%	0.0	0.0	0.0

Status of Environmental Violation

Classification		Unit	2020	2021	2022
Status of environmental violation	Number of legal violations	Times	0	0	4
	Number of lawsuits filed	Cases	0	0	0
	Number of non-monetary sanctions	Cases	0	0	0
	Total amount of fines	KRW 1 million	0	0	4
	Environmental liabilities	KRW 1 million	0	0	0

GHG(Greenhouse Gas)

Classification		Unit	2020	2021	2022
GHG emissions	Total GHG emissions (Scope1+2)	tCO ₂ -eq	217,432	280,045	279,076
	Scope1(Direct GHG emissions)	tCO ₂ -eq	118,766	130,430	127,013
	Scope2(Indirect GHG emissions)	tCO ₂ -eq	98,666	149,615	152,062
GHG intensity	GHG intensity ¹⁾	tCO ₂ -eq/ KRW 100 million	51.66	35.67	21.45
GHG emissions target	GHG emissions target	tCO ₂ -eq	229,090.00	297,619.09	297,619.09
	Performance against target	%	95%	94%	94%

1) Formula = (Total GHG emissions(Scope 1+2) / Sales)

Energy

Classification		Unit	2020	2021	2022
Energy consumption	Total energy consumption	TJ	3,928	4,916	4,917
	Fuel	TJ	1,687	1,778	1,776
	Electricity	TJ	2,245	3,093	3,111
	Steam	TJ	1	24	30
Energy intensity	Energy intensity ¹⁾	TJ/ KRW 1 billion	0.9	0.6	0.4
Energy consumption target	Energy consumption target	TJ	4,085.1	5,112.6	5,113.4
	Performance against target	%	96%	96%	96%

1) Formula = (Total energy consumption by year / Sales)

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Air/Water Pollutants

Classification		Unit	2020	2021	2022
Air Pollutants	Nox	Tons	141.1	176.4	187.1
	Sox	Tons	96.0	226.8	195.0
	Dust	Tons	13.0	16.3	15.0
	VOCs	Tons	8.1	2.6	1.9
	HAPs	Tons	0.7	0.4	1.9
Water Pollutants	BOD	Tons	0.0	0.0	0.2
	COD	Tons	8.0	9.0	9.5
	SS	Tons	1.0	0.8	1.4
	TN	Tons	0.4	0.5	2.0
	N-H	Tons	0.0	0.0	0.0
	T-P	Tons	0.0	0.0	0.0

Chemicals

Classification		Unit	2020	2021	2022
Chemicals	Chemical emissions	Tons	3,720	4,365	2,555
	Number of chemical leaks	Cases	0	0	0

Water and Effluent

Classification		Unit	2020	2021	2022
Water consumption	Total water consumption	Ktons	58,444	52,899	39,508
	Water supply	Ktons	48,333	45,060	34,509
	Groundwater	Ktons	1,669	1,067	205
	Industrial water	Ktons	8,442	6,772	4,794
	Recycled water	Ktons	314	313	332
Water consumption target	Water consumption target	Tons	58,444	52,899	39,508
	Performance against target	%	100%	100%	100%
Effluent consumption	Amount of effluent discharged	Tons	344,070	453,000	467,603
	Amount of effluent recycled	Tons	315,399	314,052	379,104

Environmental Impact Management

Classification		Unit	2020	2021	2022
Plastic reduction activity	Plastic use results	Tons	0	0	776

Waste

Classification		Unit	2020	2021	2022
Waste discharge	Total amount of waste discharged	Tons	12,199	13,906	16,611
	General waste	Tons	8,161	9,422	9,097
	Recycling	Tons	2,234	3,358	5,888
	Landfill	Tons	1,998	2,234	1,660
	Incinerated	Tons	3,786	3,755	1,549
	Other	Tons	143	75	0
	Designated waste	Tons	4,038	4,484	2,687
	Recycling	Tons	1,791	2,244	2,026
	Landfill	Tons	1,588	1,440	221
	Incinerated	Tons	558	664	288
Waste discharge target	Other	Tons	101	136	152
	Waste recycling target	Tons	4,025	5,602	7,914
	Total amount of waste recycled	Tons	4,025	5,602	7,914
Waste disposal cost	Waste reduction performance	%	100	100	100
		KRW 100 million	4	5	15



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The organization and its reporting practices	2-1	Organizational details	8	
	2-2	Entities included in your organization's sustainability reporting	8	
	2-3	Reporting period, frequency and contact point	2	
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	2-24	Embedding policy commitments	61~63	
	2-25	Processes to remediate negative impacts	65~66	
	2-26	Mechanisms for seeking advice and raising concerns	63~64	
	2-27	Compliance with laws and regulations	82	
	2-28	Membership associations	16	

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Metrics		Metric name	Page	Remarks
GRI 2: General Disclosures 2021				
Stakeholder engagement	2-29	Approach to stakeholder engagement	74	
	2-30	Collective bargaining agreements	47	
GRI 3: Material Topics 2021				
Disclosures on material topics	3-1	Process to determine material topics	71	
	3-2	List of material topics	73	
	3-3	Management of material topics	74	
Topic Specific Standards-Economic Performance (GRI 200)				
Economic performance	201-1	Direct economic value generated and distributed	74	
	201-2	Financial implications and other risks and opportunities due to climate change	39	
	201-3	Defined benefit plan obligations and other retirement plans	79	Defined benefit (DB) and defined contribution (DC) retirement plans in operation
Indirect economic impact	203-1	Infrastructure investments and services supported	54~55	
Anti-corruption	205-2	Communication and training about anti-corruption policies and procedures	61	
	205-3	Confirmed incidents of corruption and actions taken	80	
Anti-competitive behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	81	
Tax	207-1	Approach to tax	65	
	207-2	Tax governance, control, and risk management	65	
	207-3	Stakeholder engagement and management of concerns related to tax	74	
Topic Specific Standards-Environmental Performance (GRI 300)				
Materials	301-2	Recycled input materials used	19~20	
	301-3	Reclaimed products and their packaging materials	19~20	
Energy	302-1	Energy consumption within the organization	37	
	302-2	Energy consumption outside of the organization	37	
	302-3	Energy intensity	82	
	302-4	Reduction of energy consumption	37, 82	
Water and Effluents	303-1	Interactions with water as a shared resource	35	
	303-2	Management of water discharge-related impacts	35	
	303-3	Water withdrawal	35	
	303-5	Water consumption	83	
Biodiversity	304-2	Significant impacts of activities, products and services on biodiversity	53	

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Topic Specific Standards-Environmental Performance (GRI 300)			
Emissions	305-1	Direct (Scope 1) GHG emissions	82
	305-2	Energy indirect (Scope 2) GHG emissions	82
	305-4	GHG emissions intensity	82
	305-5	Reduction of GHG emission	37, 82
	305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	83
Waste	306-1	Waste generation and significant waste-related impacts	35~36
	306-2	Management of significant waste-related impacts	35~36
	306-3	Waste generated	83
	306-4	Waste diverted from disposal	83
Supplier environmental assessment	308-1	New suppliers that were screened using environmental criteria	33
Topic Specific Standards-Social Performance (GRI 400)			
Employment	401-1	New employee hires and employee turnover	78
	401-2	Benefits provided to full-time employees that are not provided to temporary or parttime employees	45
	401-3	Parental leave	79
Occupational Health and Safety	403-1	Occupational health and safety management system	22~23
	403-2	Hazard identification, risk assessment, and incident investigation	23
	403-3	Occupational health services	22
	403-4	Worker participation, consultation, and communication on occupational health and safety	25
	403-5	Worker training on occupational health and safety	25
	403-6	Promotion of worker health	24
	403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	23~24
	403-9	Work-related injuries	25

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Metrics	Metric name	Page	Remarks
Topic Specific Standards-Social Performance (GRI 400)			
Training and education	404-1	Average hours of training per year per employee	81
	404-2	Programs for upgrading employee skills and transition assistance programs	45~46
	404-3	Percentage of employees receiving regular performance and career development reviews	79
Diversity and equal opportunity	405-1	Diversity of governance bodies and employees	78
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	80
Child labor	408-1	Operations and suppliers at significant risk for incidents of child labor	80
Forced or compulsory labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labo	80
Local communities	413-1	Operations with local community engagement, impact assessments, and development programs	53
Supplier social assessment	414-1	New suppliers that were screened using social criteria	51
Customer health and safety	416-1	Assessment of the health and safety impacts of product and service categories	52
Customer privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	68

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





Sustainability Accounting Standards Board (SASB) Index

Dongwon Systems has disclosed in its report the indicators for the Containers & Packaging business area in the Resource Transformation sector according to the SASB Industry criteria.

Topics	Code	Metric	Page
Greenhouse gas emissions	RT-CP-110a.1	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	36
	RT-CP-110a.2	Discussion of long- and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets and an analysis of performance against those targets	36
Air quality	RT-CP-120a.1	(1) NOx (excluding N2O) (2) SOx (3) Volatile organic compounds (VOCs) (4) Particulate matter (PM)	34
Energy management	RT-CP-130a.1	(1) Total energy consumed (2) Percentage grid electricity (3) Percentage of renewable (4) Total self-generated energy	37
Water management	RT-CP-140a.1	(1) Total water withdrawn (2) Total water consumed; percentage of each in regions with High or Extremely High Baseline Water Stress	35
	RT-CP-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	35
Waste management	RT-CP-150a.1	Amount of hazardous waste generated, percentage recycled	35
Product safety	RT-CP-250a.2	Discussion of process to identify and manage emerging materials and chemicals of concern	17
Product lifecycle management	RT-CP-410a.1	Percentage of raw materials from: (1) Recycled content (2) Renewable resources (3) Renewable and recycled content	17
	RT-CP-410a.3	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	17

UN SDGs Commitments

The United Nations Sustainable Development Goals (UN SDGs) are a set of shared goals for humanity adopted by the 70th session of the UN General Assembly in 2015 to address the environmental, social, and economic challenges that need to be addressed globally by 2030. The UN SDGs are organized into 17 overarching goals and 169 targets in five areas: people, planet, prosperity, peace, and partnership. As a member of the international community, Dongwon Systems is participating in efforts to achieve the UN SDGs. We are carrying out various activities in line with the direction of sustainable management and the detailed goals of the SDGs, and we will continue to do our best to achieve common goals around the world.

UN SDGs		Dongwon Systems Activity	
Goal 1. No poverty		We maintain an ongoing interest in fighting poverty in local community.	- Social contribution
Goal 3. Good health and well-bding		We run a variety of programs to ensure that all of our workers enjoy a happy life in a safe and healthy environment.	- Managing and enhancing employee safety and health - Building a safety and health management system - Conducting health screenings for employees (once a year) - Building a process for responding to industrial accidents
Goal 4. Quality education		We run education programs, foundations, and centers to ensure that vulnerable populations in local communities have access to inclusive, equitable, and quality education.	- Conducting ethics training for all employees
Goal 5. Gender equality		We provide equal opportunities and rights to all employees, regardless of gender, and have policies and programs to prevent gender discrimination.	- Conducting the prevention of sexual harassment course
Goal 6. Clean water and sanitation		We are committed to responsible water stewardship and sustainable water use.	- Reducing wastewater discharge and introducing s wastewater reduction system - Introducing water reuse facilities, reducing water consumption
Goal 7. Affordable and clean energy		We are implementing various activities such as reducing energy usage and switching to renewable energy to manage climate risk.	- Renewable fuel utilization (using reclaimed refined oil) - Energy reduction activities: Introducing a air recycling system, reducing electricity costs - Issuing green bonds and producing secondary battery cathode materials
UN SDGs		Dongwon Systems Activity	
Goal 8. Decent work and economic growth		We create decent work for all in a non-discriminatory environment and promote sustainable economic growth.	- Systematically hiring and building employee capacity - Supporting mutual growth for partner companies
Goal 10. Reduced inequalities		We are building an organizational culture that respects diversity and proactively preventing issues that arise from inequality.	- Building a diverse and innovative organizational culture - Organizational culture improvement activities
Goal 12. Responsible consumption and production		We disclose sustainability-related information to our stakeholders and promote sustainable production and consumption through recycling resources.	- Installing a nitrogen oxide emission reduction facility - Improvement of manufacturing processes by conducting end-to-end assessments - Assessing partner companies environmental safety impact - Development of recycling resources and biodegradable packaging material - Setting recycling resources goals - Publishing sustainability reports
Goal 13. Climate action		In response to the global issue of climate change and its impacts, we have established GHG reduction targets and are implementing related activities.	- Reducing carbon emissions through product lightening, developing eco-friendly large-capacity ultra-lightweight beer glass bottles - TCFD information disclosure - Setting a GHG reduction goal
Goal 14. Life below water		We are committed to minimizing negative corporate impacts on marine ecosystems.	- Reducing wastewater discharge and introducing s wastewater reduction system - Introducing water reuse facilities, reducing water consumption
Goal 16. Peace, justice, and strong institutions		We are committed to minimizing negative corporate impact on the terrestrial ecosystem.	- Sending ethical management letters and signing ethical commitments with partner companies - Dongwon Charter of Ethics and Dongwon Code of Ethics - Operating an ethical management reporting center

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UN Global Compact (UNGC)

Dongwon Systems supports the 10 principles of the global initiative UN Global Compact (UNGC) in the four areas of human rights, labor, environment, and anti-corruption and strives to comply with them. As a global corporate citizen, we will continue to consider business and social values simultaneously and strive to create various social values.

Category	Principles	Dongwon Systems's activities
Human Rights	Protection of human rights Principle 1. Businesses should support and respect the protection of internationally proclaimed human rights	- Resolving employee grievances by providing an on-site feedback system and hotline - Conducting 'the prevention of sexual harassment course' and 'the course to raise awareness of persons with disabilities' for all employees every year
	Prevention of human rights abuses Principle 2. Businesses should make sure that they are not complicit in human rights abuses	
Labor	Guarantee of labor union rights Principle 3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining	- Ensuring workers' fundamental rights such as the right to organize, the right to bargain collectively, and the right to take collective action - Collective bargaining and quarterly labor-management meetings
	Elimination of forced labour Principle 4. Businesses should uphold the elimination of all forms of forced and compulsory labour	
	Abolition of child labour Principle 5. Businesses should uphold the effective abolition of child labour	
	Elimination of discrimination Principle 6. Businesses should uphold the elimination of discrimination in respect of employment and occupation	
Environment	Environmental prevention Principle 7. Businesses should support a precautionary approach to environmental challenges	- Management with environmental safety and health considerations - Obtaining and maintaining environmental management system certification
	Environmental responsibility Principle 8. Businesses should undertake initiatives to promote greater environmental responsibility	
	Development and diffusion of environmental technology Principle 9. Businesses should encourage the development and diffusion of environmentally friendly technologies	
anti-corruption	Anti-corruption Principle 10. Businesses should work against corruption in all its forms, including extortion and bribery	- Establishing a "Dongwon Code of Ethics" to guide employees' ethical behavior - Building compliance management and training system

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To the management of Dongwon Systems Corporation

We performed a limited assurance engagement on the following sustainability information of Sustainability Report of Dongwon Systems Corporation (the “Company”) for the year ended December 31, 2022 (the “Report”).

Scope and Subject matter information

For the year ended December 31, 2022, we provide a limited assurance on the following:

- The ESG information (the “Subject matter information”), stated on ‘ESG Data’ of the Report Appendix, is prepared in accordance with the Company’s ‘Reporting Principles and standards’ described on the ‘ABOUT THIS REPORT’.”

We read the other information included in the Report and considered whether it is consistent with the Subject matter information. We considered the implications for our report in the case that we became aware of any apparent misstatements or material inconsistencies with the Subject matter information. Our responsibilities do not extend to any other information.

Criteria (the “Criteria”)

The Company prepared the Subject matter information in accordance with Global Reporting Initiative (GRI) Standards 2021 with indicators from the UN Sustainable Development Goals (UN SDGs). The report contains indicators set by the Task Force on Climate-related Financial Disclosures (TCFD) and Sustainability Accounting Standards Board (SASB).

Inherent limitations

Non-financial information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining such information. Qualitative interpretations of relevance, materiality and the accuracy of data are subject to individual assumptions and judgments.

In particular:

- We did not attend any stakeholder engagement activities. Therefore, our conclusion is based on our discussions with management and staff of the Company and our review of selected documents provided to us by the Company.
- The scope of our work was restricted to performance for the year ended December 31, 2022, only, as set out in the scope and subject matter section above. Information for the year ended December 31, 2021, and earlier periods have not been subject to assurance by us.

Responsibility of the management of the Company

The management of the Company is responsible for selecting and establishing suitable criteria for preparing the Subject matter information and the preparation of the Subject matter information in accordance with the Criteria.



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Our responsibility

Our responsibility is for the following:

- Determining and performing the procedures to provide a limited assurance whether a material matter has come to our attention to cause us to believe the Subject matter information is materially misstated.
- Independently expressing a conclusion in accordance with provided evidence by the Company.

Because we engaged to form an independent conclusion on the Subject matter information prepared by the Company, our involvement may compromise our independence and is therefore not permitted.

This report, including the conclusion, has been prepared for the Company’s management as a body, to assist the management in reporting on the Company’s sustainability performance and activities. We do not accept or assume responsibility to anyone other than the Company’s management as a body and the Company for our work or this report save where terms are expressly agreed and with our prior consent in writing.

Our independence and quality control

We have complied with the independence and other ethical requirements of the code of ethics issued by the Ethics Standards Board of the Korean Institute of Certified Public Accountant. We apply International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards, and applicable legal and regulatory requirements.

The standard of assurance engagement

We performed a limited assurance engagement in accordance with Assurance Engagement other than Audits and Reviews of Historical Financial Information issued by the Korean Institute of Certified Public Accountants (International Standard on Assurance Engagement 3000 (Revised) as adopted by the Republic of Korea).

Summary of the assurance work we performed.

Our work includes the following activities:

- 1.Interviews with the Company’s personnel responsible for internal reporting and data collection.
- 2.Review on the samples of the Company’s internal documents related to output from the risk assessment process, sustainability-related policies and standards, the sustainability materiality assessment matrix, and other documents from stakeholder-engaged activities.
- 3.Understanding the Company’s design and implementation of key processes and controls for managing and reporting the Subject matter information.
- 4.Limited testing, through inquiry and analytical review procedures, of the preparation and collation of the Company’s Subject matter information.

A limited assurance engagement is less in scope than a reasonable assurance engagement. Consequently, the nature, timing, and extent of procedures for gathering sufficient, appropriate evidence are deliberately limited relative to a reasonable assurance engagement.

Conclusion

Based on the procedures we performed as described under the “Summary of the assurance work we performed” and the evidence we have been provided by the Company, nothing has come to our attention that causes us to believe that the Company’s Subject matter information in the Report for the year ended December 31, 2022, is not prepared, in all material respects, in accordance with the Company’s reporting Criteria.

June 29, 2023

Shinhan Accounting Corporation

Seoul, Korea



Jong-Man Choi

Chairman, Board of directors

Dongwon Systems
Sustainability Report 2022
GLOBAL PACKAGING CREATORS

