

About This Report

Reporting Overview

GS E&C is committed to creating stable financial values through its business activities while pursuing environmental and social values, as a global E&C company. We are accelerating ESG (environmental, social, and governance) management by carrying out our environmental and social responsibilities to the fullest, guided by the vision of becoming a "Sustainable Global Company." Our 12th Integrated Report transparently discloses information on our financial and non-financial performance achieved through ESG management to our stakeholders.

Reporting Principles

This report was prepared in compliance with the core Global Reporting Initiative (GRI) Standards of 2021.

Reporting Period

January 1, 2022 to December 31, 2022
(including some additional key performance data from the first half of 2023)

Reporting Scope

The headquarters, 200 business sites and major supply networks of GS E&C in the Republic of Korea and abroad
Economy (Korean International Financial Reporting Standards, K-IFRS), society, and environment

Reporting Assurance

This report has been verified by an independent assurance provider to ensure the credibility and integrity of its preparation process and contents. The result of this third-party assurance can be found in the Independent Assurance Statement.

Contact Information

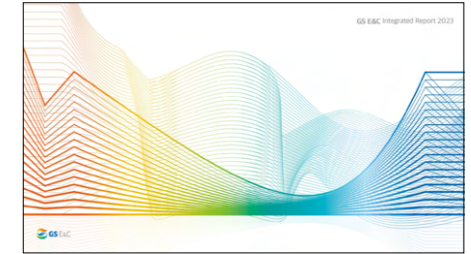
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Cover Story



GS E&C strives to fulfill its social responsibility in accordance with its statement of management philosophy: "We create the value of new life and fulfill the dream of a better tomorrow with customers." The cover of this report expresses GS E&C's convictions regarding what sustainable construction companies should aspire to be for a better tomorrow. The cover features the unique identity color of GS E&C, a company that pursues coexistence and is oriented toward the future.



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Interactive PDF

This report is published as an interactive PDF, offering features such as shortcuts to relevant pages within the report, shortcuts to relevant websites, and videos.



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Message from the CEO



Dear esteemed stakeholders,

I would like to extend my sincerest gratitude for the unwavering support and encouragement you have given GS E&C.

In the past year, we achieved successful results in construction, including housing and overseas infrastructure projects and large SOC projects in South Korea and abroad, utilizing our best technology, brand value, and accumulated capabilities even in the midst of growing anxiety over supply chain instability, high interest rates and high prices. And also we have evolved into a total solution company that can create synergies while maintaining a stable balance between the construction sector and new businesses in line with our two pillars of “Digitalization and Decarbonization.”

GS E&C is constantly striving to understand future industry trends and secure core capabilities. We have promoted new projects such as modular business, secondary battery recycling, water treatment, waste resource conversion, and renewable energy. In addition, we are actively seeking eco-friendly future business opportunities using technologies such as CCUS, hydrogen/ammonia, UAM (Urban Aviation Mobility), and SMR (Small Modular Reactor). This shows our willingness to achieve the goal of creating eco-friendly values and establishing a sustainable business model in line with global trend to reduce GHG emissions such as the Paris Agreement.

GS E&C is constantly striving to meet the heightened expectations regarding corporate social responsibility by pursuing sustainable prosperity. The ESG Committee, the highest decision-making body, examines the management system across the company and we strengthen our power to execute sustainable management through the ESG Council and the Subsidiary Council. We are dedicated to ESG management, which includes responses to the climate change crisis, human rights issues and supply chain risks under the governance system.

We are committed to following global guidelines for sustainable management such as the Ten Principles of the UN Global Compact and will continue to use our influence to improve the sustainability of our entire value chain. Furthermore, we will strive to communicate our achievements in this direction with our stakeholders to continue growing as a representative sustainable company. Your continuous support and interest will be highly appreciated.

Thank you.

June 2023

GS E&C CEO **Byeong-Yong Lim**

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General Information

As of December 2022

Company name	GS E&C
Date of establishment	December 19, 1969
Total assets	KRW 16,946.6 billion
Credit rating	A+(Corporate Bonds)
No. of business sites	200
No. of employees	5,422

2022 Financial Performance

Sales

KRW 12,299.2 billion

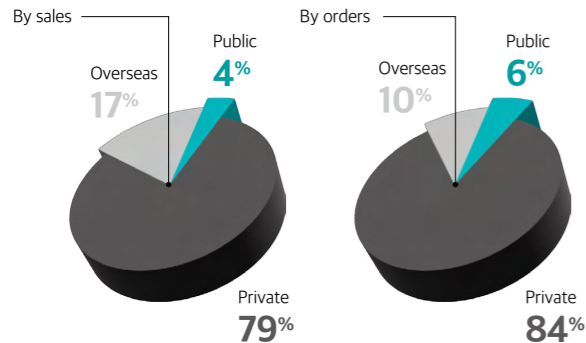
Orders received

KRW 16,074.3 billion

Operating profits

KRW 554.8 billion

2022 Performance by Customer



GS E&C was founded on December 19, 1969 as Lackhee Development Co. (LDC). The corporation's name was changed in March 2005 to our current name, GS E&C. We consider customer values as our top priority in all business areas, including architecture/housing, plants, infrastructure, and new eco-businesses. As a leading ESG company, GS E&C will pursue growth as a global top tier E&C company that promotes sustainable values all over the world.

Global Network

As of December 2022

Overseas subsidiaries and branches

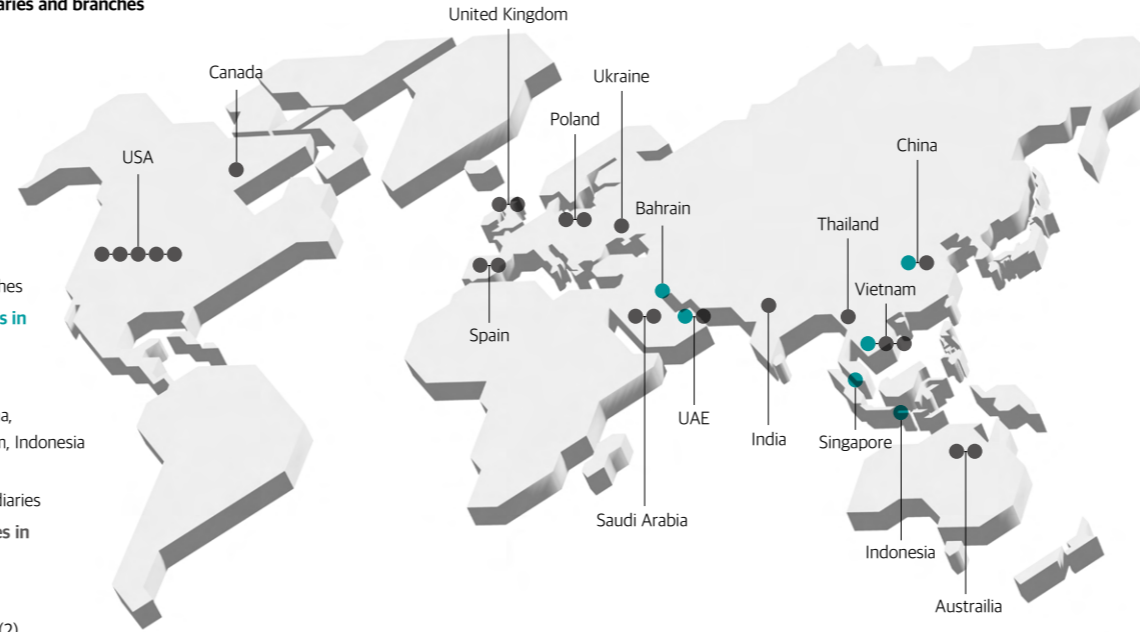
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● Overseas branches
6 branch offices in
6 countries

UAE, Bahrain, China, Singapore, Vietnam, Indonesia

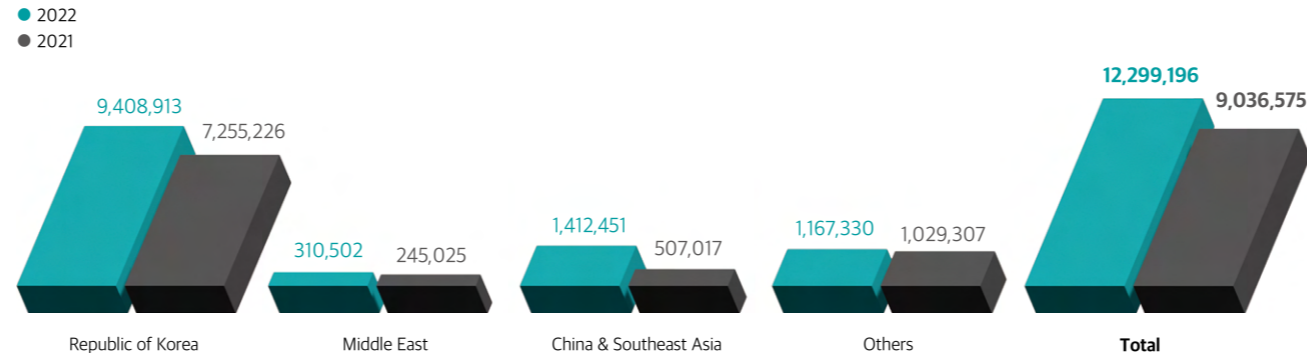
● Overseas subsidiaries
23 subsidiaries in
13 countries

India, Saudi Arabia(2), China, Vietnam(2), Spain(2), Canada, USA(5), Australia(2), UK(2), Poland(2), UAE, Ukraine, Thailand



Sales by Market

Unit: KRW million



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1 Gaepo Residence Xi

Construction period: November 2019 to February 2023

Construction scale: 3,375 units

2 Songdo Xi Crystal Ocean

Construction period: January 2021 to June 2024

Construction scale: 1,503 units

3 Brighten Yeuido

Construction period: July 2019 to April 2023

Construction scale: 1,303 units

Architecture and Housing

GS E&C's construction business projects include all types of structures including houses, office facilities and manufacturing facilities. We have expertise in construction management as well as differentiated technologies applicable to state-of-the-art office buildings, factory facilities, Internet data centers, etc. In the housing business, we plan and supply premium residential products based on brand awareness of Xi and our technology, in line with changes in consumer perception and demand. Furthermore, we suggest lifestyle enhancements for our customers by establishing a two-way communication platform as well as providing residential spaces.

Looking Ahead

As the architecture business expands and becomes more advanced, there has been a steady growth in demand for state-of-the-art office buildings and hi-tech equipment production facilities, such as semiconductor and LCD factories. Through our accumulated know-how arising from experience working on large-scale projects and our differentiated technology, GS E&C is expected to grow continuously by actively participating in the architecture business. The demand for reconstruction projects is expected to increase continuously owing to the deterioration of metropolitan areas and old downtown areas as well as the housing supply policy of the South Korean government including the Third New Town, and accordingly we will take an active part in various projects to maintain our market dominance and ensure business stability.

Business Areas Residential facilities, office facilities, commercial facilities, hotels, cultural, leisure and sports facilities, data centers, clean rooms, production and logistics facilities, remodeling, and domestic development projects

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New Business

GS E&C has expanded its business to various fields including modular (prefab) housing, recycling of secondary batteries, smart fish farming and other related businesses. The modular (prefab) method, unlike conventional construction methods, is a construction method in which structures and building materials are produced to a certain extent in a factory before being transported and completed on-site. GS E&C has developed the capabilities to respond to the market demand for modular constructions in diverse shapes and for various purposes by taking over Europe's leading modular construction companies, establishing subsidiaries in South Korea, etc. Since there has been a rapid increase in the volume of waste batteries in accordance with the expansion of the EV and electric mobile market, we established Energy Materials Co., Ltd.* in 2020 to advance into the Lithium-ion battery recycling industry. Moreover, in order to overcome the issues caused by global warming and environmental contamination, we have been participating in the Busan Smart Fish Farming Cluster Project using our water treatment technology and prepared the basis for advancement into the smart farming of the future. We plan to produce 500 tons of Atlantic salmon per year from 2025, thereby contributing to the sustainable growth of the domestic fishery industry.

* (Former) ENERMA Co., Ltd.



Looking Ahead

Modular (prefab) construction has a variety of advantages such as reduced waste, shorter construction periods, and fewer safety issues, and its demand for the market is growing further as an alternative to existing construction methods. GS E&C has established a research department within the organization and is conducting R&D to strengthen our implementation of the modular (prefab) method. Danwood, which supplies wooden detached houses, is reinforcing the advantages of the modular (prefab) construction method by developing passive products to reduce external energy use, developing 3D volume types to increase efficiency, and applying eco-friendly materials. GPC, a domestic manufacturer of precast concrete products, introduces carbon capture technology into Precast Concrete (PC) products to obtain carbon credits and reduce the amount of cement usage, thereby making the PC production process more eco-friendly. GS E&C will become a new global leader in modular (prefab) construction by utilizing various strengths and advanced technologies with the goal of generating KRW 531.2 billion and KRW 144 billion in Danwood and GPC businesses respectively, in 2025.

Business Areas Modular houses, recycling of waste batteries, smart farming, etc.



1 Precast Concrete (PC) plant in Eumseong-gun, Chungcheongbuk-do

Production scale: 170,000m³/year

2 Modular houses supplied by Danwood S.A

Operating period: December 2023 to December 2043

3 Smart Fish Farming Cluster in Busan

Construction scale: 500 TPA(ton per annual) of salmon production

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Plant

Plant construction involves complex projects that require the basic and detailed design of facilities related to oil, gas, petrochemicals, etc., the procurement of materials, the final completion of construction, and various other services encompassing feasibility studies, maintenance, and operation. GS E&C is one of globally leading EPC players in oil refinery plants, commencing with the CDU Expansion Project conducted in 1979 and the successful completion of an advancement facility for RFCC (Residual Fluid Catalytic Cracker) in 1992. We have successfully completed various projects in many countries based on our experience and superior technology. In a field of gas plants, starting with Incheon LPG/LNG Terminal and Shantou LPG Terminal in China in 1997, we have successfully carried out various projects in the Middle East and Asia with our strengths in gas processing facilities and LNG terminals.



❶ Y2C(Yeosu No.2 Complex)

Construction period: August 2018 to June 2021

Construction scale: NCC 800,000 tons/year, BRU 400,000 tons/year, HDPE 200,000 tons/year production facility construction

❷ MFC Project(Jeonnam)

Construction period: August 2018 to March 2021

Construction scale: Ethylene 700,000tons/year, Propylene 350,000tons/year, Polyethylene 500,000tons/year

❸ Pohang LRP Project (new construction of a lithium-ion battery recycling plant)

Construction period: October 2022 to November 2023

Construction scale: Total floor area of approximately 50,000m³(10 buildings including factory and office buildings) (BP 10,000 tons/year processing facility)

Looking Ahead

Countries such as the UAE and Saudi Arabia are pursuing large-scale projects to expand gas production in preparation for a decline in gas supply from Russia. Oil producing Arab countries such as Qatar and Asian countries such as Indonesia are resuming petrochemical investment projects. GS E&C intends to discover commercialization opportunities for profitable projects based on its experience conducting many projects in the UAE, Saudi Arabia, and Oman and its relationship with clients. Eco-friendly businesses aiming to achieve carbon neutrality are expanding worldwide. Accordingly, we are pursuing ammonia, CCUS (Carbon Capture, Utilization & Storage), and White bio businesses in the Middle East and Southeast Asia. Furthermore, we aim to diversify our business by establishing partnerships with leading companies in eco-friendly industries based on our module design technology accumulated through numerous oil, petrochemical and gas plant business projects.

Business Areas Oil, gas, petrochemical plants, etc.

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Infrastructure

In the infrastructure business division, GS E&C constructs basic facilities for other industries by creating new spaces of public interest in the natural environment. In the domestic market, we have participated in numerous public and private civil engineering and SOC projects based on our accumulated construction know-how and our developed technologies and have contributed to the national economy and balanced land development. In the case of overseas markets, we have advanced into the Vietnamese market and are in the early stages of a new city development project. Furthermore, we are carrying out several subway construction projects in Singapore based on our outstanding technology and experience. Lastly, we are contributing to making construction sites safer and more advanced by applying smart construction technology and automated construction equipment.



❶ Saemangeum New Port Access Road

Construction period: December 2017 to April 2023(64 months)

Construction scale: L=3,082m(702m on the access road, 1,515m on the north water breaker bund wall, 865m on the bund wall)

❷ Icheon-Osan Expressway

Construction period: March 2017 to May 2022(63 months)

Construction scale: L=8.79km(4 lanes, new), 5 bridges 493m, 4 tunnels, etc.

❸ Friendship Bridge(Myanmar) Construction

Construction period: May 2019 to January 2024(56 months)

Construction scale: 690m cable-stayed bridge, 1,178m access bridge

Looking Ahead

Following the amendment of laws in the Republic of Korea to allow private investments in public facilities, the infrastructure business is expected to expand in the country. GS E&C has already gained notable accomplishments, including being designated as a private preferred bidder for the Sasang-Haeundae Expressway in Busan. We are planning to focus on winning infrastructure projects in the private sector to promote private investment projects. In our overseas business, we are continuing our winning streak by participating in more sustainable private projects and conducting development proposal projects. Moving forward, we plan to take part in bidding in cooperation with leading foreign companies and generate profits by gaining entry into new markets in advanced countries such as Australia's PPP projects, etc. We also plan to create profit for new businesses by reviewing our entry into eco-friendly sectors such as hydropower IPP in Indonesia.

Business Areas Roads, bridges, railways, ports, dams, subways, etc.

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ECO Business

In the energy business, we pursue the development and operation of renewable energy and electric power production facilities as well as the transmission and distribution of produced electric power. GS E&C has been responding preemptively to the change in the energy paradigm based on our power plant construction know-how and various technologies and successfully completed conversion of the business portfolio into the renewable energy development business. We have differentiated competitiveness in water and waste treatment and lead the advanced sewer and waste treatment market based on our top-notch technology and construction capabilities. We have the best domestic performance records in waste treatment as demonstrated by projects such as the Hanam City Environmental Infrastructure Modernization Project, etc., and outstanding achievements in the construction and operation of facilities for advanced processing and disposal of wastewater, as seen in the Jeju Environmental Resource Circulation Center. GS E&C carried out advanced projects such as the Jungnang Sewage Treatment Center (880,000 tons/day), the reuse of sewage treatment water in Gumi City (90,000 tons/day_RO method) as well as the Imhae industrial area water supply (SWRO), which is the first seawater desalination project in the Republic of Korea. We are expanding the scope of our business from the treatment and reuse business to the seawater desalination business.



1 Construction of the Jeju Environment Resource Circulation Center(Jeju)

Construction period: July 2016 - November 2019

Construction scale: Incineration facility 250 tons/day x 2 units, steam turbine power generator 19.2 MW

2 Construction of the industrial water supply(SWRO) in the Daesan Coastal Industrial Zone

Construction period: November 2021 - August 2024

Construction scale: Seawater desalination facility 100,000 m/day, intake pumping station 210,000 m/day, ocean pipeline 1.10 km, land pipeline 23.43 km

3 Ukraine Zakarpattia Solar Power Generation Project

Operating period: March 2020 - February 2040

Facility scale: 24 MW solar power generation facility

4 GPC roof solar power plant in Eumseong-gun

Construction period: January 2022 - April 2022

Generation capacity: 2537.4 KW

Location: 653-32 Daegu-m-ri, Daeso-myeon, Eumseong-gun, Chungcheongbuk-do



Looking Ahead

The global energy market has shown a trend of increasing business scale based on the expansion of renewable energy technologies and the rising interest of governments and markets in ESG. These trends are expected to accelerate the changes in the energy paradigm. GS E&C plans to actively promote the renewable energy business with related development and investments. The demand for environment business projects is also expected to increase, leading to more investments in domestic and international environmental facilities, and accordingly, we plan to secure opportunities to receive new orders. GS E&C plans to increase the reception of orders with high profits through continuous cost improvement activities and risk management, and to expand the environment business sector based on outstanding business performance.

Business Areas Renewable energy, nuclear power, power transmission and distribution, waste treatment, water treatment, etc.

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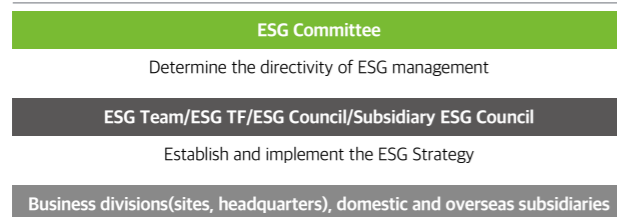
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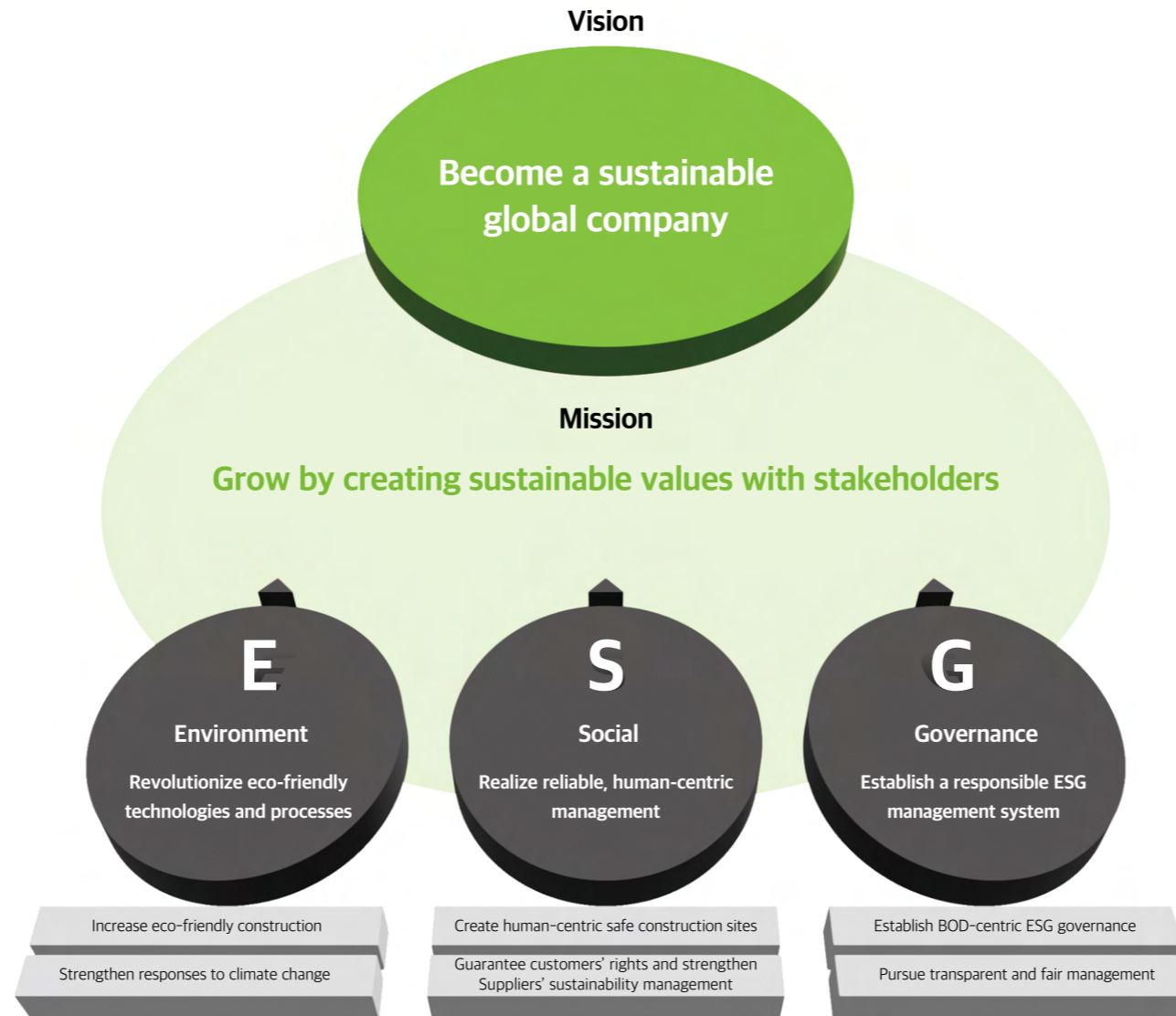
ESG Strategy

GS E&C has established a company-wide ESG management strategy embracing the interests of various stakeholders in order to build a satisfying world for everyone. As the importance of ESG management grows across society, GS E&C aims to become South Korea's representative ESG company by fulfilling its corporate social responsibility to the fullest. With the establishment of objectives in accordance with the company's vision of becoming a sustainable global company, we will pursue the sustainable development of our company and society by setting the strategic directions and objectives for each area of environment, society, and governance. Furthermore, the efforts of GS E&C will contribute to the sustainable development of the world as well as the sustainability of the company in connection with the UN Sustainable Development Goals (SDGs).

Enterprise-wide ESG network



Stakeholders



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Stakeholder Engagement

GS E&C identifies material issues that may affect customers, shareholders, employees, governments, and local communities, and actively communicates with major stakeholders through extensive communication channels. We carry out various activities such as stakeholders' forum, questionnaires, and on-site visits to communicate with stakeholders and develop mutual understanding and strive to establish cooperative relationships based on active responsiveness.

Groups of Stakeholders and Communication Channels

Classification	Issues of interest	Communication channels	Efforts of GS E&C	
Stakeholders	Customers	<ul style="list-style-type: none"> Products and Services Customer-oriented management Material issue Communication 	<ul style="list-style-type: none"> Efficient system for handling civil complaints Customer satisfaction survey SNS/Xi TV Youtube, Instagram and Facebook 	<ul style="list-style-type: none"> Improvement of customer satisfaction Quality management and quality control system Creative customer communication using social media
	Shareholders	<ul style="list-style-type: none"> Creation of economic value Material issue Risk management Ethics and anti-corruption management Material issue 	<ul style="list-style-type: none"> General meeting of shareholders Institutional investors' meeting Public announcement materials 	<ul style="list-style-type: none"> Creation of stable profits Strengthening company-wide risk management Establishment of transparent governance
	Employees	<ul style="list-style-type: none"> Employment and welfare Occupational safety and health management Material issue Human rights management 	<ul style="list-style-type: none"> VOE(Voice of Employees) Joint labor-management conference and complaint processing registry Stress Zero Program(individual counseling, on-line psychological health examination) 	<ul style="list-style-type: none"> Happy corporate culture Employee rights protection activity Human rights management system
	Suppliers	<ul style="list-style-type: none"> Supply chain management and shared growth Material issue Fair trade 	<ul style="list-style-type: none"> Human rights assessment and physical inspection of human rights management Xi CEO Forum/Subcontractor Board, Discussion meetings GS Partner/Cyber Whistleblowing system 	<ul style="list-style-type: none"> Great Partnership Package Sustainable business management system Fair trade compliance program
	Government	<ul style="list-style-type: none"> Compliance with the law Faithful payment of taxes 	<ul style="list-style-type: none"> Homepage Press releases 	<ul style="list-style-type: none"> Compliance with related legislations Performance of government policies
	Local Communities	<ul style="list-style-type: none"> Development of local communities Information disclosure and communication 	<ul style="list-style-type: none"> Social contribution activities Resident presentation meetings 	<ul style="list-style-type: none"> Social contributions based on the characteristics of the construction industry Coexistence with local communities

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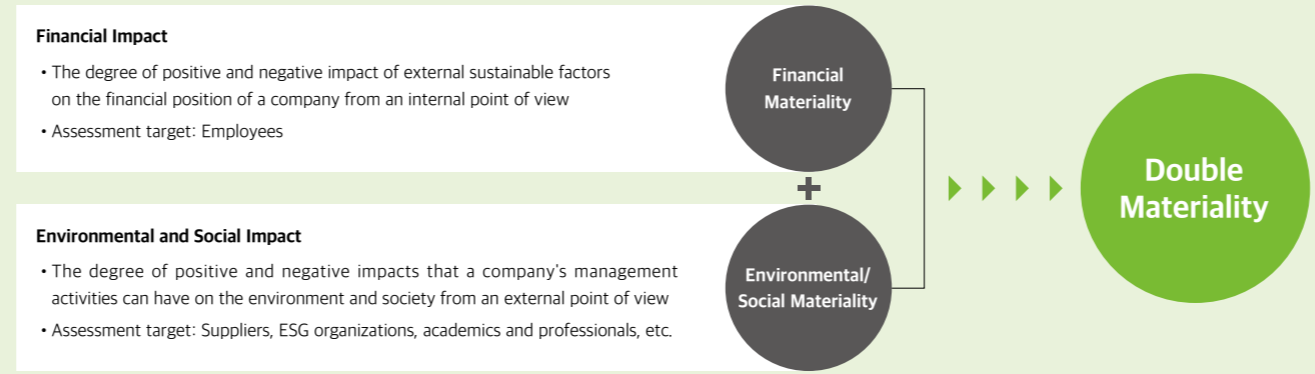
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Double Materiality Test

The Concept of Double Materiality Assessment

Materiality assessment is the process of identifying material factors that can affect the sustainability of a company. GRI Standards 2021 recommends selecting material issues that simultaneously meet the viewpoints of financial importance and importance in terms of environmental, social, and human impact through “double materiality.” GS E&C introduced and analyzed double materiality assessment in this year’s Sustainability Report to identify material issues by collecting opinions from various external stakeholders, including customers, suppliers, communities, and investment institutions, as well as internal executives and employees. The activities, achievements and objectives associated with the double materiality assessment are presented in the Sustainability Report.



Double Materiality Assessment Process

Step 1

Composition of the Issue Pool

- Collected issues from six companies in the industry, including industry movers and Sustainability Yearbook members and companies within the top 10% of S&P Global
- Created a draft issue pool by categorizing all issues based on GRI and integrating similar issues
- Established the final issue pool after reflecting GS E&C’s material issues in the previous year

Step 2

Implementation of Dual Materiality Assessment

Environmental and Social Impact Analysis

- 615 Internet articles(search period: January 1, 2022 - February 22, 2023)
- Benchmarking of three domestic companies and four global companies in the same industry
- Global guidelines including GRI, UN SDGs, ISO26000, UNGC Advanced, etc
- Opinions from external stakeholders such as suppliers, ESG organizations, academics and experts(Survey period: February 28, 2023 - March 8, 2023)

Financial Impact Analysis

- Internal strategies such as GS E&C business strategies mid- to long-term ESG roadmaps, and the New Year’s address
- Assessment indicators such as S&P Global, MSCI, and KCGS and the recommendations of SASB and TCFD
- ESG legislation by issue
- Survey of executives and employees (Survey period: February 28, 2023 - March 8, 2023)

Step 3

Selection of Material Issues

- The top ten issues based on the environmental and social impact and financial impact analysis results are selected as material issues.

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Double Materiality Assessment Results

GS E&C selected ten material issues that were considered to have a high impact from the business perspective based on environmental, social and financial impacts analyzed through double materiality assessment.

● Low Impact ●● Middle Impact ●●● High Impact

Classification	Issue	Impact		Report pages	GRI Index
		Environmental and social	Financial		
Environment	Activities to respond to climate change(GHG management and energy saving) Material issue	●●	●●●	26~31	302 Energy 305 Emissions
	Pollutant management	●	●●	37, 39~40	305 Emissions
	Construction waste management Material issue	●●●	●●●	38~40	306 Waste
	Sustainable product and technology development Material issue	●●●	●●	41	301 Materials
	Biodiversity protection	●	●	38	304 Biodiversity
	Water resources management Material issue	●	●●●	39,41	303 Water and Effluents
	Environmental management	●	●	34~35	-
	Social	Respect for human rights	●●	●●	45~46
Respect for employee diversity		●●	●	44	405 Diversity and Equal Opportunity
Occupational safety and health management Material issue		●●●	●●●	17~21	403 Occupational Health and Safety
Employment and human resource development		●●	●●	43~44	401 Employment 404 Training and Education
Fair performance compensation and welfare Material issue		●	●●●	45, 48	401 Employment
Supply chain management and shared growth Material issue		●●●	●●	22~25	308 Supplier Environmental Assessment 414 Supplier Social Assessment
Customer-oriented management Material issue		●●●	●●	49~51	416 Customer Health and Safety
Community involvement		●●	●	54~57	413 Local Communities
Strengthening information security		●	●	52~53	418 Customer Privacy
Governance	Transparency of governance	●	●	59~62	2 General Disclosures
	Strengthening risk management	●●	●●	65~67	207 Tax
	Ethics and anti-corruption management Material issue	●●●	●●●	63~64	205 Anti-corruption 206 Anti-competitive Behavior
	Development of new businesses	●	●	7~11, 41	201 Economic Performance
	Globally leading technology	●●	●	8~11	201 Economic Performance
	Creation of economic value Material issue	●●●	●●●	6, 41	201 Economic Performance

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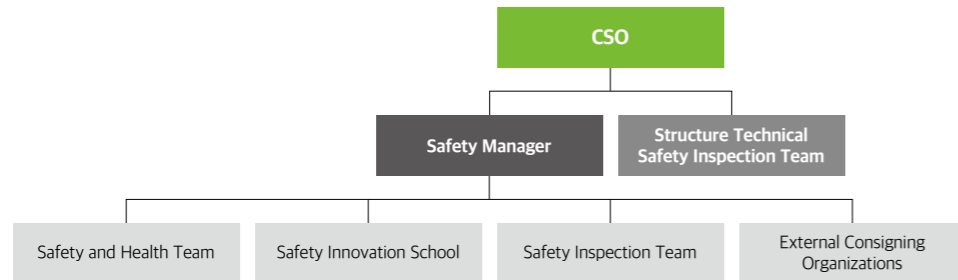
Materiality Issue 1.

Occupational Safety and Health Management

Governance

GS E&C assigned a Chief Safety Officer (CSO) to lead the safety department and oversee safety management and strengthened support for each sector, including equipment, technical safety, and training. Occupational safety and health risks and opportunities are handled at weekly video conferences of the safety-related departments and monthly QHSE Committee meetings and the findings are notified in the form of e-mails and the EP planner. The monthly QHSE Committee meetings are attended by the Safety Manager and department heads of major safety and health organizations to review occupational safety and health issues and suggest solutions. We conduct performance measurements for the goals and key tasks of 2022, reflect government policy trends and safety and health management status of companies in the same industry, select goals and key tasks for 2023, and reflect these in the individual MBO of our employees. We identify expected risks and establish countermeasures against potential occupational safety and health risks for stakeholders, such as workers, suppliers, clients, governments, local communities, and the media.

Safety and Health Management Organization



Occupational Safety and Health Management Risk and Opportunities for Stakeholders

Classification	Risks	Measures
Workers	<ul style="list-style-type: none"> Increased risk of cerebrovascular disease due to an increase in elderly workers and workers with hypertension 	<ul style="list-style-type: none"> Implementing measures for a safe and healthy environment through the Occupational Safety and Health Commission, risk assessments, safety and health goals and the voluntary participation of workers in reporting risk situations
Suppliers	<ul style="list-style-type: none"> Increased risk due to the duplication of workflow in narrow sites Increased risk due to the use of temporary structures and field fabrication tools 	<ul style="list-style-type: none"> Increase in safety investment due to increased industrial safety and health management expenses for suppliers Reduction of risk and construction costs due to changes in construction methods
Owners	<ul style="list-style-type: none"> Requirements for thorough compliance with safety and health guidelines/penalties and fines 	<ul style="list-style-type: none"> Promotion of safety and health and sharing of information through risk assessment meetings organized by clients Recommendations for introduction of smart safety management(CMS rooms, drones, etc.)
Governments	<ul style="list-style-type: none"> Requirements for thorough compliance with safety and health laws/penalties and fines 	<ul style="list-style-type: none"> Increased interest and participation in the safety and health among all employees through regular performance measurements to comply with legal standards
Local Communities	<ul style="list-style-type: none"> Community health problems due to civil complaints(noise, dust, vibration, etc.) 	<ul style="list-style-type: none"> Improving the corporate image within local communities through regular resident briefing sessions
Press	<ul style="list-style-type: none"> Damage to the corporate external image due to suspicion of the concealment of accidents and occurrence of serious accidents Media reports on scattering dust and noise at the site 	<ul style="list-style-type: none"> Improving the corporate image through media coverage on improved working environment for workers

The Safety and Health Management Activities of the BOD and Executives

The CEO and CSO of GS E&C visit sites and check on safety on a regular basis to enhance employees' awareness of safety and to encourage their work on strengthening safety. In 2022, there were 12 on-site safety management activities completed by the CEO and 96 on-site safety management activities by the CSO. To reinforce the level of executives' responsibility for safety, we added the number of safety inspections conducted and the number of critical injuries to the executive KPIs. The CEO and CSO participated in the safety health meetings held each quarter to listen to the voices of on-site employees and create a safer workplace and took part in the Q-HSE Operation Committee and Technical Safety Committee to reinforce workplace safety. The Safety Health Committee and safety health manager video conference supervised by the head of the business headquarters were held to strengthen the operation of the safety and health meeting system, and the matters that were discussed at the meeting were delivered to the sites to increase the safety level at the sites. In addition, the BOD reviewed and approved the safety health plan in accordance with the Occupational Safety and Health Act for the prevention of safety accidents, and we plan to focus continuously on preventing safety accidents and enhancing workplace safety.



CEO's site visit(Gaepo Residence Xi)

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Risk Management

Smart Safety Management System

GS E&C prevents accidents to safeguard workers' safety at dangerous sites and implement high-risk work using equipment based on the IT technology of the Fourth Industrial Revolution. We introduced a CCTV Monitoring System (CMS) for all sites and established smart safety management system such as intelligent CCTVs, Real-Time Location System (RTLS), and Internet Bluetooth of Things (IBOT) to check safety in real time even in environments with poor communications and to help workers evacuate swiftly in cases of emergency. The Construction Equipment Collision Prevention System (Around View) was introduced into all sites to prevent accidents caused by construction equipment. We create safe sites by applying a total of 12 smart safety management systems, including mandatory forklift safety devices (driving interlocking safety belts, laser safety guards, and wireless call bells).

■ Examples of Smart Safety Management Activities

Classification	Description
CMS	Remote site monitoring by safety situation room personnel
Collision prevention system for construction equipment	Detecting people around equipment and preventing accidents through a hazard warning system
Automatic rebound meter	Minimizing the risk zone by measuring any penetration of pile driver piles, etc. with a long-distance automatic meter
Intelligent CCTVs	Detecting fire, smoke, and other abnormal situations and broadcasting warning messages
DUROBOT	Device to prevent collisions between workers and construction equipment
RTLS	Checking the location of workers in indoor sites, such as tunnels and underground areas, in real time
Smart airbags	Air released using a fall accident sensor in cases of emergency, to minimize injuries to workers

Happy-Call System

GS E&C implemented the Happy Call system to listen to the safety and health opinions of suppliers' employees. This system was established the Occupational Safety and Health Committee and the Safety and Health Council to regularly collect opinions and take responsive action for improvement under the Occupational Safety and Health Act. In 2022, a total of 2,297 opinions were collected, and 100% of the opinions for improvements were adopted.

Safety Management Activities for High-risk Suppliers

GS E&C conducts safety evaluations twice a year, imposes penalties on high-risk suppliers and conducts interviews with those suppliers to provide consulting support with measures such as checking reasons for insufficiency, contracting for safety management costs, and collection of suggestions. In addition, safety managers are assigned to carry out practical safety management activities. GS E&C makes an advance payment of 100% of occupational safety and health administration costs and thereby establishes an environment promoting voluntary safety management investment for suppliers. Excellent suppliers are rewarded and poorly performing suppliers are penalized through the partner safety evaluation system. We strive to establish an objective and effective partner safety evaluation system through continuous review.

Response to Safety Accidents

GS E&C has a systematic accident reporting and response process to ensure swift and appropriate responses upon the occurrence of a safety accident. General accidents must be reported within 30 minutes after they are detected, and emergency cases including severe accidents are required to be reported as soon as they are detected. Upon the occurrence of an accident, each related department with priority given to the safety health team is dispatched to the site to investigate the accident in accordance with the safety accident response process and examine the causes of the accident. When the causes of the safety accident are identified, preventive measures are established to prevent the re-occurrence of the same type of accident. In addition, we implement continuous inspections to ensure preventive measures are actually applied at the site.

Safety Accident Assessment and Improvement

GS E&C shares safety and health issues based on monthly/quarterly safety indicators and inspection results, presents directions for safety and health activities, and establishes safety and health plans in accordance with the requirements of the Occupational Safety and Health Act and the Serious Accident Punishment Act. The plans are reported to the BOD for approval and continuously checked for implementation. We have designated external specialized institutions for business divisions and headquarters to conduct semi-annual diagnoses since the first half of 2022. In addition, we use the HR System to conduct employee evaluations regarding individual safety and health work.

Safety and Health System Certification

GS E&C obtained the ISO45001 certification, an international standard, by meeting the requirements for predicting and preventing various risks that may occur in the workplace and systematically managing the safety and health of the organization. We also obtained the KOSHAMS certification, as an outcome of the CEO establishing a safety and health management system and conducting systematic safety and health activities under the P-D-C-A system.



ISO45001 certification

KOSHAMS certification

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Goals and Indicators

GS E&C strives to continuously reduce the number of general accidents in order to achieve a record of zero serious accidents. In 2022, the number of general accidents decreased by 22% compared to 2021. Our goal is to achieve the highest reduction level in the industry. We implement various health and safety activities and measure and manage our quantitative performance.

Occupational Health and Safety Management Goals

Unit: cases, decreasing rate

Goals	2022(Actual)	2023	2024	2025
Zero serious accidents	0.51	0	0	0
Reduction of general accidents cases	Reduced by 22%	Reduced by 10%	Continuous reduction	Continuous reduction
Rate of deaths from accidents per 10,000 people	0.17	0	0	0

On-site Signal Light and Equipment Safety Inspection

GS E&C operates a Safety Traffic Signal System that automatically manages the differentiated safety level based on a code system of green, yellow, and red colors. We hold workshops and on-site inspections every month for sites that receive a lower grade, to check compliance at the work site. We inspect the danger elements at the work sites without any omission based on a checklist and strengthen the review of legal documents related to safety and health in compliance with the Serious Accidents Punishment Act. We support the preliminary inspection of high-risk construction machinery (tower crane, construction lift, large mobile crane, and pile driver) for 100% coverage, and we conduct theme-based inspections of construction machinery twice every month to prevent accidents involving construction machinery and equipment, which may result in severe injuries. It has become increasingly important to secure the competency of staff responsible for equipment management along with advanced know-how and expertise in the development of construction sites. As a part of efforts to secure and foster core talents, we recruited two additional staff members responsible for equipment management and fostered talent through various contents and systematic education. The "carrying-in and use criteria guidance" for equipment was enacted and amended to assist in the work of staff responsible for equipment management. GS E&C will secure and foster talents with various experiences and skill sets to strengthen on-site and equipment safety inspections and work actively to make workplaces safer.

Safety Traffic Signal System

Unit: No. of times completed

Safety signal evaluations

161

Early/interim inspections

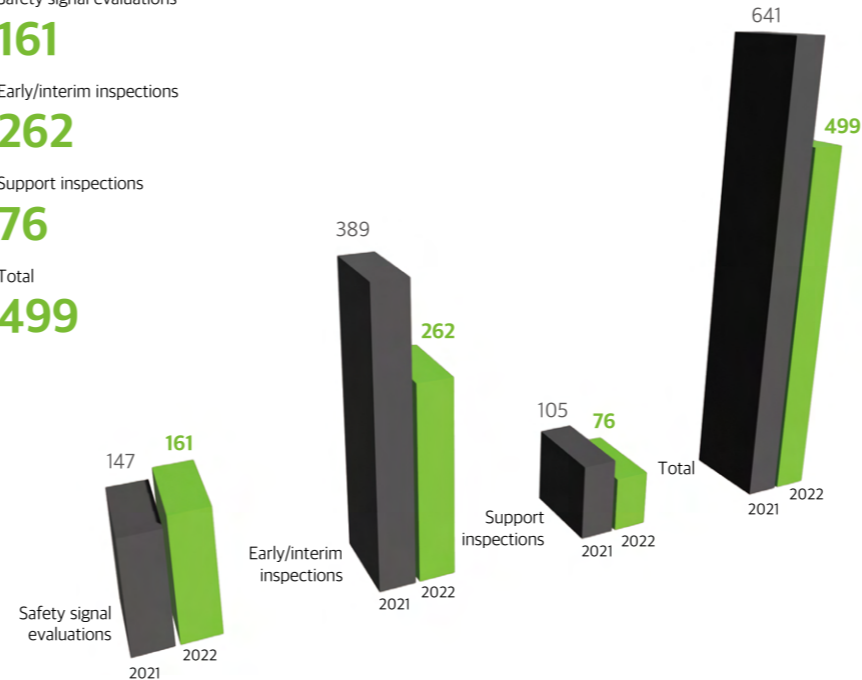
262

Support inspections

76

Total

499



Tower Crane Inspection

Unit: No. of times completed

Classification	2021	2022
Supervision of installation and dismantlement	247	641
Supervision of ascending and descending work	275	499



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Implementation of the Plan to Strengthen Safety Management for Suppliers

In April 2021, GS E&C established the Partner Safety Management Plan in accordance with the direction of its safety external policies and the legislation of the Serious Accident Punishment Act. We introduced a fair bidding system to restrict bidding at low prices and expanded safety items in partner evaluations to reorganize the partner management standards. 212 safety personnel were assigned to 7 high-risk areas * to strengthen safety management activities. GS E&C makes advance payments of occupational safety and health administration costs and thereby establishes an environment that enables voluntary safety management investment by suppliers. In addition, the Safety Champion Incentive system was implemented to encourage suppliers to engage in safety and health activities. The Safety Champion Incentive is a system that provides incentives such as the right to contract and the right to participate in bidding to 7 companies selected as suppliers with excellent capabilities. The right to participate in bidding is restricted in the case of companies with frequent industrial accidents.

3-year LTIFR** of Suppliers



* Earthworks and structures (general), building frames, pile construction, auxiliary civil works, system scaffolding, earthworks and structures (civil works), machine/piping installation

** Accidental industrial accident rate, number of accidental industrial accidents per million hours

Safety Innovation School

GS E&C has been operating the Safety Innovation School since 2006 and providing safety training for on-site workers at construction sites since 2015. The Safety Innovation School provides safety health education for each stage of the life cycle (beginner, competency enhancement, advanced, and professional) and each job group (construction group, management group) to create safer workplaces and to foster talent. In addition, we provide safety education on new business sectors and administer shared growth partnership training for our clients and contractors to improve the safety health level of suppliers.

Curriculum of the Safety Innovation School

Classification	Safety and health managers	Construction	BM	Shared growth partnership	
Lv.4 (15 years-)	Training on safety and health duties (maintenance)	Intensification of safety and health management (leadership)	Expertise in the construction job group(CM)	Intensification of BM (new course)	Suppliers' on-site managers (personnel in charge)
Lv.3 (9 -14 years)			Intensification of the construction job group		
Lv.2 (5 -8 years)		Safety and health competencies (lecturer course)	Competencies of the construction group	BM competencies	Suppliers' safety managers
Lv.1 (~4 years)	Training on safety and health duties (new/maintenance)	Introduction of safety and health for general positions (new/career)	Introduction of the construction job group (new/career)	BM introduction	

Performance Outcomes of the Safety Innovation School

Unit: Persons, times

Classification	2020	2021	2022
No. of employees who completed training(cumulative total)	17,698	19,039	20,657
Workplace training visits	61	48	89



VR(Virtual Reality)



Practical training for suspended scaffold rope

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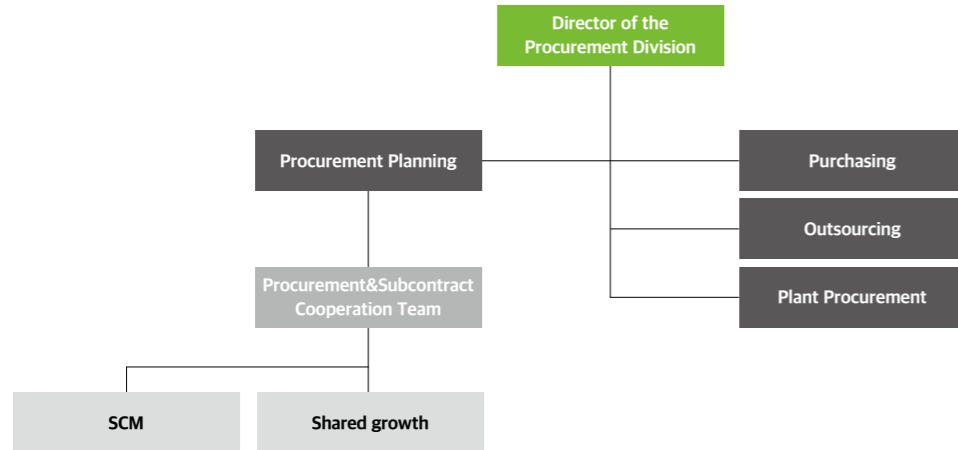
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Materiality Issue 2. Supply Chain Management and Shared Growth

Governance

GS E&C has appointed a Procurement Cooperation Team under the Procurement Division as an organization dedicated to supply chain management and related tasks. The Procurement & Subcontract Cooperation Team conducts general operations and shared growth activities for supply chain management such as registrations, selections, evaluations, rewards, and risk management of suppliers. GS E&C established a code of conduct that stipulates the obligation of suppliers to fulfill their social responsibilities, such as establishing and complying with safety and health management plans, appointing safety officials and ensuring workers' compliance in contracts with suppliers.

Supply Chain Management Organization and Activities



SCM	Shared growth
Supply Chain Management <ul style="list-style-type: none"> Improvement of the supply chain (subcontractor) management system 	Shared Growth Evaluation <ul style="list-style-type: none"> Fair Trade Commission's annual evaluation, shared growth index and mutual cooperation evaluations
Subcontractor Management Operation <ul style="list-style-type: none"> Registration/selection/evaluation/reward/restriction for Supply Chain General management through supply chain system improvements/operations 	Shared Growth Program for Suppliers <ul style="list-style-type: none"> Communication/Education: Xi CEO forum, Subcontractor Board, working-level staff education, Xi Partnership, etc. Support Program: Finance, technology, and benefit sharing program
	Preventing the Violation of Laws/Regulations <ul style="list-style-type: none"> Training and support for employees and suppliers for supply chain compliance management

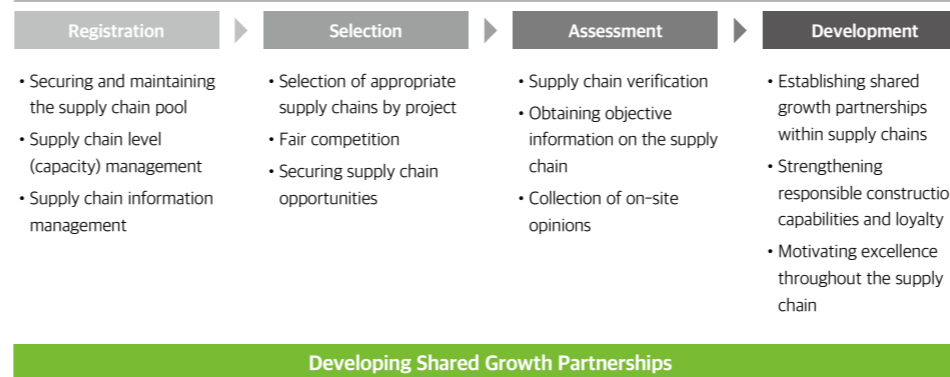
Strategy

GS E&C operates a sustainability management system for its suppliers to realize economic, environmental, and social values together. We established a sustainable management system for suppliers with the aim of securing and fostering the highest level of safety and quality competitiveness throughout the supply chain. We evaluate our suppliers systematically and fairly on an annual and quarterly basis. GS E&C developed the Great Partnership Package to ensure the adoption of fair subcontracting transaction practices between conglomerates and small and medium-sized enterprises (SMEs) and lay the foundation for shared growth. The Great Partnership Package is a comprehensive support system designed to achieve sustainable shared growth with suppliers. This system contributes to improving suppliers' financial integrity through various support measures, establishes a fair trade order, and strengthens the competitiveness of suppliers as well as promoting trust through horizontal communication. We strive to secure the highest level of safety and quality competitiveness throughout our supply chain by implementing a supply chain management system of registration, selection, evaluation, and development and by operating an efficient and reasonable system based on shared growth partnership.

Shared Growth System

Great Partnership Package			
Compliance and Fair Trade	Financial and Managerial Support	Enhancing Competitiveness	Promoting Parallel Communication
<ul style="list-style-type: none"> Using the Standard Contract Form Implementing the four major tasks of Fair Trade Commission Monitoring compliance Practicing fair bidding 	<ul style="list-style-type: none"> Direct/indirect financial support (Management support fund, Shared Growth Fund) Improvement of payment terms for sub-contractors Operation of a shared growth payment system 	<ul style="list-style-type: none"> Joint development of new technologies Joint entry into overseas markets Incentivizing outstanding suppliers Pre-con activities Assisting in employee education and hiring 	<ul style="list-style-type: none"> Xi CEO Forum Activities promoting communication (Xi Partnership, Subconboard, other meetings) GS Partner and the on-line whistleblowing system

Conceptual Diagram of the Supply Chain Management System



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Supporting the Appointment of Safety Managers for Suppliers

GS E&C operates the safety manager system to support the assignment of safety managers in seven high-risk work areas. The safety manager system is utilized to assist with labor costs when suppliers deploy a safety manager with at least 1 year of experience to enhance supervision of on-site safety.

Supplier Construction Support System

GS E&C is strengthening its cooperative relationships with suppliers by operating a variety of systems to support the construction projects of suppliers. We conduct PCM (Pre-Construction Meeting) activities continuously at each stage to ensure that the construction process is implemented systematically, assist suppliers with construction projects through TPMS1 meetings, inspect safety in the field, and provide technical support. We also support our suppliers with construction equipment such as tower cranes and hoists in each site to alleviate the burden caused by insufficient equipment.

Practicing Fair Bidding

GS E&C has operated a fair bidding system since April 15, 2021 to enhance safety management by restricting bidding at low prices. The fair bidding system provides the proper level of construction expenses to suppliers to enhance safety, construction capabilities, and quality control, and we plan to operate the system continuously.

Advance Payment of Occupational Safety Health Administration Costs Incurred by Suppliers

GS E&C makes advance payments covering 100% of occupational safety and health administration costs and thereby establishes a voluntary safety management investment environment for suppliers, to encourage suppliers to reinforce safety management. The recipients of advance payment include a total of 10 suppliers in charge of 7 high-risk areas related to construction and materials. After enforcing the system in September 2021, we completed the advance payment of safety and health administration costs to eligible suppliers. The advance payment of safety and health administration costs not only helps to mitigate the financial burden of suppliers, but also helps establish a safe environment and is an exemplary case of shared growth management.

Fair Bidding

GS E&C selects suppliers based on the basic principles of fairness, objectivity, and transparency. The factors to be considered upon the selection of suppliers are established, points are granted in accordance with the criteria for each item, and the highest scoring companies are given an opportunity to participate in the bidding process. GS E&C will continuously follow a fair procedure when selecting suppliers to lead the establishment of a fair competitive environment.

Supply Chain(Partner) Selection Evaluation Management Criteria

Classification	Description
Comprehensive Evaluation	Safety/quality capabilities, performance competitiveness, cost competitiveness, etc.
Performance Evaluation	Safety, quality, construction management, environmental management, etc.
Safety Evaluation	Performance evaluation (safety management), accident rate, frequency of occurrence of serious accidents, safety certifications, etc.
Registration of New Suppliers	Supplier evaluation of construction performance prior to registration, management status, technical level, safety evaluation, etc.

Rewarding Outstanding Suppliers with Incentives

GS E&C provides incentives to outstanding suppliers and encourages them to voluntarily establish a sustainability management system. Suppliers are evaluated on their overall business activities such as the present condition of management, quality, environment, safety, construction and management and outstanding suppliers are recognized. We provide rewards such as bonuses, bidding participation rights, etc. to partner companies that demonstrate outstanding performance. GS E&C strives to manage the economic, environmental, and social risks of suppliers and expand the culture of sustainability through the partner incentives system.

Promoting the Progress of Suppliers to Build a Global E&C Company

GS E&C seeks to pioneer overseas markets and win overseas projects together with its suppliers. We hold briefing sessions about joint entry into overseas markets, operate an integrated country information system, provide country information to suppliers, and implement a pre-bid system to participate in bidding on overseas contracts jointly with suppliers.

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Risk Management

Supplier ESG Risk Management

GS E&C takes measures to establish a safe and sustainable supply chain by managing the ESG risks of its suppliers. While evaluating a company for registration as a supplier, we consider its credit rating, financial status, industrial accident ratio, etc. to identify potential risks in the fields of economy, environment and society. The risks are reflected in the supplier registration review. Suppliers are monitored and evaluated on a regular basis and disqualified if no improvements are made even after receiving a warning that internal requirements are not met. In 2022, we expanded the scope of evaluation to include 100 companies and to carry out ESG training and evaluation based on physical inspections. In addition, GS E&C enacted the Code of Conduct for suppliers to provide guidelines for compliance with sustainable management principles and ideals in the fields of human rights, safety, environment, ethics, etc.

Ratio of Suppliers with Risk in 2022

Unit: Suppliers, %

Classification	Economic(including financial)	Environmental	Social
No. of Suppliers	8	0	0
Ratio of Suppliers	1.0	0.0	0.0

Registered Suppliers in 2022

794 companies

Supplier ESG Evaluation Results in 2022

The supplier ESG evaluation including 65 items pertaining to the areas of environment, society, and governance, which targeted 100 suppliers, shows that the largest number of suppliers belong to the middle level (grade 3 to 5) group. GS E&C identified major risk factors for each item and provided guidance and information on laws to encourage compliance by suppliers. We will take measures to improve low-level suppliers, such as providing incentives for excellent performance. Regular evaluations are conducted to raise awareness of the need for ESG management among our suppliers. We plan to expand the scope of supply chain ESG management through regular ESG Council meetings (quarterly) and systemic engagement across subsidiaries.

Major Risk Factors in 2022

Classification	Description
Environment	No environmental management organization, inadequate eco-friendly purchasing performance, lack of environmental management plans
Social	Lack of compliance with the law (lack of labor contracts, no joint labor-management conference meetings, no legal education)
Governance	Lack of ethical management(insufficient internal system, lack of ethical education)

Subsidiary ESG Council

GS E&C launched a Subsidiary ESG Council connecting subsidiaries in April 2023 to support ESG settlement and secure ESG data from subsidiaries. The Subsidiary ESG Council is composed of the GS E&C ESG Team and ESG working-level managers from each subsidiary. The GS E&C ESG team is responsible for standardizing and collecting ESG data, sharing ESG policies and guides, supporting ESG training and sharing cases. The ESG working-level manager of each subsidiary is responsible for developing ESG plans, sharing ESG policies and guides and managing ESG data for subsidiaries. We will continue to share and apply ESG policies through the Subsidiary ESG Council.



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Goals and Indicators

ESG Evaluation for Suppliers

GS E&C has targeted 100 suppliers every year since 2022 to support ESG evaluation and provide consulting to establish a sustainable management system for suppliers.

■ Supplier ESG Evaluation Results and Goals in 2022

2022(Results)	2023	2024	2025
100 companies*	100 companies	100 companies	100 companies

* ESG evaluation, due diligence, and consulting

Financial Support System for the Liquidity of Suppliers

GS E&C operates various financial support systems to support suppliers to strengthen the stability of management and manage funds properly. We provide direct funding support for our suppliers to improve their cash flow in times of difficulties through the management support fund system. We established the Shared Growth Fund, which allows suppliers to borrow funds at low interest rates from banks. We operate a network loan system that allows suppliers to receive a lower loan interest rate upon advancement into overseas markets.

■ Major Financial Support in 2022

Management support fund	Shared growth fund
KRW 19.85 billion	KRW 30.0 billion

■ Improvement of Payment Terms in 2022

Unit: %

Classification	Payment criteria
Ratio of cash payment	95.8
Ratio of cash equivalent payment	100
Payment due date	On the 10th of the month following closing

Developing the Workforce Capabilities of Suppliers through Educational Support in Various Fields

GS E&C offers workforce education and training to support its suppliers' sustainability management system. We implement job training and safety education for site directors and field workers through the Safety Innovation School and provide ESG education to help our suppliers develop their employees' capabilities.

■ Educational Support for Suppliers in 2022

Safety Innovation School	Training for Site Directors and Field Workers	ESG Education
122 persons (77 suppliers)	228 persons (228 suppliers)	250 persons (250 suppliers)

Improving the Technological Prowess of Suppliers through Technical Support

GS E&C supports suppliers with technology development using various methods to help them achieve sustainable growth. We support the royalty on technologies that are jointly developed, and when a patent is registered jointly, we support the costs for the registration of the patent. Furthermore, we strive to promote the technology of suppliers and to commercialize their technology by assisting with the adoption of the patents and new technologies of suppliers.

■ Major Technical Support to Suppliers in 2022

New technology joint development expenses	Registration of patents and new technology	PRECON activity
KRW 0.42 billion	8 cases	23 cases

Communication and Consultation Channel

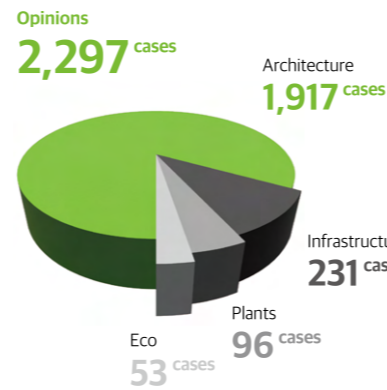
GS E&C pursues shared growth through continuous communication with suppliers through the operation of various communication and consultation channels. The Xi CEO Forum for executives and supplier CEOs is held on a regular basis, and difficulties and suggestions voiced by suppliers are collected through Subconboard and incorporated in our shared growth programs. An online communication and consultation channel is in operation, and various suggestions can be made through GS Suppliers and the whistleblowing system.

■ Performance of Active Communication with Suppliers in 2022

Number of Suppliers' CEOs who participated in the Xi CEO Forum	Number of Suppliers that participated in the Subcontractor Board	Number of briefing sessions/meetings on the outsourcing system	Number of internal review committee meetings
100 persons	150 companies	7 times	15 times

■ Statistics on the Opinions of Suppliers' Employees in 2022

Based on the findings of the Industrial Safety and Health Committee, Safety and Health Council, and the Happy Call program



Accident Prevention Measures

100%(722 cases)

- Working environment(208 cases): dust, sparks, noise
- Safety facilities(202 cases): damage to safety handrails, etc.
- Housekeeping(151 cases): risk of overturning materials
- Temporary electricity(81 cases): Securing illumination in dark places or enclosed spaces
- Equipment control(80 cases): Prevention of vehicle speeding on site

Receiving and Handling Complaints and Opinions from suppliers (Except for safety and health) 1,575 cases

- 828 cases were requests for the installation and expansion of on-site welfare facilities such as restrooms, toilets, and shower rooms.
- 945(60%) out of 1,575 cases were resolved.
- The remaining 630 cases did not match the on-site situation or are expected to be addressed in the future as much as possible.

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Governance

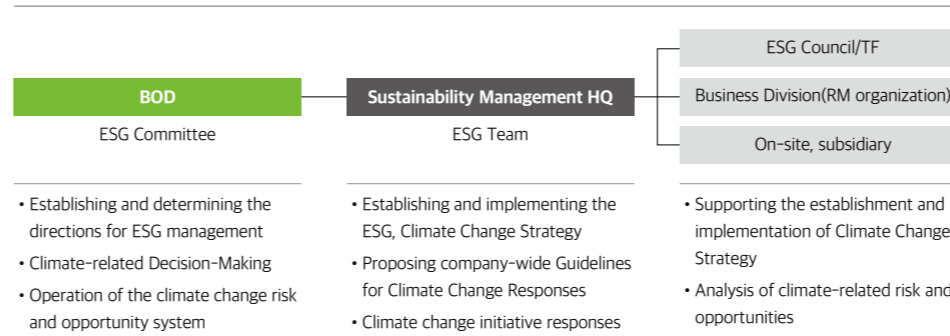
Supervision of Board of Directors and Role of Management

The highest decision-making body of GS E&C is the Board of Directors. The Board of Directors is normally held seven times a year, and there are three committees, including the ESG Committee, under the BOD. The ESG Committee oversees all decision-making on sustainability management, including climate change response. All the results of decisions are reported to the Board of Directors. In addition, GS E&C appointed an ESG expert as an outside director for strengthening the ESG management, which is evidence of our commitment to tackling climate change. The Sustainability Management Committee established in 2011 has been expanded and re-organized as the ESG Committee, and it is operated as a body tasked with making decisions related to major climate change issues and reviewing the company's measures in the areas of environment (including climate change), society, and corporate governance. In addition, GS E&C has operated an Energy Management Committee with supervision of quality / environment since 2012 to direct GHG Target Management Scheme. The Energy Management Committee implements education for personnel in charge of related departments with the participation of various departments such as the Green Environment Team, Business Sector/ HQ CM Team, Technology and Planning Teams, etc. In addition, we introduced measures to reduce building energy consumption and GHG emissions such as reporting reduction activities through scheduled meetings and checking progress to establish countermeasures. Major issues are reported to the management committee including the CEO.

Organization Responsible for Climate Change Responses

Responses to climate change by GS E&C are implemented throughout the overall organization of company. ESG Team supervises the establishment of a company-wide Climate Change Strategy and suggests Guidelines for Climate Change Responses. The Project Management Department and each Business Division perform the company-wide RM activities, including climate-related risks and opportunities analysis throughout the entire process of project implementation. The Green Environment Team operates the Energy Management Committee to respond to the GHG emissions reduction regulations of governments with our office building management team and each Business Division.

■ Supervision of Board of Directors and Roles of Management



Name of Committee	Composition	Names of Directors	Major Reports in 2022(related to climate change)
ESG Committee	4 outside directors 1 non-standing director	Hee-Gook Lee (committee president) Hee-Jin Cho Ho-Young Lee Ho-In Gang Jin-Soo Huh	<ul style="list-style-type: none"> Establishment of Climate Change Strategy for carbon neutrality Establishment and performance of GHG emission reduction plans Establishment of the ESG management system for supply chain Establishment and performance of reduction plans on issues such as water use, waste discharge, etc. Promotion of the conversion to eco-friendly vehicles [Join K-EV100 (February 2022)]



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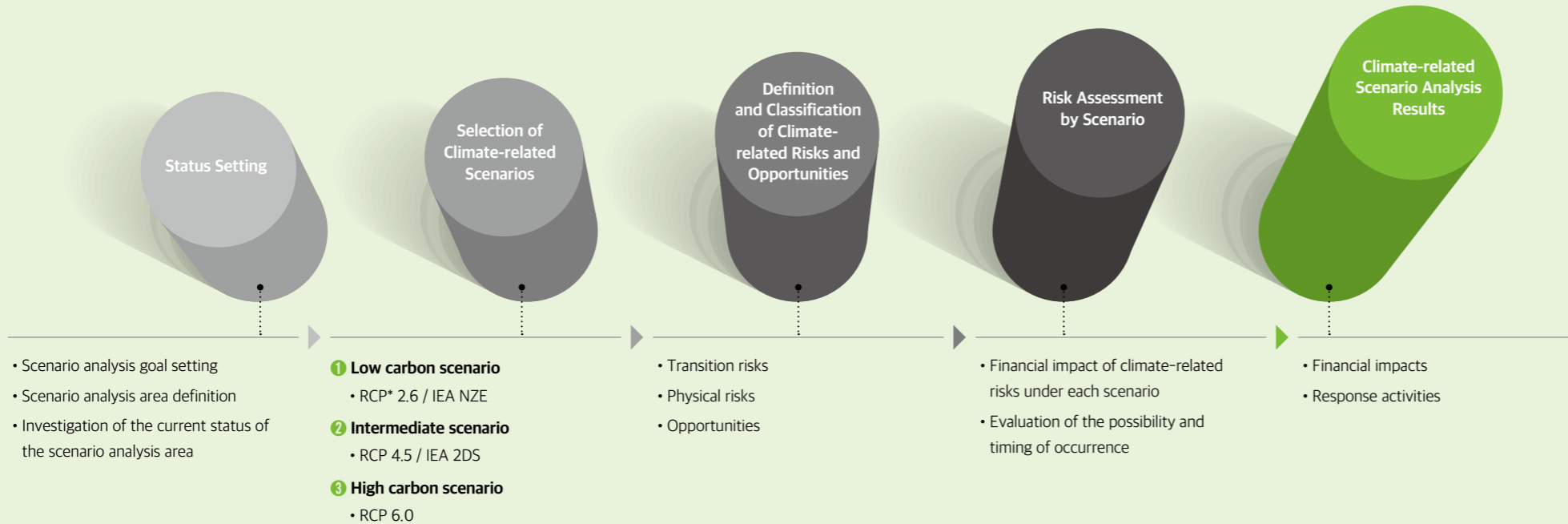
Strategy

Climate-related Scenario Analysis

GS E&C prepared a response system based on possible impacts on the company and the different scenarios identified through climate-related scenario analysis. GS E&C prepared a response plan and conducted scenario analysis by analyzing changes in domestic and foreign policies, trends in new technologies related to construction, cases of other construction companies, and internal capabilities based on the scenarios presented by IPCC*, IEA**, etc.

* Intergovernmental Panel on Climate Change: This is an intergovernmental body of the United Nations. The World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the IPCC to assess global risks associated with climate change and propose international measures.

** International Energy Agency



Classification	① Low carbon scenario	② Intermediate scenario	③ High carbon scenario
Overview	Thorough implementation of GHG emissions reduction to keep the global average temperature rise below 1.5°C	Significant implementation of policies and measures in each country to reduce GHG emissions that are above the level disclosed	Passive implementation of policy measures or technological changes to restrict GHG emissions
Key Assumptions	Global cooperation for carbon neutrality, implementation of various initiatives and key measures to reduce emissions	Transition risks are relatively low as climate change policy measures that cause transition risks are not implemented, but physical risks due to climate change are frequent.	Transition risks do not have significant impact because climate change policy measures that cause transition risks are not implemented, but physical risks are extreme.
Risk Trends	More transition risks	More physical risks	Severe physical risks
Climate Scenario Models	IEA Net Zero Emissions by 2050 Scenario(NZE) IPCC WG2 AR5 CMIP5 mean model-RCP 2.6	IEA 2 Degrees Celsius(2DS) Scenario IPCC WG2 AR5 CMIP5 mean model-RCP 4.5	IPCC WG2 AR5 CMIP5 mean model-RCP 6.0

* Representative Concentration Pathway, a scenario that analyzes the radiative forcing of humans on the atmosphere from the IPCC 5th Assessment Report(2013)

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Climate-related Risk and Opportunity Impact Analysis by Scenario

GS E&C examined not only its business sites, upstream and downstream, but also new business areas to identify risks and opportunities expected to affect its business activities due to climate change, and analyzed the impact of risk and opportunity factors on the company by scenario.

Classification	Symbol	Type	Risk/Opportunity Factors	Impact	Scenarios	Period		
						2025	2030	2050
Physical risks	P1	Acute	Reduced on-site production capacity due to extreme weather events such as typhoons	<ul style="list-style-type: none"> Increased damage at construction sites due to extreme weather events such as typhoons Increased cost to meet the construction timeline due to construction delays 	①			
					②			
					③			
Transition risks	T1	Policies and Laws	Increased regulatory compliance costs due to stricter carbon emission regulations	<ul style="list-style-type: none"> Increased demand for GHG emission reductions and regulations Increased urgency in preparing countermeasures according to the possibility of the construction industry's inclusion in the ETS. 	①			
					②			
					③			
	T2	Market Conditions	Increased costs due to rising raw material costs	<ul style="list-style-type: none"> Lack of raw materials and unstable supply and demand due to global environmental regulations Increased costs due to rising raw material costs 	①			
					②			
					③			
Opportunity	O1	Resource Efficiency	Increased sales due to the expansion of environmental businesses such as waste recycling for resource circulation	<ul style="list-style-type: none"> Increased need for recycling due to increased environmental regulations Increased sales through the expansion of the recycling industry in waste plastic emulsification facilities, organic waste biogasification facilities, recyclables sorting facilities, etc. 	①			
					②			
					③			
	O2	Energy Sources (Energy MIX)	Strengthened competitiveness and increased sales due to expansion of the renewable energy business	<ul style="list-style-type: none"> Expansion of business portfolios through the development of renewable energy businesses such as solar power, fuel cell, and wind power Strengthened market competitiveness due to the expansion of renewable energy businesses Increased sales due to the achievement of greenhouse gas reduction targets and the trend of transition to renewable energy 	①			
					②			
					③			
	O3	Market Conditions	Increased sales due to entry into renewable energy businesses in emerging countries	<ul style="list-style-type: none"> Discovering new overseas renewable energy markets and increasing accessibility Increased sales due to the expansion of overseas markets such as India, Southeast Asia, Australia 	①			
					②			
					③			
	O4		Increased sales through eco-friendly new businesses and value chain expansion	<ul style="list-style-type: none"> Entry into new markets through discovery of businesses related to carbon emissions and resource efficiency Increased sales through eco-friendly new businesses and value chain expansion 	①			
					②			
					③			

● Low carbon scenario
 ● Intermediate scenario
 ● High carbon scenario



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Financial Impact of Climate Change Risks and Opportunities

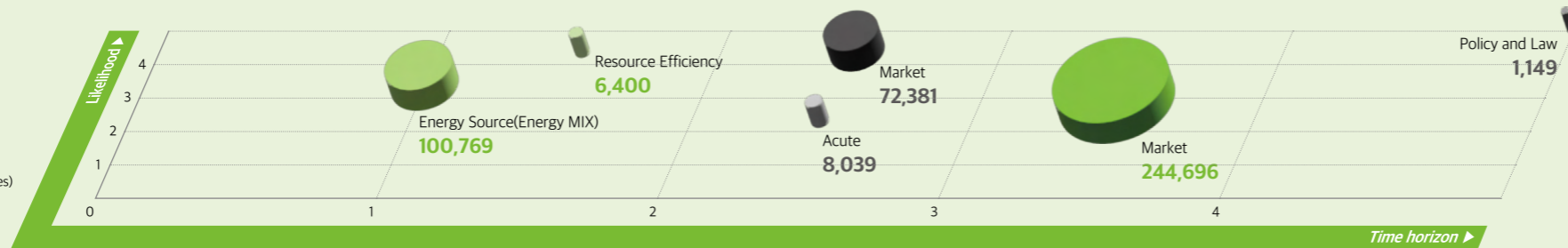
GS E&C identified financial impacts assuming changing policies, carbon prices, energy demand and composition, major raw materials, and technology levels based on the physical risks, transition risks, and opportunity factors arising from climate change, and defined company-wide activities to respond to the impacts. GS E&C systematically manages climate-related risks and opportunities by integrating them into the company-wide risk management system.

Unit: KRW million

Classification	Symbol	Type	Risk/Opportunity Factors	Financial Impact	Response Activities
Physical Risk	P1	Acute	Extreme weather events such as typhoons	8,039	<ul style="list-style-type: none"> Installation and operation of weather condition monitoring systems in construction sites Regular typhoon drills for construction sites (once a quarter) Addition of a disclaimer clause for the delay due to extreme weather events in the contract
Transition risks	T1	Policies and Laws	Increased regulatory compliance costs due to stricter carbon emission regulations	1,149	<ul style="list-style-type: none"> Establishing response strategies for carbon neutrality and climate change Expansion of investment in renewable energy (solar, wind) portfolios and eco-friendly technologies R&D Establishing Strategies and monitoring of emission trading systems
	T2	Market Conditions	Increased costs due to rising raw material costs	72,381	<ul style="list-style-type: none"> Monitoring the raw material market and diversifying supply channels Debt ratio management by strengthening profitability-oriented housing businesses
Financial Impacts(Climate-related Risks)				81,569	
Opportunities	O1	Resource Efficiency	Increased sales due to the expansion of environmental businesses such as waste recycling	6,400	<ul style="list-style-type: none"> Commercialization plans related to the recycling industry in waste plastic emulsification facilities, organic waste biogasification facilities, recyclables sorting facilities
	O2	Energy Source (Energy MIX)	Strengthened competitiveness and increased sales due to expansion of the renewable energy business	100,769	<ul style="list-style-type: none"> Investment and policy monitoring in development related to renewable energy Expansion of renewable energy development projects using farmland, building roofs, etc
	O3	Market Conditions	Increased sales due to entry into renewable energy businesses in emerging countries	244,696	<ul style="list-style-type: none"> Expansion of entry into emerging markets considering business environment scalability and profitability Stable business operation and localization strategies by securing business partners
	O4		Increased sales through eco-friendly new businesses and value chain expansion		<ul style="list-style-type: none"> Development and commercialization of low-carbon technologies such as hydrogen power generation based on clean hydrogen Hydrogen fuel cell R&D and business development to expand new business models into the overall value chain of the hydrogen/ammonia industry
Financial Impacts(Climate-related Opportunities)				351,865	

● Financial Impact (Climate-related Risks)
KRW 81,569 million

● Financial Impact (Climate-related Opportunities)
KRW 351,865 million



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Risk Management

Climate Change Risk Assessment

GS E&C evaluates the climate-related risks and opportunities from financial and strategic perspectives in accordance with our risk management procedure. A detailed evaluation is made using a matrix to assess the importance and possibility of occurrence. A score of importance evaluation (consequence) is granted within a range of 1 to 5 points considering cost impact and schedule impact, and the score of occurrence possibility (probability) is granted in a range of 1 to 5 points in 5 stages, categorized as Remote, Unlikely, Possible, Probable, and Almost Certain. The importance level of risks is classified as high, middle, and low, and the high risks are managed intensively according to the score obtained by the multiplication of Consequence and Probability through the relevant matrix analysis. For the classification of the risk, when the value of multiplication of Consequence and Probability is in the range of 1~5, it is evaluated as low risk; if in the range of 6~12, it is evaluated as middle risk; and if it is in 13~25, it is evaluated as high risk.

■ Table I. Consequence and Probability Matrix

Probability	Threats					Opportunities				
	5	10	15	20	25	25	20	15	10	5
5 Almost Certain	5	10	15	20	25	25	20	15	10	5
4 Probable	4	8	12	16	20	20	16	12	8	4
3 Possible	3	6	9	12	15	15	12	9	6	3
2 Unlikely	2	4	6	8	10	10	8	6	4	2
1 Remote	1	2	3	4	5	5	4	3	2	1
Consequence Score	1	2	3	4	5	5	4	3	2	1

● High ● Medium ● Low

■ Table II. Consequence and Probability table

Score	Consequence		
	Cost Impact	Schedule Impact	Probability
5 Very High	> 0.2%	More than 8 Weeks	Almost Certain(71~100%)
4 High	0.1~0.2%	4~8 Weeks	Probable(51~70%)
3 Medium	0.05~0.1%	2~4 Weeks	Possible(31~50%)
2 Low	0.02~0.05%	1~2 Weeks	Unlikely(11~30%)
1 Very Low	< 0.02%	Less than 1 Week	Remote(0~10%)

Process of Climate-related Risk Management

The risk management processes of GS E&C are classified into business risk and environmental risk. Climate-related risk management requires both considerations, and climate-related RM is performed throughout the overall process based on company-wide organizations including Project Management department, each business Division's RM organization and Green Environment Team. GS E&C has established a risk management process to preemptively respond to climate change, and conducts annual monitoring of risk and opportunity response measures to upgrade the process. The RM activities of GS E&C are implemented in accordance with the company-wide RM procedure, and risk management is conducted based on the risk process cycle in all processes from the identification and understanding of risk to assessing risks, responding to risks and monitoring after responding. These monitoring results are reported to the CEO on a regular basis, and material risks are reported to the ESG committee to address financial / non-financial impacts in-depth.

■ Risk Management Process



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Metrics and Targets

Climate Change Matrix Management

GS E&C has established and continues to operate the Green Information Management System including systematic monitoring of GHG emissions and management of environmental performance for continuous measurement of environmental management achievements. We monitor company-wide activities for reducing waste discharge and recycling, controlling water use and recycling, green purchases, and R&D investment through the Green Information Management System. In addition, GS E&C has established KPIs for each environmental outcome up to 2050 to manage the achievement of goals. GS E&C maximizes the efficiency of environmental management by establishing and operating various environment related systems.

Climate Change Management Goals

Goals	Figure	2022	2030	2050
Annual total GHG emissions(tCO ₂ -eq)	GHG reduction in comparison with BAU allocation	5.26% reduction in comparison with BAU	10.62% reduction in comparison with BAU (20.59% reduction compared to 2018)	31.86% reduction in comparison with BAU (31.70% reduction compared to 2018)
Rate of waste water recycling(%)	Recycling in comparison with waste water processing	4.0% or more	10.0% or more	30.0% or more
Rate of waste recycling(%)	Waste recycling in comparison with discharge	98.0% or more	100.0%	100.0%
Green purchase rate (%)	Purchase of green materials in comparison with total purchase of raw materials	10.5% or more	11.8% or more	15.0% or more
Rate of R&D investment to develop green technology (%)	R&D investment for green technology in comparison with total R&D investment	42.9% or more	50.0% or more	70.0% or more
Compliance with environmental legislations	Annual number of corporate fines	Less than 0 case per year	Less than 0 case per year	Less than 0 case per year

Management of GHG Emissions

The reduction goal for 2030 NDC was increased by 40% in comparison with the base year in accordance with the announcement of the Carbon Neutrality Plan by the government in October 2021. Accordingly, GS E&C established a GHG reduction goal of 10.62% by 2030 and 31.86% by 2050 in comparison with 2018. The reduction goal for 2022 was 5.26% (emission goal: 115,512 tCO₂-eq) in comparison with 2018, and the actual emission in 2022 was 100,165tCO₂-eq, which is an achievement of 115.32 % (based on scope 1, 2) in excess of expectations. GS E&C has established mid-to-long term strategies for GHG emissions reduction in line with the national Carbon Neutrality declaration and the global trends.

Greenhouse Gas(GHG) Emissions*

Unit: tCO₂-eq

Classification		2018	2019	2020	2021	2022
Domestic	Scope1	27,692	34,861	38,422	31,570	33,509
	Scope2	79,324	73,852	70,260	63,524	66,656
	Scope3	94,666	61,869	60,161	60,521	87,976
	Subtotal	201,683	170,582	168,843	155,615	188,141
Overseas	Scope1	43,855	24,132	11,044	14,755	18,084
	Scope2	5,307	2,374	950	2,314	2,332
	Scope3	40,388	47,480	26,910	52,886	38,849
	Subtotal	89,550	74,377	38,905	69,955	59,265
All	Scope1	71,547	58,994	49,466	46,324	51,593
	Scope2	84,631	76,226	71,211	65,838	68,988
	Scope3	135,055	109,739	87,071	113,408	126,825
	Total	291,223	244,959	207,747	225,570	247,406

* Verification was performed in accordance with the verification principles and tasks outlined in ISO 14064-3, IPCC Guidelines: 1996/2006, and Greenhouse Gas and Energy Target Management Scheme Guidelines (Notification No. 2020-3 of the Ministry of Environment).

Results of Climate Change Goal Management

GS E&C implements 4 methods for reduction activities including energy efficiency, using high-efficient devices, energy saving, and eco-driving to achieve its GHG emission reduction goals. Energy efficiency includes boiler pressure adjustment, air-conditioning and heating temperature adjustment, and replacement of LED and sensor lights for high-efficiency device. Energy savings include eliminating unnecessary usage and unused power for energy saving. GS E&C performs and monitors the quantitative index and reduction goals on these various GHG reduction activities through its Energy Management Committee, and in 2022, we achieved a GHG emissions reduction of 9,412 tCO₂-eq

GHG Emissions Reduction

Unit: tCO₂-eq

Classification		2018	2019	2020	2021	2022
Reduction through energy efficiency	Building	625	699	726	460	425
	On-site	569	870	934	855	605
Reduction through the use of high-efficient devices	Building	110	118	128	37	-
	On-site	3,214	1,906	1,633	3,499	4,400
Reduction through energy saving	Building	1,156	678	487	991	550
	On-site	1,835	1,894	726	697	547
Reduction through eco-driving	Building	22	23	23	37	18
	On-site	2,071	3,105	3,613	5,527	2,867
Total GHG reductions		9,602	9,293	8,270	12,052	9,412

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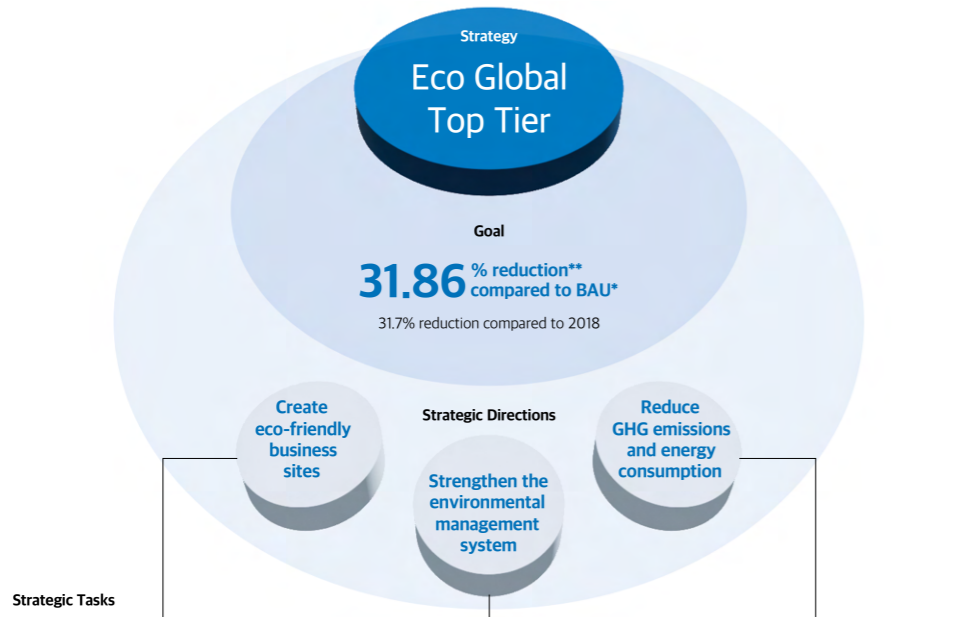
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Environmental Management

Environmental Management Strategy

Environmental issues such as climate change and resource depletion are intensifying across the globe and therefore efforts to conserve the environment are growing in importance. Domestic and overseas environmental regulations have been strengthened and environmental risk response capabilities are now a key component of corporate competitiveness. GS E&C has established an environmental management strategy system to strengthen its ability to tackle environmental issues, to preemptively respond to global changes and to fulfill its responsibilities as a global top-tier construction company. We have established 3 strategic directions and 10 strategic tasks with the goal of reducing GHG emissions by 31.86% compared to the BAU level by 2050. We are managing our KPIs thoroughly in accordance with the assessment procedure applied to our green management evaluation reports.

Long-term Strategy for Environmental Management



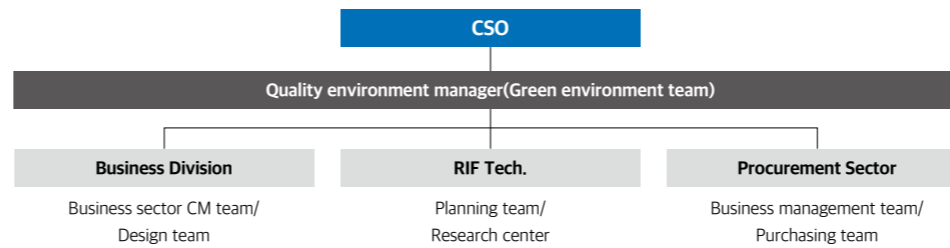
- Strategic Tasks**
- Reinforce voluntary activities for fine dust reduction
 - Achieve a record of zero pollution
 - Respond voluntarily to meet environmental regulations
 - Establish a life cycle evaluation system
 - Strengthen GHG emission reduction activities across the company and in partner companies
 - Develop projects and technologies for reducing GHG emissions
 - Secure GHG and energy consumption diagnostic capabilities
 - Strengthen GHG emission reduction activities across the company and in partner companies
 - Develop projects and technologies for reducing GHG emissions
 - Secure GHG and energy consumption diagnostic capabilities

* Business As Usual, forecasts of GHG emissions trends
 ** The GHG reduction target is currently being re-established

Environmental Management Organization

GS E&C has newly established an ESG team to manage the implementation of climate change strategies that properly reflect the risks and opportunities associated with climate change. The ESG team reports to the ESG Committee within the BOD. The Green Environment Team under the Quality Environment Section of the CSO Division is responsible for conducting environmental management activities such as acquiring environmental management system certifications, managing environmental performance, and external networking. In addition, we have established the Energy Management Committee to set specific energy conservation goals by business sector and to monitor relevant performance. We aim to create eco-friendly business sites by encouraging all employees to develop stronger awareness of the importance of our environmental practices and participate actively in environmental management activities.

Environmental Management Organization Chart



Strengthening Environmental Management Competencies

Complying with Environmental Regulations and Enforcing Inspection

We strive to achieve a record of zero environmental fines, by carrying out our legal responsibilities and strengthening environmental inspections to comply with all environmental regulations. GS E&C is proactively implementing the "Voluntary Agreement on High-Concentration Fine Dust Reduction" supervised by the Ministry of Environment in accordance with the amendment of the Special Act on the Reduction and Management of Fine Dust and we are implementing measures to reduce fine dust at our business sites. In addition, we strengthened environmental inspections using the mobile GS E&C application called "Self-Inspection of Essential Environmental Regulations" as part of our efforts to develop eco-friendly business sites. We responded preemptively to the strengthened construction environment regulations and increased our environment management capability by preparing and distributing the construction environment management facility guidelines and the environment management casebook.

Installation Guide for Environmental Management Facilities

GS E&C recognizes the emerging need to establish standards for the installation of environmental facilities at construction sites in view of the recent tightening of environmental regulations. Accordingly, we developed and distributed the "Environmental Management Facility Installation Guide" to construction sites to improve the clarity of installation standards and to satisfy new legal standards. This guide is organized into 15 thematic categories, including wheel washing facilities and waste sorting storages. For each category, we have provided installation guidelines, signs, and notices to facilitate understanding.

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Green Investment for the Environmental Management of Construction Sites

GS E&C divides its environmental investment into the following three categories: on-site environment management expenses, investments in environmental technology, and investments in new eco-friendly businesses. The company has established and implemented plans for each of these categories.

■ Environmental Management Expenses*

Unit: KRW 100 million

Category	2020	2021	2022	2023(Plan)
Plan	312	308	300	312
Performance	331	347	339	-

* Expenses for the installation/operation of environmental pollution prevention facilities + Waste treatment expenses

■ Investment in Environmental R&D and New Businesses

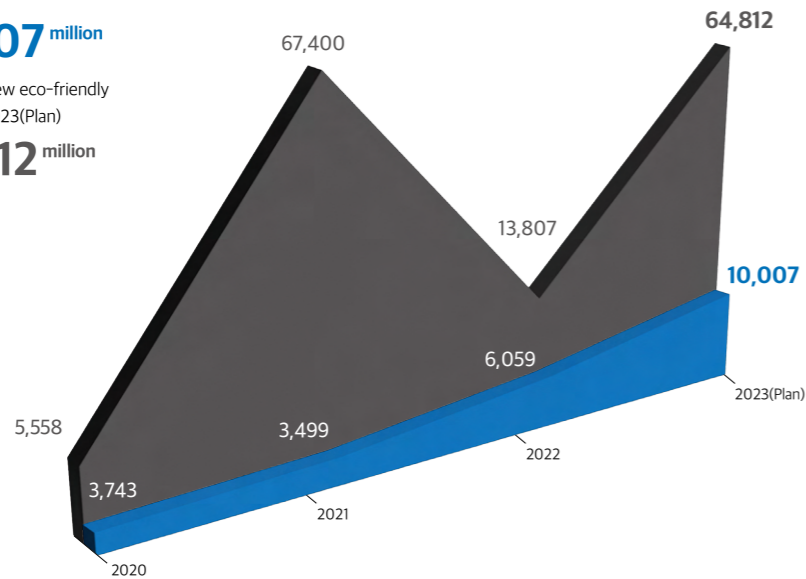
Unit: KRW million

● Environmental R&D in 2023(Plan)

KRW **10,007** million

● Investment in new eco-friendly businesses in 2023(Plan)

KRW **64,812** million



Environmental Management Education for Employees

GS E&C provides systematic education to help its employees understand the principles of eco-friendly management and enhance the efficiency of eco-friendly management activities. We distribute on-site environmental management guidelines in preparation for periods when intensive environmental management is needed, such as during winters, rainy seasons, etc. In the event that an environmental issue arises, we use the internal EP bulletin board to upload case studies accessible to all employees. In addition, we conduct site visits and video-conferences to deliver information related to legal environmental management regulations, environmental issues, and cases of environmental improvement to new CMs, on-site environmental management staff, and the staff at headquarters. We provide advanced programs (on subjects such as noise/vibration, fine dust) to help develop professional expertise and skills to meet on-site environmental management requirements.

Environmental Education for Suppliers

We provide training for managers and supervisors in our partner companies, who are the main agents of construction, to strengthen their competence and interest in environmental management. We visit new construction sites and provide tailored environmental management training considering the specific characteristics of the site and we provide support for establishing an environmental management system. In addition, our training programs on topics including resource saving/recycling, energy conservation, and GHG emissions reduction have contributed to raising environmental awareness among our partners. Furthermore, we increase our partners' interest in the environment by actively sharing information on the latest environmental policies and social issues.

■ Environment Education Achievements of Employees and Suppliers in 2022

Environmental Education

169 sessions / **676** persons

- 507 employees of GS E&C
- 169 employees of partner companies

Video education

42 sessions / **257** persons

Designated a GGBS* Star Champion by the Building and Construction Authority of Singapore

For 9 consecutive years since 2014, GS E&C has been certified as a GGBS Star Champion by the Building and Construction Authority of Singapore, as the result of maintaining the highest grade of environmental certification (STAR). The certification demonstrates that GS E&C is a global green construction company dedicated to becoming a leading ESG company, and we continue to expand our company's eco-friendly certifications.

* GGBS is an environmental certification system operated by the Building and Construction Authority of Singapore. GGBS evaluates and assigns a grade for companies that are working on construction projects in Singapore with criteria focusing on environmental policy, noise/vibration, waste, and civil complaint handling.



Thomson East Coastline T301 in Singapore

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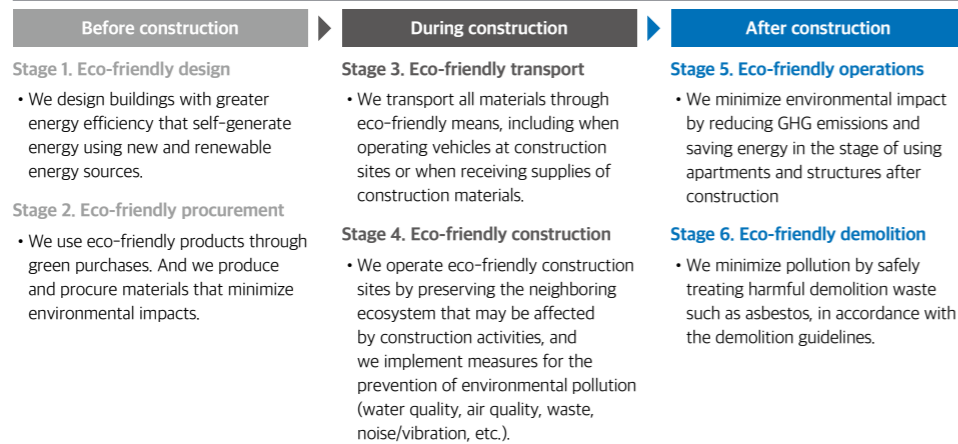
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Eco-friendly Construction Process

GS E&C is practicing environmental management in all its business processes. GS E&C operates an environmental management system in accordance with the procedures and guidelines for related fields based on the Environmental Manual. GS E&C addresses environmental issues that may occur during the entire process, ranging from before the commencement of construction to the completion of construction, to handle risks preemptively. We practice enterprise-wide environmental management through all business processes including design, selection of suppliers, procurement/production of materials, building, demolition, and operation. We actively respond to the core environmental issues related to the construction industry such as greenhouse gas emissions, generation of waste, use of water resources, air quality, and ecosystem conservation. GS E&C continuously measures its environmental management performance and transparently discloses information to external parties to improve its performance. The company has established and operates the Green Information Management System to monitor GHG emissions systematically and to manage its environmental performance.

Eco-friendly Construction Process



Eco-Friendly Design for High-Efficiency Buildings

GS E&C enhances building energy efficiency through eco-friendly design. We construct green buildings and green homes by developing design technologies for the optimization of energy. We reduce energy consumption through enhanced insulation design and apply design innovations to use renewable energy sources such as geothermal heat and solar power to enable buildings to self-generate energy. The renewable energy design system is currently being applied to the construction of the Heukseok River Park Xi Apartment Complex to improve energy efficiency and decrease carbon emissions.

High-efficiency Buildings



Eco-Friendly Procurement and Use of Green Materials

Green Purchasing

GS E&C procures materials and products through a green purchasing process to contribute to the government's policy of expanding the use of eco-friendly products. We identify materials that can be replaced with green alternatives and preferentially purchase green products. Applying the green purchase system, GS E&C manages the status of our partner's certifications, including environmental marks, HB marks and energy consumption efficiency certifications, and calculates eco-friendly green purchase costs and monitors performance by managing item codes by certification. We completed green purchase worth a total of KRW 101.1 billion, which is equivalent to 8.04% of our total procurement volume in 2022. In addition, we declared our green procurement plan within the purchase system to strengthen environmental management, and provide incentives to eco-certified companies and eco-friendly product suppliers when evaluating current partners and new suppliers.

Green Purchases

Unit: KRW 100 million

Category	2020	2021	2022
Eco-friendly construction(HB Mark)	129.2	42.9	69.0
Highly energy-efficient machinery	8.5	285.7	256.9
Energy consumption efficiency grade 1 or 2	236.7	231.6	408.5
Eco-Label	460.0	357.9	237.3
Others	3.3	20.1	39.2
Total(A)	837.6	938.1	1,010.9
Total purchase amount of raw materials*(B)	9,642.8	9,861.9	12,571.0
Purchase ratio(B/A)	8.7%	9.5%	8.0%

* Finishing and electrical material orders

Green Construction Materials

GS E&C uses eco-labeled materials at its construction sites to reduce the environmental loads from construction and to minimize environmental impact. At our sites, we apply eco-friendly design guidelines such as the Green Standards for Energy and Environmental Design, in accordance with our design and purchases. In addition, we continuously use eco-friendly materials for major construction areas such as internal wall materials, floor materials, and window materials, where we apply EPD (Environmental Product Declaration) products, low-carbon materials, certified resource recycled materials, and certified harmful substance reduction materials.

Introduction of Eco-friendly Workwear

GS E&C has adopted eco-friendly vests made of REGEN, which is a recycled polyester textile material developed from crushed waste PET bottles. Previously, GS E&C used vests made of polyester, a chemical synthetic textile, but we plan to gradually expand the adoption of eco-friendly workwear at our worksites, such as shirts and jumpers. GS E&C expects to achieve the effect of recycling approximately 13,690 PET bottles by introducing the eco-friendly vests (based on an annual order quantity of approximately 2,852 articles of clothing) and plans to produce approximately 3,000 articles of eco-friendly workwear in 2023. GS E&C plans to engage in active eco-friendly management for sustainable consumption to increase the circulation of resources and minimize the environmental destruction caused by production activities, through means such as using eco-friendly materials for most frequently used items of workwear.

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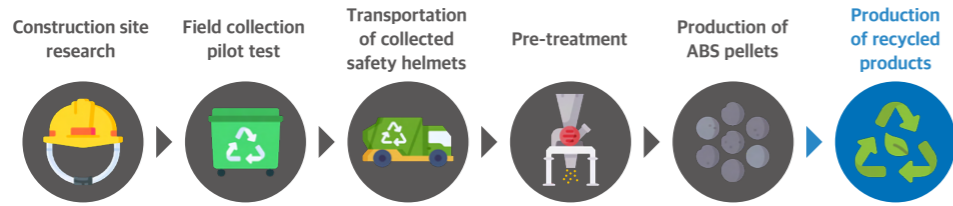
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Waste Safety Helmet Recycling Pilot Project

From September 2022 to January 2023, GS E&C conducted a pilot project for the entire process of collection, transportation, pretreatment and recycling of waste safety helmets. 2,502 safety helmets were collected from 22 sites with large amount of waste safety helmets among 36 sites and 467 kg of ABS pellets were produced after the final cleaning and extrusion of safety helmets. We plan to review whether to manufacture products using the produced ABS Pellet from June 2023. GS E&C implements resource circulation by recycling or converting waste generated into other forms, as in the example of reusing valuable safety helmets.

■ Safety Helmet Recycling Process



Eco-friendly Activities in Local Communities

All employees of GS E&C are working together to reduce waste generation. We participate in resource circulation through various activities such as recycling waste safety helmets, using eco-friendly paper, packaging containers, and multi-use cups, and conducting paperless meetings. We perform voluntary environmental cleanup activities such as cleaning and collecting waste at worksites in Korea.

■ Environmental Cleanup Activities in Local Communities within Korea in 2022

Number of sites	Participants	Participation time
7 sites	697 persons	682 hours

Eco-Sand, a Defender of Natural Resources

GS E&C recognizes the importance of natural resources and to preserve these resources, the company seeks to procure natural resources through recycling. GS E&C experienced challenges in procuring sand and gravel due to the difficulty of collecting natural aggregates and due to the public opposition to the collection of sea sand. In response, we developed an eco-sand production system that satisfies environmental and economic feasibility while procuring sand and gravel. We produced eco-sand by crushing rock debris* generated during tunnel blasting at the Expressway No. 14 Changnyeong-Milyang Construction Site. The impact of transportation was minimized by installing a crusher plant** on-site and collecting aggregates. As a result, we were able to secure a steady supply of eco-sand and save 250,000 liters of diesel while reducing GHG emissions by 667tCO₂-eq.

* Rock debris: Stones generated during excavation

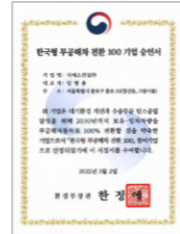
** Crusher plant: A factory that produces stones by crushing parent rocks collected from a highway construction site

Eco-Friendly Transport for Maximizing Fuel Efficiency

Eco Driving Campaign

GS E&C is conducting an eco-driving campaign to minimize environmental impact during transport. We educate our drivers to avoid engine idling, drive at moderate speeds, and refrain from using outdated vehicles. We will distribute eco-driving posters and conduct relevant campaigns to further promote green transport.

Converting Business Vehicles to Electric Vehicles



K-EV100 Corporate Approval

GS E&C has applied to join K-EV100 for the phased conversion into eco-friendly vehicles free of air pollution, to achieve carbon neutrality in transportation according to the eco-friendly vehicle conversion policy of the South Korean government. We set the foundation for conversion to electric vehicles, by establishing unit price standards for electric vehicles for business rental vehicles, and we plan to achieve a conversion rate of 100% by 2030.

Eco-friendly Construction to Prevent Environmental Pollution around Construction Sites

Reduction of Fugitive and Fine Dust

GS E&C publishes and distributes a fugitive dust management casebook to comply with the environment laws and guidelines of the Ministry of Environment. GS E&C developed technologies for rapid ventilation and portable dust collectors to reduce fugitive and fine dust generated during construction. A portable dust collector absorbs dust generated during construction, and then mixes the dust with water and discharges it in the form of soil. We took action to minimize air pollution resulting from construction by installing wheel cleaning facilities and anti-dust covers. In addition, we thoroughly manage our environmental performance at work sites by distributing an environmental management guidebook* that includes information on fugitive dust, noise and vibration, water quality, and soil. In 2022, we conducted 170 environmental management activities** at our sites.

* Composed of legal requirements, licensing requirements, facility installation standards and management guidelines based on laws and cases, and key issues.

** Based on data form the Internal Environmental Management System (QHSE).

■ Site Support and Inspection Activities in 2022

Unit: cases

Category	Fugitive dust	Noise and vibration	Waste	Water quality
On-site support and inspection	185	62	50	43

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Efforts to Preserve the Aquatic Ecosystem

GS E&C implements various efforts to protect the aquatic ecosystem, and possesses an air bubble barrier technology that protects the aquatic ecosystem. Air bubble barrier technology keeps marine organisms from moving to other areas by generating high-pressure air bubbles in the water, which prevents the inflow of organisms and thereby preserves the aquatic ecosystem. We monitor water quality and prevent water pollution by conducting environmental impact assessments on a regular basis during construction. In addition, wastewater treatment facilities are installed to meet the criteria on allowable wastewater discharge.

Protection of Plants and Endangered Species

GS E&C protects plants and endangered species discovered during construction. We analyze and proactively respond to the needs of the neighboring environment by conducting environmental impact assessments from the stage of establishing construction plans. We protect the ecosystem through various means such as vegetation nurseries, eco-corridors, wildlife fences, and the use of low-noise, low-vibration construction methods. We also planted 2,022 nursery trees and protected the habitats of legally protected species such as common kestrels, otters, and Chinese parrow hawks during construction.

■ Protection of Biodiversity and Environment in Business Areas

Category	Subjects of Environmental Impact Assessments (Major Statistics on the Ecosystem)					Protection activity
	Birds	Mammal	Fish	Herptile	Plant	
Site Name	Changnyeong-Miryang Highway	Grey Frog Hawks*, Kestrels*, Mandarin ducks, Long-billed ringed, plovers***	Otters**, Wild cats***	Crucian carp, Minnows	Mountain grass lizards, Steppe rat snakes	<ul style="list-style-type: none"> Wildlife crossing slopes: 77 ea Wildlife guidance fences: 3,437 km Silt protection fences: 100m Grit chambers: 9 ea Tree planting: 198 trees
	Kwangju outer ring highway site	Kestrels*, Long-billed ringed, plovers*** Scops owls*	Otters**, Wild cats***, Moles, Elks	Minnows, Blue gills	Pine, Chestnut, Yellow locust	<ul style="list-style-type: none"> Wildlife fences: 12,885 m Side gutter exits: 296 ea Tree planting: 382 trees Silt protection fences: 9 ea Temporary ditches: 16 ea Grit chambers: 72 ea Bird collision prevention facilities: 1,455m²
	Jisa Global Industrial Complex site (Busan)	Kestrels*, Woodpeckers, Parus varius	Otters**, Wild cats***, Moles, Elks	Chinese minnows, Pond loaches, Rhinogobius brunneus	Leopard frogs, Vipers, Bullfrogs	<ul style="list-style-type: none"> Tree planting (1442 pine trees) Treatment of pine wilt: 15,503 ea Wildlife guidance fences: 1,440 m Side gutter exits: 8 ea

Eco-corridors

Guidance fences

Stone piles/tree stumps

Artificial birdhouses

* Natural monuments ** 1st grade endangered species *** 2nd grade endangered species

Reinforced Waste Monitoring and Recycling

GS E&C establishes waste discharge and recycling targets to minimize waste discharged during construction. We take the initiative in recycling waste fulfill our environmental responsibilities. We legally dried and recycled construction sludge (29,371m³ of heaving soil) generated at the Baegot New Town Coastal Road Expansion Construction Site. In addition, we concluded an agreement with suppliers to minimize incineration and landfill to expand the rate of waste recycling. We recorded a waste recycling rate of 99.9% in 2022 (99.8% in 2021) as a result of these efforts.

■ Waste Generation and Treatment

Unit: ton

Category	2020	2021	2022
Goal	806,119	1,068,498	1,094,597
Total waste generated	792,460	1,049,565	1,072,872
Recycling	789,997	1,047,128	1,072,705
Landfill and incineration	2,463	2,437	166

Waste-to-Energy Technology to Reduce Waste and Protect the Environment

GS E&C is converting waste into energy using waste-to-energy technology, which treats and converts waste into electric power and heat at the same time. This results in minimizing the environmental impact of waste and saving resources by generating energy. We have completed 26 constructions of waste-to-energy facilities and operated 28 waste-to-energy facilities, in which we actively applied various waste-to-energy technologies such as automatic waste collection systems, Mechanical Biological Treatment (MBT) for waste, and stocker incineration technology.

Wastewater Treatment Using an Eco-Friendly CO₂ Neutralization System

GS E&C developed a carbon dioxide-dissolving device for the highly efficient dissolution of carbon dioxide in alkaline wastewater and we have established an automatic control system for safe operation. This eco-friendly development technology was registered for a Carbon Dioxide Neutralization System patent (10-1953829) in 2019, for the first time among construction companies, and this technology was applied to the Eumseong PC Plant Wastewater Treatment Center, which is operated as part of our new business, replacing the use of hazardous chemicals (sulfuric acid) prohibited by the Chemicals Control Act.

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Reducing Waste with Smart Construction

GS E&C introduced eco-friendly construction methods such as the composite PC method, modular method, and BIM method to reduce waste generation. The PC method and modular method minimize dust and noise by producing structures first and then assembling the parts at the work site to complete construction. The PC method is generally used to construct the underground parking lots of apartments. This method not only minimizes complaints about waste and noise but also reduces the construction period and enhances economic feasibility. Likewise, the modular method involves assembling prefabricated modules in the manner of Lego blocks, which is also effective for reducing waste. In the BIM method, a structure is designed as a virtual model in 3D rather than 2D. This method prevents excess design and allows us to calculate the quantities and costs of construction materials more accurately and reduce waste generation effectively. GS E&C has acquired certification for ISO 19650, an international standard, from the British Royal Standards Institute (BSI) in recognition of our substantive use of BIM techniques. We plan to secure technological competitiveness by conducting smart construction using advanced technology throughout construction projects.



ISO 19650

Use and Reuse of Water Resources

To reuse service water, GS E&C used purified wastewater from the wastewater discharge facility of the Privately Funded Seobu Expressway Underpass Construction Site for the wheel washing system and road cleaning vehicles. As a result, we were able to recycle 94,380m³ of service water. We will continue our efforts to reuse service water and reduce waste during construction.

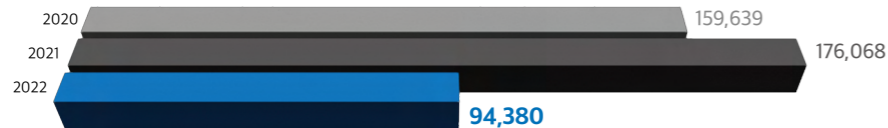
■ Consumption by Water Source

Unit: m³

Category	2020	2021	2022
Service water	649,130	632,549	666,927
Groundwater	1,248,961	1,217,059	1,408,963
River water	863,943	841,875	627,891
Total	2,762,034	2,691,483	2,703,781

■ Amount of Water Reused

Unit: m³



Eco-friendly Operations

“Building Energy” for Enhanced Energy Efficiency

GS E&C applies “Building Energy” technology to reduce energy consumption during building operation. GS E&C developed building energy technologies such as optimization of heat sources, the use of renewable energy, and enhanced underground parking lot lighting design to reduce energy consumption during building operation. The optimization technology for heat sources responds to the demand for heating and cooling of buildings by identifying an optimized energy supply solution. Solar power and geothermal energy, which are forms of renewable energy, is appropriately utilized to produce energy necessary for buildings by applying optimization technology for renewable energy. Highly efficient diffusive optical lenses are designed and applied to LED lighting to increase the diffusion of light and thereby achieve high-efficiency building operation using less energy.

■ Renewable Energy Usage*

Unit: kWh

Category	2020	2021	2022
Renewable Energy(Geothermal)	1,049,984	2,072,566	2,217,900

* There are certain differences compared to last year's report data due to the change in the calculation method for 2022.

Zero Energy Building

GS E&C has established an optimal design plan for the use of passive, active, and renewable energy in apartments, to meet the criteria for each grade of certification for zero-energy buildings, as such certification is scheduled to become mandatory. Solar power (including BIPV) is a strong contributor to achieving zero-energy building certification and therefore we developed and demonstrated a design, construction and operation plan for the application of BIPV to apartments.

Eco-friendly Demolition

GS E&C established its own demolition and waste management guidelines to minimize the environmental impact of waste. We prepare and utilize the demolition manual in accordance with the Construction Waste Recycling Promotion Act. Before demolition, we first remove asbestos, and waste generated during demotion is safely disposed of in accordance with the Enforcement Rules of the Wastes Control Act.

Water Pollutant Management

GS E&C manages water quality in accordance with its established water quality guidelines. GS E&C operates sewage treatment plants in Elysian Gangchon and Elysian Jeju. To minimize the environmental impact from water pollutants generated from the sewage treatment plant, water pollutants are managed according to criteria that are stricter than the legal discharge concentration criteria.

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Water Pollutant Discharge*

Category	Unit	2020	2021	2022	
BOD	Discharge	m ³	0.2	0.3	0.4
	Discharge concentration	ppm	1	1.6	1.6
	Legal criteria	ppm	10	10	10
SS	Discharge	m ³	0.4	0.3	0.2
	Discharge concentration	ppm	1.8	1.3	0.8
	Legal criteria	ppm	10	10	10
COD	Discharge	m ³	-	1	1.2
	Discharge concentration	ppm	-	5.3	4.8
	Legal criteria	ppm	-	20	20

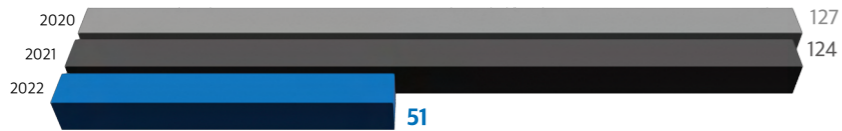
* Based on Gangchon Elysian and Jeju Elysian

Hazardous Chemicals(Designated Waste) Management

GS E&C classifies and treats designated waste, such as waste oil and waste paint generated from construction equipment and during top coating, in accordance with the Wastes Control Act. We operate and manage designated waste storage sites and relevant facilities in compliance with the relevant regulations to prevent environmental pollution resulting from the leakage of designated waste.

Total Hazardous Chemicals Discharge

Unit: ton



Hazardous Chemical Search Engine

GS E&C developed a chemical search system for the safe management of hazardous chemicals. Once any user enters information on hazardous chemicals such as MSDS* numbers, CAS** numbers, or content by CAS number, the chemical search system determines whether the hazardous chemicals exceed the criteria. We respond preemptively to any risk that may occur during the chemical handling process by managing hazardous chemical determination results and chemical inventories.

* Material Safety Data Sheet: Information on chemicals

** CAS (Chemical Abstract Service): A service that assigns numbers to chemicals

Waste Treatment through the Waste Processing System

GS E&C connects its waste processing system and in-house waste management system in real-time and operates and monitors the systems to achieve the legally stipulated levels of waste recycling. Under the leadership of the Green Environment Team, GS E&C verifies waste treatment companies before bidding to ensure the legal treatment of waste generated at business sites. We confirm the collection, transport, and final/interim treatment licenses and waste treatment contracts during the verification process. We check whether the waste treatment service companies have abandoned waste treatment verification in order to prevent the issue of abandoned waste.

Eco-friendly Sales

GS E&C established eco-friendly sales criteria for eco-friendly business, ESG investment, and eco-friendly R&D, and calculates the sales of businesses that have achieved eco-friendly standards based on six environmental goals. We will further specify the criteria for suitability and become a leading company that contributes to sustainable development through our field work and continuous monitoring.

Eco-friendly Sales Criteria



Environmental Goals and Economic Activities (Eco-friendly Business)

Category	Economic Activities(eco-friendly business)	
Environmental Goals	GHG emissions reduction	Renewable energy (solar, wind) Transmission and distribution infrastructure related to renewable energy Zero energy architecture, green building, green remodeling Carbon capture, utilization, and storage Establishment and operation of a low-carbon data center (green data certification) District Heating Corporation Landfill gas power plant
	Climate change adaptation	Water supply: Water supply construction (water supply, drainage) Seawater desalination
	Sustainable conservation of water	Wastewater treatment facilities
		Water supply: Water supply construction (water supply, drainage)
		Alternative water resources: Seawater desalination, sewage reuse, and artificial reservoirs
		Water supply network maintenance project
	Transition to a circular economy	Reuse of water (treated sewage water, rainwater, heavy water, etc.) Groundwater purification project in contaminated areas
Waste recycling (SRF, biomass), waste energy Landfill gas collection and treatment		
Pollution prevention and management	Prevention and treatment of air pollution, odor, and sea pollution	
Biodiversity	Restoration of the forest ecosystem	
	Protection and preservation of biological species (protection of endangered species and eradication of foreign organisms)	

Sales of Green Products and Services

Unit: KRW 100 million



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Eco-friendly Technology Development

R&D Strategy

GS E&C is making continuous investments in R&D to prepare for the future by identifying sustainable values. We developed technologies to differentiate and improve productivity in major businesses as well as developing core technologies through future businesses, strengthening competitiveness and increasing productivity and work efficiency by supporting digital-based technology. In 2022, we launched the Research Institute for Future Technology (RIF Tech) to emphasize the company-wide development of eco-friendly technology for decarbonization, which is an axis of change across the industry. We plan to discover promising future technologies by combining incorporating ESG values.

Increasing Investment in Eco-friendly Technologies

GS E&C is increasing its investment in the development of low-carbon and eco-friendly technologies in line with the 2030 National GHG Reduction Goal and the 2050 Carbon Neutrality Scenario. Through our R&D initiatives, we are leading the development of eco-friendly technologies such as energy-saving, eco-friendly material development, green hydrogen and solar power generation.

Environment-friendly Technology Investment

Unit: KRW million

Category	Task	Accomplishment	Investments
Energy efficiency	Design of dehumidification and sterilization systems using waste heat in common areas of apartment buildings	Presenting an eco-friendly system that performs better than existing dehumidifiers and air conditioners and reducing energy use in common areas	21
	Construction plan for the optimal design of zero-energy apartment housing	(Expectations) Establishment of technology standard models for each ZEB grade and securing the ability to self-execute technological differentiation and competitive enhancement	36
	Development of integrated clean ventilation cooling systems	Securing differentiated solutions to create comfortable indoor environments for apartments, resolving the imbalance in airflow distribution through user-centered optimal integrated control and reducing power consumption costs	53
Environment-friendly materials	Development of high-efficiency hot air blowers for concrete curing	Reducing GHG emissions by decreasing fuel consumption by hot air blowers for concrete curing at construction sites in winter	47
	Hollow tube utilization technology for waste reduction and productivity improvement	Development of inflated rubber tube utilization technology to reduce mold waste and improve productivity	26
	Development of high early strength concrete for winter without rapid heat curing	Responding to climate change by reducing greenhouse gas emissions	180
Green hydrogen	Alkaline water electrolysis membrane production technology	(Expectations) Securing commercial separator production technology by introducing original technology for the alkaline water electrolytic separation membrane and upgrading manufacturing capacity	2,164
Photovoltaic power generation	Perovskite solar cell technology	(Expectations) Introduction of core IP for perovskite solar cells and internalization of original/commercial technology	3,642

On-site Water Saving Technology

GS E&C completed a research project on the reuse of groundwater leaked from construction sites and confirmed that recycled water can be used as a cleaning water to remove fine dust from the sites. In cases where the recycled water volume per site is 60m³ daily, this solution can reduce GHG emissions by 4.8 tCO₂eq per year, which amounts to approximately 400 tCO₂eq per year when applied to all of its sites. From January 1, 2022, The Seoul Metropolitan Government implemented a policy of reducing the sewage charge by 50% in cases where spilled groundwater is used, and therefore we expect to reduce on-site operating costs when we apply the water saving technology to sites in Seoul. Up to last year, this technology was applied to construction sites such as North Suwon Xi Rexvia, Icheon Xi The Park and the infrastructure site of Incheon Subway Line 1 extension construction. Beginning this year, we plan to gradually expand the application of this technology to sites such as Wirye A2-7 block apartment and Yeosu Station Xi Heritage.



Reuse of runoff groundwater from the construction site (Geomdan Incheon Subway Line 1)

Low-energy, Eco-friendly Seawater Desalination Technology

In May 2019, the national project implemented by the Ministry of Land, Infrastructure and Transport for the "Development of Energy Recovery Technology for Seawater Desalination Plant Using PRO," was designated as a new construction technology. GS E&C plans to apply this technology to Singapore, which has a relatively high proportion of seawater desalination. We are conducting international joint research with the Singapore Public Utilities Board (PUB) for reducing marine environmental pollution from seawater desalination and for applying salinity difference-based energy recovery technology to concentrated water from water reuse plants. The technology is expected to reduce salinity difference energy recovery by about 0.5kWh/m³ and operating costs by 10%. A pilot plant with approximately 240m³/d has in operation at the Changi Water Reclamation Plant (CWRP) in Singapore since March 2022.

Biogas Facility Modularization Technology

GS E&C is in the process of developing a biogas modularization technology to produce and manage biogas most efficiently for various types of organic waste resources such as food waste, sludge waste, manure, agricultural and fisheries waste, livestock processing waste, and food processing waste. We are developing the GS Biogas module system to provide demand-tailored energy differentiated from existing biogas technology. Site selection and core module design for the technology are underway to perform integrated wastewater and waste treatment. When the demonstration study for this technology is completed, it is expected to contribute significantly to the GHG emissions reduction target of 1.5 million tCO₂eq target set for 2030 through the government's biogas facility supply project.

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Talent Management and Respect for Diversity

System for Securing and Fostering Key Talents

Talent Fostering System

The concept of talent at GS E&C is “a trusted person, who leads the change and aims for the best.” We operate a talent fostering system that offers ‘leadership’, ‘job competency’, and ‘global competency’ programs in line with this concept. Different curricula are provided to various employees depending on their ranks and duties. We have reinforced and implemented the middle management leadership education program within the construction performance HQ, and expanded contactless training using “Virtual Studio” to develop employees’ expertise and competency since 2021. In addition, we operate an internal public offering system and an internal recruitment system to provide various opportunities for employees.

■ Talent Fostering System in 2022

Unit: Persons

Program	Curriculum	No. of trainees
Leadership	Pursuing growth as desirable leaders Executives and team leaders	<ul style="list-style-type: none"> Leadership diagnosis and training Encouraging change in leadership behaviors Implementation of leadership training for the middle management 2,369
Job Competency	Accomplishing growth as competent talents Employees	<ul style="list-style-type: none"> Improving employees’ practical job competencies Provision of training depending on the job competency level Training for transferred/newly assigned employees Training in new business areas Artificial intelligence (AI) training 35,564
Global	Growing as global talents Executives and employees	<ul style="list-style-type: none"> Improving job competencies for overseas businesses Language training 2,620

■ Talent Fostering Performance

Unit: Persons, KRW 100 million, hours

Category	2020	2021	2022
No. of trainees	29,425	28,358	40,553
Total expenses	14.4	18.4	20.3
Training hours per person	28.9	46.3	40.9

Transparent Hiring Process

GS E&C complies with the Fair Hiring Procedure Act and provides equal opportunities to all qualified applicants according to its fair hiring procedures. For the first interview of applicants to permanent positions, we conduct blind interviews without providing any information about the applicants’ background so that interviewers focus solely on job competency evaluation. For hiring employees to career and contract positions, we follow the process for fair hiring. We operate a recruitment-linked internship program to expand the hiring opportunities and secure talented human resources. In addition, we disclose the hiring process on the company’s official website, blog, and YouTube channel and introduce various duties for the benefit of candidates interested in working with GS E&C.

■ New Employees Hiring Process



■ No. of Hired Career Workers and New Workers

Unit: Persons

Category	2020	2021	2022
Male	9	44	275
Female	2	3	34
Total	11	47	309

■ Hiring Types in 2022

Unit: Persons

Category	Male	Female
Affiliation workers	Permanent position	262
	Temporary position	370
Non-affiliation workers	12,585	1,056
Total	17,375	1,688



Introductory course for new employees at GS E&C

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Language Training Program

GS E&C offers English training programs under the guidance of in-house language instructors to improve its employees' English proficiency to global levels. We develop and operate various curricula such as GIC (Global Intensive Course), a one- to two-month intensive group education course, and implement GST (GS E&C Speaking Test), an English skills verification test developed by GS E&C. In 2022, we provided eight GIC sessions offline (four intermediate and four advanced) and 1:1 online language training for employees dispatched overseas in cases where they were unable to participate in the offline training. In addition, a customized language curation mail subscription service is provided to encourage employees to voluntarily acquire language skills. In 2023, we plan to provide GIC courses, 1:1 language courses, and language curation subscription services to help employees improve their global capabilities.

Artificial Intelligence (AI) Training

GS E&C carried out Artificial Intelligence training to secure business competency through enhancing the understanding of core technology related to Artificial Intelligence in line with the trend of introducing Artificial Intelligence (AI) at construction sites. Employees who participated in the training entered actual data and deducted the results, and considered ways to use artificial intelligence in business. GS E&C plans to monitor the development of technology and provide the related education to its employees on a regular basis with a view to acquiring capabilities to introduce and use new technologies.

Effective Utilization of Talents through the HR System

GS E&C operates a HR system that integrates employees' information including the details of appointment, education, assessment and promotion to utilize the talents effectively. Personnel management is optimized by identifying employees' competencies effectively through the HR system and providing appropriate jobs. GS E&C plans to develop and operate a more sophisticated HR system to create synergy effects in terms of organizational growth while helping employees accomplish optimal growth.

Retiree Training

GS E&C provides re-employment support programs for employees who are aged 50 or older in cases they are subject to involuntary turnover as well as for contract employees whose employment contract has expired to help retirees adapt to society. The life and career design training are provided to employees based on topics such as finding jobs and mental health management. We provide career move support service for social adaptation of retirees, as well as counseling and job placement services for employees who experience involuntary turnover.

Employee Diversity

Support for Foreign Workers' Settlement

GS E&C has 1,391 foreign workers with various nationalities on its payroll as of the end of 2022. The foreign workers are divided into Global Permanent (GP), Global Contract (GC), Global Assistant (GA), and Global Technician (GT) categories. We have established and implemented an integrated HR policy for GPs since 2015, and we have been applying the same rights and responsibilities as Korean employees, except wages, to foreign workers. We provide performance-based pay each year for GPs and Headquarters GCs. Furthermore, we analyze the global market standards for annual salary, benefits and terms on a regular basis to reflect the trends in our internal standards, and the salary is increased through negotiations every year. In addition, we published an English newsletter for foreign workers twice in 2022 to increase foreign workers' understanding of the organization and to support stable settlement.

Equal Opportunity through Inclusive Hiring

GS E&C operates an inclusive hiring policy for disabled persons and veterans in order to provide them with equal opportunities. We conduct site-wise checks regarding compliance with the compulsory hiring system for persons with disabilities, and make efforts to hire more disabled persons in cooperation with the Korea Employment Agency for the Disabled. In addition, we grant an additional point for hiring more persons entitled to veterans' benefits upon hiring.

Support for the Hiring and Career Advancement of Female Employees

GS E&C operates various policies to secure female employees and to support their growth. We provide equal opportunities for qualified applicants with no gender discrimination against female applicants in our recruitment process. After hiring, we follow an equal HR management policy regardless of the employees' gender, and all male and female employees of GS E&C receive the same salary based on the same criteria. GS E&C not only provides support for securing female employees but also facilitates their growth. GS E&C also supports the growth of female employees by providing various on-line and group trainings. There is no restriction for female employees working in profit-generating departments. We will continue to review and establish various measures to improve the work environment and hiring system for female employees.

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Evaluation and Remuneration

Fair and Objective Performance Evaluation using Various Methods

GS E&C uses various methods to evaluate employees' performance fairly and objectively. Performance is divided into achievements and competencies for evaluation and management, and we utilize a variety of evaluation approaches, such as MBO, multi-faceted evaluation, and relative performance evaluation, to ensure fair assessment. In addition, the evaluation grade is determined through an evaluation coordination meeting attended by all executives within each business division and headquarters, and the results are verified through HR monitoring to ensure the objectivity of evaluation.

Reasonable Remuneration System without Discrimination

GS E&C operates a performance-based remuneration system to ensure reasonable remuneration for employees based on their abilities and achievements. Individual performance is reflected in employees' salaries and promotions to keep them motivated, and feedback is provided to help them develop their competencies. We give additional rewards for organizations that accomplish outstanding results, encouraging them to consider not only individual achievement but also organizational performance. In order to improve social equity, GS E&C evaluates only individuals and organizations' accomplishment without considerations of gender or race.

Employee Classification by Age, Gender and Position*

Unit: Persons

Category	No. of employees	Category	No. of employees
Below 30 years	Executives (High level position above managers)	Below 30 years Junior staff	106
	Managers (Team leaders)	Below 30 years Senior staff	0
	Normal employees (Low level positions)	Subtotal	106
Subtotal	106	30-50 years Junior staff	1,086
30-50 years	Executives (High level position above managers)	30-50 years Senior staff	1,337
	Managers (Team leaders)	Subtotal	2,423
	Normal employees (Low level positions)	Over 50 years Junior staff	10
Subtotal	2,423	Over 50 years Senior staff	1,222
Over 50 years	Executives (High level position above managers)	Subtotal	1,232
	Managers (Team leaders)	Male Junior staff	1,016
	Normal employees (Low level positions)	Male Senior staff	2,483
Subtotal	1,232	Subtotal	3,499
Male	Executives (High level position above managers)	Female Junior staff	186
	Managers (Team leaders)	Female Senior staff	76
	Normal employees (Low level positions)	Subtotal	262
Subtotal	3,499		
Female	Executives (High level position above managers)		
	Managers (Team leaders)		
	Normal employees (Low level positions)		
Subtotal	262		

* 3,761 full-time employees

Human Rights Management

Human Rights Policy

GS E&C complies with international standards and guidelines related to human rights and labor such as Universal Declaration of Human Rights, and UN Guiding Principles on Business and Human Rights, and manages human rights effectively. We take measures to minimize violations of human rights that may occur from corporate activities, and have established the Human Rights Charter as part of the efforts to prevent violations and risks. We identify human rights risk elements through human rights evaluation and due diligence on compliance with the principles of human rights, and take corrective measures for worksites where human rights issues are found. We operate a grievance handling system to promptly and rationally resolve human rights issues received through various on/offline reporting channels, guarantee the confidentiality of informants and victims during the resolution process, and ensure that the informants do not suffer any disadvantages for reporting. We strive to raise the human rights awareness of employees and spread a healthy organizational culture by providing human rights education.

Principles of GS E&C Human Rights Charter

Article 1	Prohibition on Discrimination against Employees	Article 4	Prohibition of Forced Labor and Child Labor	Article 7	Management of a Sustainable Supply Chain
Article 2	Compliance with Working Conditions	Article 5	Guarantee of the Freedom of Association and Collective Bargaining	Article 8	Protection of the Human Rights of Local Residents
Article 3	Humane Treatment	Article 6	Guarantee of Industrial Safety	Article 9	Protection of Customers' Human Rights

GS E&C Human Rights Risk Management



GS E&C Rights Violation Relief Procedure



Performance of Handling Opinions through Human Rights Grievance Channels*

Unit: Cases, %

Category	2021	2022
Number of opinions	21	27
Number of grievances handled	21	27
Handling ratio	100	100

* Abuse of authority, verbal abuse, sexual harassment, etc.

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Efforts to Strengthen Human Rights Management

Human Rights Impact Assessment

GS E&C conducts regular surveys on human rights status and influence assessment for employees, subsidiaries and suppliers. In 2021, we conducted the assessment on 12 human rights issues to identify priority issues with high human rights risks. We took measures to correct insufficient matters that were identified on-site. Human rights training is conducted in areas such as gender and nationality where human rights violations are likely to occur, and training on GS E&C's human rights policy is provided to partner companies. In 2022, we conducted the assessment for 253* persons. The assessment scores for human rights risks were improved compared to last year in two categories, 'corruption and unfair behavior' and 'sexual harassment, sexual molestation and sexual violence'. The analysis results of human rights risks**, which correspond to factors that contribute the most to violations of human rights, averaged 4.6%, a slight increase from last year (4.0%).

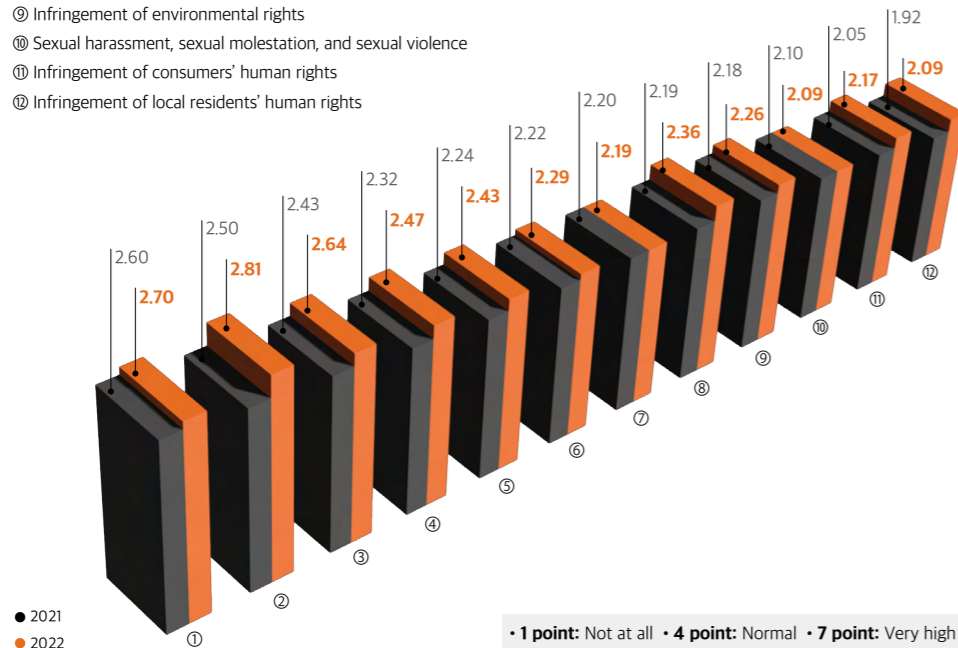
* A total 197 employees of GS E&C, 29 employees of suppliers, 27 employees of joint ventures and subsidiaries

** In the case of responding to a human rights issue with high (6 points) or very high (7 points) risks

Human Rights Risks and Influence Analysis

Unit: Points, out of 7

- ① Behaviors related to abuse of power
- ② Restriction on the freedom of association and collective bargaining
- ③ Discrimination in the hiring process
- ④ Human rights infringement among suppliers
- ⑤ Unreasonable labor conditions
- ⑥ Infringement of the human rights of foreigners / local workforce and the negligence of management in such instances
- ⑦ Corruption and unfair behaviors
- ⑧ Poor management of occupational safety
- ⑨ Infringement of environmental rights
- ⑩ Sexual harassment, sexual molestation, and sexual violence
- ⑪ Infringement of consumers' human rights
- ⑫ Infringement of local residents' human rights

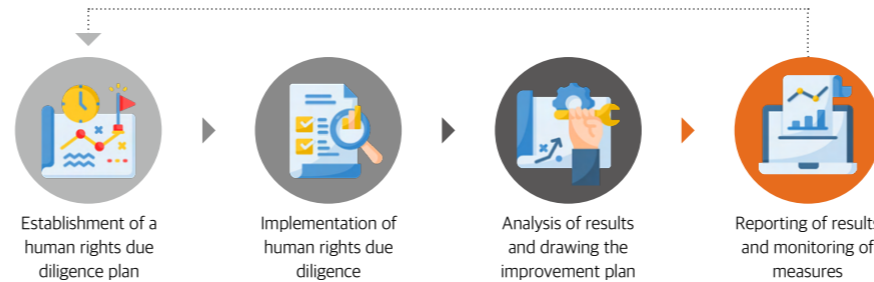


● 1 point: Not at all ● 4 point: Normal ● 7 point: Very high

Human Rights Due Diligence

GS E&C has established a human rights due diligence process and classified 10 items for human rights inspection at worksites. Accordingly, we conduct human rights inspections at 15 domestic worksites. When the human rights due diligence is completed, improvement methods are established based on the inspection results and the results and improvement tasks are shared with related departments. We explain the method for preparation of employment agreement and retirement documents, rules of compliance with working hours and holidays, and legal standards related to the procedure for termination of employment relationship, and share the precautions to be taken in the process of management. GS E&C plans to expand the scope of human rights due diligence, and to upgrade the human rights due diligence checklist. We strive to protect human rights in our business processes through stringent human rights assessment and human rights due diligence.

Human Rights Due Diligence Process



Human Rights Training

GS E&C provides human rights training to create a corporate culture that encourages free communication and respect for diversity. We have introduced prevention measures in areas with human rights vulnerabilities such as gender and nationality, through education for the prevention of sexual harassment and education on cultural areas. In addition, we offer GS E&C human rights policy training for our suppliers to encourage them to comply with the policy.

Human Rights Management Goals

Goals	Indicators	2022 (Achievements)	2023	2024	2025
Human Rights Education	Educational completion rate	99%	100%	100%	100%
	• Legal obligatory training: Prevention of sexual harassment / Awareness of the disabled	Education hours	3 hours	3 hours	3 hours
• Education on workplace bullying					
Scope of Human Rights Impact Assessment	Scope	14 domestic sites (Pilot assessment)	Domestic sites	Domestic sites / Headquarters	Domestic sites / Headquarters / Overseas sites

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Revitalization of the Organizational Culture

Improving Organizational Competency

GS E&C is steadily analyzing and improving the organizational culture through organizational culture campaigns so that its employees can utilize their best competencies. We strive to establish a healthy organizational culture and expand the communication culture through the in-house promotional material, 'Haewoobo'.

CA (Change Agent) to Establish an Open Communication Culture

GS E&C operates the Change Agent (CA) system to improve its organizational competencies and promote internal communication. In this system, CA is a person leading the change in GS E&C's organizational culture through communication with various members. The CA collects employees' opinions and plays the role of an agent, and plans and implements the competency improvement activities at the organizational level to contribute to the development of GS E&C.

Team Building Workshop for Strengthening Intra-Organizational Cooperation

GS E&C holds Team Building Workshop to enhance teamwork and create a cooperative organizational culture. Any new or reorganized organization, organizations that witnessed a change in the personnel composition, or simply all organizations that want to improve cooperation and communication between employees, can take part in the team building workshop. Over the past year, we held 43 Team Building Workshops at the headquarters and domestic worksites. The organization participating in the Team Building Workshop establishes the organizational vision and goals based on Birkman Method, and enacts the organization's rules to enhance cooperation and improve achievements.

Support for Voluntary Learning

Operation of "Study with ME"

GS E&C provides the "Study with Me (SWM)" program to cultivate a voluntary learning culture and help employees develop problem-solving skills. SWM is operated through study groups of three or more employees with the same interest to help them learn together. The program is conducted according to the study schedule and curriculum planned by employees, and provided under various themes such as self-study as well as work-related topics. In 2022, we provided the SWM program in the off-line as well as on-line modes, and helped more employees to participate with a greater variety of topics.

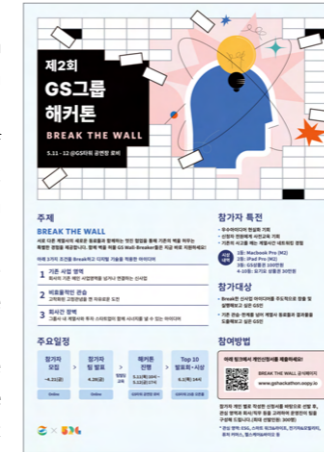
■ 'Study with ME (SWM)' Course and Number of Participants in 2022

Unit: Persons

Category	Course	No. of participants
Task	Smart city, data centers, BIM, etc.	143
Financial	Accounting management, financial modeling, etc.	10
DT/DX	Python, coding, etc.	91
Languages	English, Spanish, etc.	5
Others	Visual design, drawing, etc.	22

Hackathon based on the Topic of Sustainable Development of the GS Group

GS E&C held the second Hackathon program in May 2023. Hackathon is an innovation program that encourages employees to speak freely on general problems and focus on solving such problems in a short period of time. In the program conducted in May 2023 under the theme of 'Break the Wall', voluntary participants presented their ideas to break down business barriers between affiliates and to create synergy through collaboration. Participants in the Hackathon program experimented with the process of breaking down industry boundaries within the group, which is difficult to try in the existing work environment, to solve problems in a short time. They were able to strengthen their digital capability by creating actual prototypes using various digital tools in the process of considering and implementing ideas. The idea to solve the noise problem at worksites using noise canceling technology took the 1st prize at the 2023 Hackathon. We plan to conduct a pilot operation using this idea to reduce noise at construction sites.



Second GS Group Hackathon



Second GS Group Hackathon Award Ceremony

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Welfare Benefits for Employees

Creating a Great Work Environment

GS E&C spares no efforts to cultivate an advanced organizational culture with elements such as leaving work on time and casual office wear to create a desirable work environment. We have established a horizontal culture by introducing a title system of using the name of duty for executives and the name of responsibility for employees. The Stress Zero Program provides counseling and on-line mental health checkup services to help employees relieve work stress and improve their mental health, and this program can also be used by the immediate family members of employees. Insurance coverage for the actual medical expense is provided for employees and their spouses to reduce the burden of medical expenses.

Working Hours Management System

GS E&C complies with the 52-hour workweek and operates a working hours management system to guarantee work and life balance for employees. In order to vitalize the culture of leaving work on time, we configured employees' computers to be automatically turned off after a certain hour, and a separate approval procedure is needed for extended work after this hour. GS E&C also operates a flexi-time system that allows employees to freely adjust their commuting hours (7:30-10:00, at 30-minute intervals) if they need to adjust their timings for reasons such as participation in self-improvement programs, work, and childcare. Furthermore, we have expanded the recommended leave system and sabbatical leave system to guarantee adequate rest for employees.

Family-Friendly Welfare Benefits

GS E&C provides family-friendly welfare benefits to assist with the resolution of social problems such as reduced birth rate, and career disruption among women. We reduce working hours during the early stages of parenthood with staggered office hour system and provide congratulatory subsidies for childbirth, childcare support system, infertility leave, and family care leave. Furthermore, we support employees with childbirth and childrearing, and employees can use parental leaves for up to six months. In particular, we established a culture where male employees are encouraged to share the childcare responsibilities, so more male employees use parental leave now. In recognition of these efforts, GS E&C received the Family-friendly Certificate from the Ministry of Gender Equality and Family. Since February 2022, we have been striving to create a mutually respectful organizational culture by allowing overseas employees who meet certain conditions to stay with their families at their job location and supporting their moving expenses and housing rent.

■ Use of Parental Leave

Unit: Persons

Category	2020	2021	2022
Male	76	130	78
Female	62	87	52

Protection of Employee Rights

Labor-Management Cooperation

GS E&C operates a labor union composed of 380 full-time employees (24.3%). We negotiate wage agreements with the labor union every year and a collective agreement regarding the working conditions is formed every other year. Upon the occurrence of a material issue regarding the management of the company, we guarantee employees' right to work by notifying significant management issues and carrying out discussions with employees. In 2022, we held a labor-management discussion and labor management workshop, and also operated the regular labor-management council. In 2023, regular communication activities were conducted to prepare the collective agreement. GS E&C will vitalize open communication to lead the shared growth culture for the labor and management.

■ Labor-Management Council Performance in 2022

Regular meetings (Each quarter)

4 times

Management of the grievance handling ledger (Quarterly)

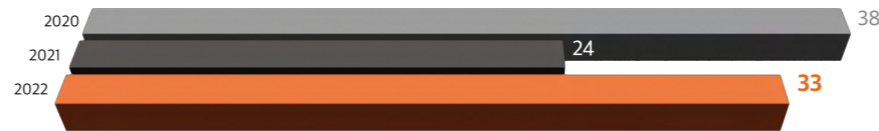
4 times

“VOE” and ‘Suri-Suri’ to Listen to Employees’ Voices

GS E&C operates “VOE (Voice of Employee)” and ‘Suri-Suri’ to listen to employees’ voices. When employees share their difficulties and constructive opinions through VOE, we strive to understand the issues and reflect them in the company’s process. When employees present various difficulties and opinions on the company’s welfare system and facilities through ‘Suri-Suri (grievance procedure)’, we actively reflect the feedback to provide substantial welfare and convenience. GS E&C’s executives and top management make regular visits to domestic and overseas work sites to directly listen to and handle difficulties and thereby improve work and life conditions for the employees.

■ VOEs Submitted

Unit: Cases



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Pursuing Customer Satisfaction through Shared Growth Management

Systematic Quality Management

Quality Management and Consumer Safety

GS E&C strives to provide the best quality and services that satisfy the customer with the management concept of "think and act from the position of the customer, and always remain close". We conduct preliminary quality verification on key materials that serve as the foundation for all construction work, and the improvement work and quality verification are implemented to secure the reliability of material quality. We comply with the quality standards for finishing materials and insulating materials to improve indoor air quality and noise level control and thereby enhance customers' satisfaction. Quality inspections are conducted by making business agreements with various special quality testing and inspection agencies to secure accurate verification of material quality.

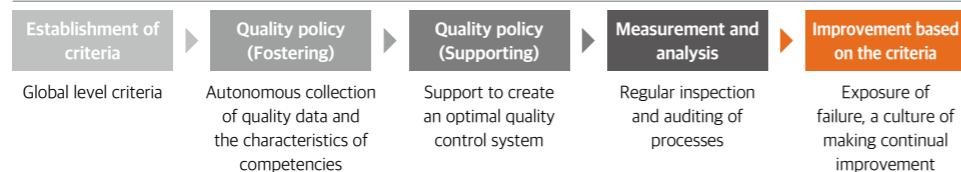


Quality and Environment Management Policy

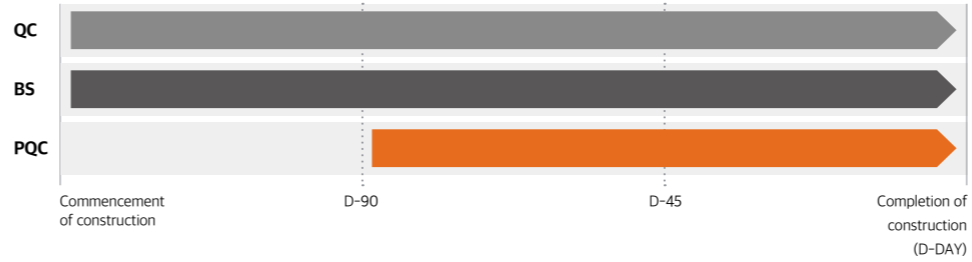
Quality Management System

GS E&C develops and uses the best quality management tools applying its outstanding IT capabilities based on the integrated management system approved by the international standard ISO 9001. We apply stringent quality management to all projects to meet not only customer requirements, but also internal quality criteria corresponding to global standards while pursuing the strengthening of the quality culture through improvement activities. GS E&C strives to construct the highest quality buildings through various preliminary quality inspection activities. We check the status at each stage of construction based on our internal manual, and strive to realize perfect construction in all processes by means of total quality inspection. We check the preliminary quality through QC (Building Quality Control) and inspect quality during each stage of construction in all processes and BS (Preliminary Quality Control) to implement on-site training and inspection. In particular, the visual inspection and functional inspection on finishing material are conducted simultaneously during BS to prevent multiple defects. The quality inspection through PQC (Preliminary Quality Control) is conducted 90 days prior to the completion of construction. We perform total quantity inspection on exclusive areas through the quality control activity and conduct joint site inspections on the common areas to check the quality status of finishing for common subsidiary work and matters related to expected complaints. Complaints and defects reported on exclusive areas and common areas during the tour are handled thoroughly through PQC to minimize inconvenience to customers. When construction is completed, we prevent inconvenience to residents through prompt hand-over. We also visit each household right after moving-in to conduct inspections, thereby increasing customer satisfaction.

TPMS-based Quality Management System



Preliminary Quality Inspection



Cooperation with the Technology Research Institute for Insulation Design

GS E&C requests support and pursues collaboration with the Technology Research Institute when technical review is deemed necessary during the design stage, to review matters such as prevention of dew condensation or verification of insulation materials. If there is a concern about condensation, we conduct a simulation for thermal performance analysis to verify whether the condensation requirements are met. The Institute provides supports to verify the performance of new insulators upon their introduction, to ensure optimal insulation design.

TF Activities for Reducing Noise between Floors

Noise between floors is recognized as a serious social issue and accordingly GS E&C has strengthened the verification of noise between floors. GS E&C established a Task Force (TF) related to controlling noise between floors to respond to the policy of noise measurement after construction. In 2022, GS E&C obtained Accreditation from LH for various structures at the Incheon Yonghyeon Xi Crest, and applied for patent of a five-layered floor structure that we developed. In 2023, we developed the highest performance (grade 1) floor structure to obtain KICT certification at the Opo Xi Object site.

Use of Safe Stone Material

As radon has become a major social issue in Korea, GS E&C conducts tests in accordance with the relevant laws and regulations to secure material quality and ensure customer trust. We measure the radiation index for granite and marble material, and we have strictly prohibited the use of stones that fail to comply with the standards. For example, granite bathroom shelves are replaced with engineered stone to ensure customer trust. We request an accredited testing laboratory to run tests, and only qualified materials that meet related standards are used upon the introduction of new stone material.

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Customer and Market Communication

Creative Customer Communication Using SNS

GS E&C continuously communicates with customers through social media. We are uploading a variety of contents tailored to customer needs via various social media channels including YouTube, KakaoTalk, Facebook, Instagram, etc. The official YouTube channel of GS E&C, "Xi TV" has approximately 492 videos on various subjects of interest to customers such as live sales talk (apartment sales information), Show me the Xi (completed apartments), tax and interiors with 26,228,677 cumulative number of views. It provides differentiated contents ranging from lectures and real estate seminars to talk shows such as the "Real Estate What Chat" to enhance communication with customers. The channel has more than 580 thousand subscribers as of May 2022. The live sales talk provides show-house videos for apartment complexes to be sold. This makes it convenient for customers to see the sample house anytime, anywhere, even if they are not able to visit the site in person. GS E&C KakaoTalk channel has more than 680 thousand subscribers, operates counseling services for apartment sales 24 hours a day through Kakao Chatbot, and sends informational messages to its contracted apartment customers at specific points of time. We plan to continue communicating with customers in various creative ways.



'Xi TV', GS E&C official YouTube channel

Advanced Customer Services using the Xi AI Platform

GS E&C has established the Xi AI Platform to introduce the home network system and community facilities and thereby improve customers' satisfaction with the residence units. The Xi AI platform is an integrated AI platform based on big data. It analyzes data collected from Xi complexes and uses the analysis to provide various services to residents through the 'GS SPACE' App. In the first half of 2022, we launched "Safe Care Service", which analyzes the living pattern of residents through AI and sends guidance messages to a guardian upon the occurrence of an emergency situation. In the second half, we expanded the Xi AI platform to provide the "Customized Indoor Environment" service to maintain a pleasant indoor environment automatically through analysis of indoor air quality. In the first half of 2023, we plan to introduce "Parking Location Guidance" service to provide the optimum parking location preferred by residents, and expand related services. In addition, we are expanding the range of available services for residents in cooperation with various communication companies (SKT/KT/Kakao for AI Speakers) and IoT manufacturers (LG, Coway, Philips Hue, etc.), and we provide security at the level of financial institutions by applying a PKI based authentication system on each device and apply encryption to all communications and databases.



Xi AI Platform

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2023 GS E&C Integrated Report



Customer Satisfaction Management

Customer Service through Efficient Management of Complaints

GS E&C provides a service that allows customers to easily inquire about sales, design, and construction by accessing Xi website or GS E&C official website. This also helps us to collect and handle customer inconveniences efficiently. When an inquiry is received, the submitted opinions and complaints are collected and sorted efficiently subject-wise through the Housing Customer Relationship Management (CRM) System. Feedback and queries are delivered to in-house experts for review, to process the response as soon as possible. We strive to prevent customers' inconveniences preemptively by identifying the appropriate improvement measure after collecting types of frequent complaints on a regular basis. When prospective residents visit their houses for inspection, they can submit complaints on defects and request repairs through the 'Xi App'. We use the App to show how defects are handled in real time before completion of construction. We check customer satisfaction with after-sales service through the Mobile Happy Call after defects are handled and residents move in, and strive continually to improve our service. GS E&C makes efforts to improve reliability and work efficiency for the benefit of customers by actively responding to customer complaints and managing problems.

■ Status of Receiving and Handling Consumer Complaints

Reception	Handling (Completed)	Handling ratio
8,126 cases	7,826 cases	96.3 %

Ranked No. 1 in the Global Customer Satisfaction Index (GCSI) for 18 Consecutive Years

"Xi", the apartment brand of GS E&C, recorded a score of 73.8 points in 2022, achieving No. 1 position in the 2022 GCSI (Global Customer Satisfaction Index) score for 18 consecutive years. Global Customer Satisfaction Index (GCSI) is a system used to assess customer satisfaction. It is supervised by Global Management Association, a research institution under the Ministry of Trade, Industry and Energy. GS E&C achieved the highest score in all four areas (customer satisfaction, customer value, global competitiveness, customer loyalty) as well as the total score. We will continue our efforts toward the improvement of customer satisfaction.

■ Customer Satisfaction Survey*

2020	2021	2022
73.7	73.7	73.8

* GCSI (Global Customer Satisfaction Competency Index) results

Satisfaction Telephone Survey for Residents

GS E&C conducts an annual Satisfaction Telephone Survey for residents who have been living in their new apartments for more than six months, and uses various channels to improve customer satisfaction. The satisfaction survey presents questions under four categories such as A/S reception, scheduling, reception of customer calls, and A/S processing period. The survey results regarding scheduling have a relatively high score, but A/S reception, reception of customer calls and A/S processing period have relatively low scores. The overall score in 2022 decreased compared to the previous year. In particular, the score for the reception of customer calls dropped significantly. We plan to conduct active customer management and monitor customer calls in the short term, and provide regular CS customer response training through professional instructors in the long term to develop customized services for customers.

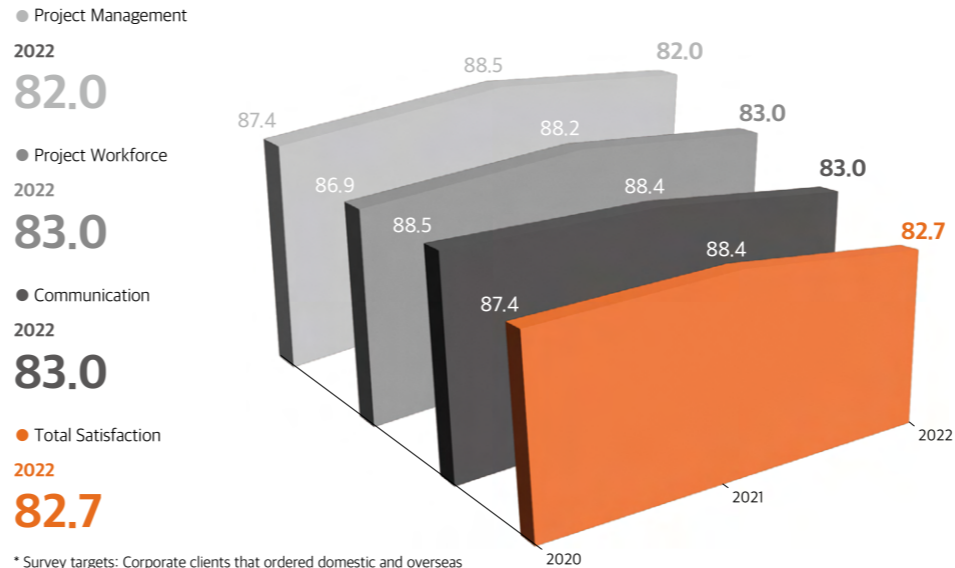
Corporate Client Satisfaction Survey

GS E&C identifies the company's strengths and weakness by collecting customers' opinions, and conducts an annual satisfaction survey to establish measures for improvement. The survey on customer satisfaction at project sites with 13 items in three areas (project management, project workforce, and communication) showed that the total satisfaction score was 82.7 points. The area with the highest positive opinion was the project workforce, which has extensive experience coupled with outstanding capabilities. The area with significant negative opinion was the management of project finishing. GS E&C will continue to analyze and improve customer feedback through SNS channels to grow as a company loved by customers.

* The survey items were increased from 12 in 2021 to 13 in 2022.

■ Corporate Client Satisfaction Survey*

Unit: Points, out of 100



* Survey targets: Corporate clients that ordered domestic and overseas projects that were implemented in the reporting period (49 in 2020, 49 in 2021 and 20 in 2022)

■ Consumer Rights Goals

Goals	Indicators	2022(Achievements)	2023	2024	2025
(QC* Last phase) Defect handling rate for reports received during pre-inspection by residents	Defect handling rate before moving in	95%	95% or more	100%	100%
Corporate Client Satisfaction Survey	Average score for 13 items	82.7 points	83.0 points or more	84.0 points or more	85.0 points or more

* QC: Quality Control by construction phase

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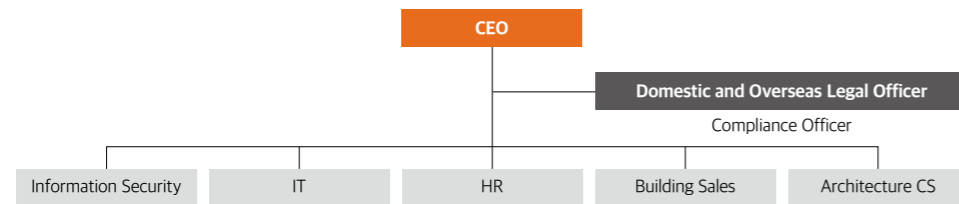
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Strengthen Information Protection

Operation of a Company-wide Information Protection System

GS E&C has established a company-wide information protection policy, and operates the "Information Protection and Personal Information Protection Committee" to prevent the leakage of personal information through thorough implementation of the policy. Executives of related organizations are appointed as members of the Committee to establish and implement a company-wide information security policy. The information protection policies include guidelines for various information protection activities to strengthen the company's information protection capabilities as well as guidelines for reporting and responding to information protection accidents. GS E&C strives to implement the relevant policies meticulously through the appointment of a Chief Information Officer and a Chief Privacy Officer in accordance with the work and designation conditions such as the Information and Communication Network Act and the Personal Information Protection Act.

Information Protection and Personal Information Protection Committee



Roles and Responsibilities of Information Security Divisions

Category	Roles and Responsibilities
Information Security	Establish, manage, and operate the information protection management system
	Check the information protection status of the head office, subsidiaries, and related companies, and provide security guidelines
	Establishment and implementation of the personal information protection education plan
	Monitoring of the security system and responding to incidents upon information leakage
IT	System authority related to the management of personal information
	Implementation of system security measures related to the protection of personal information
	Regulations for personal information protection procedures
HR	Management of applicants' information upon recruitment and the disposal of information after the completion of recruitment
	Request for consent regarding personal information protection activity upon recruitment of employees
	Management of employee information
Building sales	Review of the Personal Information Protection Act and compliance with the Act in business activities
	Management of on-site employees who handle customer information
	Building a sales management system, and the management of customer information
Architecture CS	Management of the consignor company and its employees who handle customer information after moving in
	Management of on-site employees who handle customer information

Strengthening Information Protection Capacity

Information Protection and the Personal Information Protection System

GS E&C strives to improve security level and prevent damage caused by security accidents through systematic measures and activities for the protection of business information as well as personal information. In 2022, GS E&C obtained ISMS-P (Personal information & Information Security Management System) certification. In 2023, we will continue to strengthen our management capabilities for information protection through ensuring adherence to the requirements of ISMS-P. In the second half of the year, we plan to acquire ISO 27001/27701 (Information Protection Management System, Personal Information Protection Management System), an international standard, to improve reliability in the global business environment.

Information Security Management System (Internal and External Audit Program)

Category	External Audit			
Audit body	KISA (Korea Internet & Security Agency)	BSI	Accounting Firms	
Description	ISMS-P Evaluation	ISO 27001/27701 Evaluation	Computerized Audits (Internal control)	
Cycle	Yearly	Yearly	Twice a year	
Target	Information Security Team	Information Security Team	IT Team	
Category	Internal Audit			
Audit body	Information Security Team			
Description	Check of personal information status	Check of life security	Information security checks (Simulated hacking, checks to identify IT infrastructure vulnerabilities, source code)	In the event of a security breach
Cycle	Half-yearly	Monthly	Occasional	Occasional
Target	All sites handling personal information (Sales Office, CS Center, Residence Support Center)	All employees	B2B/B2C System	All employees

Protection of Information Assets

GS E&C operates an information protection system according to the IT service security management guidelines for the protection of information assets. We fundamentally block unnecessary access to key information and control information leakage through the management of access rights and database access control solutions. The access records (logs) of persons authorized to handle key information are stored automatically to prevent the leakage of key information through monitoring on a regular basis. As a result of these strict measures, GS E&C did not have any cases of technology and information leakage and personal information leakage in 2021 and 2022. We aim to maintain the strict control measures to prevent information leakage preemptively. In 2022, we invested the entire IT budget for aspects of information protection such as system development and maintenance, and software maintenance. We plan to expand our investments in information protection to protect the information assets.

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Investment in Information Protection

In 2022, GS E&C was selected as an Excellent Information Security Investment Company* through the expansion of information security investment, and invested KRW 32.8 billion in information technology and KRW 1.2 billion in information protection. We designated executives as CISO/CPO and strive to increase investment in information protection and expand manpower through activities such as KISA infringement accident response training and registration management based on International Information Protection ISC2 CISSP certificate.

* An entity that has fulfilled all information protection disclosure requirements among entities that have received grade AA or higher for Information Protection Management System Certification or Information Protection Readiness Evaluation

Investment in Information Protection

Information technology investment (A)	Information technology investment (B)	B/A
KRW 32,795,896,109	KRW 1,192,777,071	3.6%

* Remarks: ISMS-P certification obtained (December 2022)

Preemptive Improvement on Vulnerabilities through Security Inspection

GS E&C is improving the level of information security by identifying security vulnerabilities through regular security inspections and monitoring. We adopt improvement action for the problems identified during the inspection process and establish and implement measures to prevent recurrence through ISMS-P, ISO 27001/27701, inspection for sites handling personal information, and life security inspection for all employees. Information security checks are conducted on B2C and B2B systems to remain prepared for external hacking attacks through hacking simulation, checks on IT infrastructure vulnerabilities, and source code check. We conduct mock training on hacking/phishing emails for employees to improve their awareness of information security in the first half of every year.

Information Protection Activity in 2022

Category	Description	Date
Security Certification	Obtained ISMS-P (Personal information & Information Security Management System) Certification	November 2022
	Obtained ISO27001/27701 Certification (International Information Protection Certification)	October 2023
Security Disclosures	Information protection investment status, human resources status, certification/evaluation/inspection of information protection	May 2022
New Business Security	Security inspection and guidelines for new businesses such as GPC, XiGEIST, GS Elevator	December 2022
	Established a security system in view of changes in cloud and smart work environment	
Personal Information Protection	Strengthened security management through compliance, elimination of vulnerabilities in cloud/IT infrastructure, application secure coding	September 2022

Strengthening the Full-time Security System through “Security Practice Day”

GS E&C designated the “Security Practice Day” to raise awareness on information security and to encourage employees practice security in daily activities. On “Security Practice Day”, observed on the third Friday of every month, every department conducts self-inspection on security in daily activities. We verify compliance with the guidelines for security management of information assets in terms such as configuration of the screen saver, change of computer passwords, deletion of employees’ personal information, and the implementation of “9 Habits of Security Practice” in daily activities. We strive to prevent information leakage preemptively by supporting various programs for information security, including malicious file blocking programs that prevent ransomware infection through email attachments.

9 Habits of Security in the Daily Life of Employees

IT Security	Document Security	Working Environment
<ul style="list-style-type: none"> Any acts that may cause leakage of corporate information and personal information are strictly prohibited. Comply with the information security guidelines and do not use illegal S/W. Unnecessary files stored in the PC shall be deleted immediately. 	<ul style="list-style-type: none"> Minimize the print outs of documents. Hard copies shall be disposed of appropriately once the reporting is completed. Important documents shall be stored in a safe storage cabinet. 	<ul style="list-style-type: none"> Maintain a pleasant working environment with proper arrangement. Look around before you leave the office. The third Friday of every month is designated as the “Daily life security day”.

Customer Information Protection through Field Monitoring

GS E&C manages customers’ personal information using the personal information system to protect customers’ personal information jointly with employees and suppliers. We share the personal information processing policy with the customer and receive consent for collection/use/provision of personal information upon the collection of customers’ personal information. A large amount of customers’ personal information is collected during the building sales process. We provide personal information protection education for employees upon the opening of a sales office. Furthermore, the personal information is managed under encryption to protect customer information through the VPN Internet system and security software. In addition, we provide personal information protection education for employees, and check the implementation status of information security measures on the field through inspections. We receive the Ministry of Public Administration and Security’s inspection on personal information management and strive to resolve any problem to prevent the leakage of customer information.

Strengthening of Employees’ Information Protection Competency through Information Security Education

GS E&C provides information security education to strength employees’ information security competencies and to prevent information security accidents. The information security officer of each team completes the education and shares the knowhow with the corresponding team so that all employees are aware of the contents of information security education. In the first half of 2022, we provided information protection and personal information protection education for the security officers and conducted information security education for employees involved directly/indirectly in jobs related to the architecture performance HQ to strength the information security capability of employees. Both new and experienced hires are required to complete information security training when they enter the company. GS E&C provides education to prevent the occurrence of information security accidents by conducting education focused on accident cases such as phishing and impersonating public institutions and police stations. We encourage all employees to submit the information protection pledge to strengthen their recognition of the importance of information security.

Report and Response of Information Security Safety Accidents

GS E&C organizes the Information Violation Incident Response Team to respond promptly and minimize the damage from any information safety accidents. When an information protection safety accident occurs or is suspected, it is immediately reported to the information protection officer in accordance with the guidelines for responding to personal information violation incidents, and is processed in accordance with the safety accident response procedure. When an information safety accident occurs, the Information Violation Incident Response Team identifies the course of the accident, investigates the related persons, and takes measures to destroy or retrieve the leaked information. We identify the cause of occurrence in order to establish measures and prevent similar safety accidents in collaboration with outside experts, if necessary.

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Contribution to Social Development through Strategic Social Contribution

Strategic Social Contribution Management System

Rather than making onetime donations, GS E&C aims to pursue the development of local communities in the true sense of the word through social contribution programs that reflect the characteristics of the construction industry under the core values of "respect, communicate, and grow together". We promote overseas social contribution activities to build trust with local communities. We have been implementing social contribution activities continuously for people in need, starting with the establishment of the 'Xi Share Love Volunteer Group' in 2006 based on employees' volunteer organization. In 2022, construction of 'Playground of Dreams', a representative social contribution program of GS E&C, was completed in four locations (42 sites in total). We support neighbors experiencing difficulties by expanding donations and investment in view of the difficulty of conducting face-to-face volunteer activity amidst COVID-19. In 2023, we plan to encourage employees and executives to participate in social contribution activities through "With COVID-19 Era" and expand donations and investment to share happiness through a culture of social contribution.

GS E&C Social Contribution System

Core Values

Respect, Communicate, and Grow Together!

Activities

Social welfare
Year-End Kimchi sharing with low-income groups
Year-end labor-management joint activity to provide support to seniors living alone
Support for repair of visiting room in army bases

Education and Culture
Operation of after-school classrooms
Support for computer classes in Vietnam
Support with female hygiene products for female students from low-income groups
Scholarships and support for learning expenses

Environment and Safety
Playground of Dreams and Hopes

Major KPI Performance Data for Social Contribution Activities

Beneficiaries of social welfare programs

5,672 persons

Sharing boxes of Kimchi

3,300 persons

Support for seniors living alone

90 persons

Number of press exposures

221 times

Beneficiaries of education and cultural programs

370,386 persons

After-school Classroom

No. 24 (Accumulated)

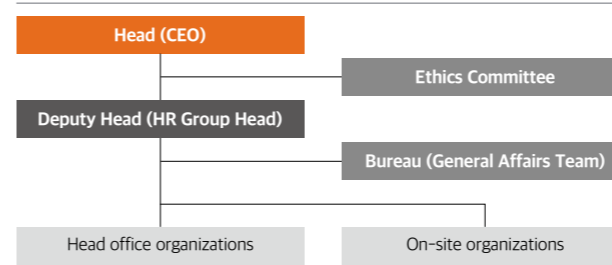
Support with female hygiene products for female students from low-income groups

1,500 persons

Number of students that received assistance with scholarships and learning expenses

20 persons

Social Contribution Promotion Organization



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Social Contribution Based on Industry Expertise

Playground of Dreams and Hopes for Protecting Children's Safety

GS E&C is implementing the "Playground of Dreams and Hopes" project to provide a safe educational environment for children. Playground of Dreams and Hopes, a new play culture space based on a new concept breaking away from the conventional playground, includes an ecological playground, a cafe, and an auditorium. We provide support for children to grow physically and emotionally healthy by installing a playground that ensures a safe space for children. In 2022, four playgrounds were newly installed, resulting in a cumulative 42 playgrounds. We plan to continue our support for the 'Playground of Dreams and Hopes' project.

After-school Classroom Project for a Better Educational Environment

GS E&C conducts the "After-school Classroom" project to improve the learning environment and provide better facilities for children low-income groups and to provide various materials. In 2022, we repaired two welfare facilities and provided support to the "After-school Classroom" with the necessary items and consumables, and completed the 24th (cumulative) classroom. GS E&C plans to promote the project to improve the educational environment through the "After-school Classroom" that offers a pleasant and safe environment to students.

Soft and Warm Hope Box for Girls from Families in Crisis

GS E&C is promoting the "Soft and Warm Hope Box" project, which is designed as an initiative to hand out female hygiene products such as sanitary pads for female students who are experiencing financial difficulties. In 2022, we provided female hygiene products and other items that can be used for one year to 1,500 female students from low-income groups. "Soft and Warm Hope Box" is delivered to the student's home rather than to schools to prevent any embarrassment to female students with sensitive minds. We expect that the "Soft and Warm Hope Box" project facilitates healthy growth and improves balanced welfare for female students. We will continue to take the lead in resolving the blind spots of welfare.

Support for Seniors Living Alone

GS E&C holds regular events to deliver presents and food to seniors living alone. We deliver presents and food to seniors living alone on four occasions each year including Chinese New Year, Family Month, Chuseok, and year-end. In 2022, we delivered food and agricultural product packages to 90 seniors living alone. GS E&C plans to expand supports for seniors living alone with a feeling of respect.



Playground of Dreams and Hopes

Support for Seniors Living Alone

Kimchi Sharing with Low-income Families

GS E&C has been sharing Kimchi with low-income families and welfare facilities since 2009. In 2010, the scope of participants in GS E&C's kimchi sharing event, which has the employees make and deliver kimchi in person, was expanded to include the employees' families, adding value to the event. In 2021, we purchased Kimchi to share with a larger number of low-income families and welfare facilities that suffered from COVID-19. In 2022, COVID-19 was eased, and employees made kimchi themselves and delivered it to 3,300 persons. In 2023, we hope to enhance the bonding among employees through Kimchi-making, and encourage their participation in social contribution activities.

Organizations and NGOs Cooperating on Key Social Contribution Activities

Category	Social contribution activities
Child Fund Korea	Study Room of Dreams and Hopes, Playground of Dreams and Hopes, Afterschool Classroom, Year-end Kimchi Support
Save the Children Korea	Scholarships and support with learning expenses for outstanding students Support for low-income families led by grandparents
HAPPY PEOPLE	Facility support for schools in Vietnam
Good Neighbors	Support with female hygiene products for low-income groups
Seoul Sports Council	Support for athletics
International Disabled Cultural Exchange Association	Art exhibition that showcases work by developmentally disabled persons

Employees' Participation in Social Contribution

Unit: Times, Hours, Persons

Category	2020	2021	2022
Number of activities	20	33	30
Hours of participation	468	614	740
Number of participants	117	95	114

Social Contributions and Expenses

Unit: KRW 100 million

Category	2020	2021	2022
Budget	58	56.1	60.1
Social contribution expenses (Achievements)	62.3	59.1	60.1

Community Management Goals

Unit: Hour, Person

Goal	Indicators	2022(Achievements)	2023	2024	2025
Employee Volunteer Activity Hours	Volunteer activities (Hours)	740	2,080	2,704	2,974
Number of Beneficiaries for the Local Community Support Program	Number of beneficiaries (Persons)	23,675	24,756	27,232	29,955

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Harmony with Local Communities

“Meeting with Local Residents” to Collect Opinions

GS E&C operates community consultation channels such as meetings with residents to listen to their opinions and to enhance communication. We hold meetings with local residents to explain the progress of construction, and to request their understanding regarding any inconvenience that may be caused during the construction process. When there is a request for improvement and demands from residents during the construction process, we strive to conduct an interview with the person in charge of on-site work to reflect the opinion as much as possible and take countermeasures. We explained the impact of seawater desalination projects and marine emissions at the Daesan-eup Project briefing session while providing proper answers to residents' concerns and queries about negative impacts on the natural environment, such as changes in mountain topography and farmland caused by seawater leaks. We established a plan to reduce environmental impact and took measures to reduce noise and vibration damage caused by blasting to alleviate inconvenience for residents in Daesan-eup. In addition, we managed scattering dust and noise utilizing IoT technology such as automatic scattering dust watering system and noise management system, and minimized inconvenience to residents by resolving civil complaints proactively through a civil complaint management system (Civil Complaint Team).

Activities to Reduce Noise, Vibration, and Scattering Dust at the Construction Site of 'Eunpyeong Xi the Star'



Meeting with Local Residents to Collect Opinions

GS E&C identifies and mitigates possible impacts and risks to local communities during construction. We held a construction briefing session prior to commencing construction of 'Eunpyeong Xi the Star' to collect opinions from residents through questions and answers, and identified risks related to noise, vibration, and scattering dust that may occur during the construction process. We tried to minimize inconvenience to residents during the construction period by analyzing the identified risks and establishing and implementing reduction plans accordingly. GS E&C will continue its efforts to create construction sites that care for residents based on smooth communication with residents.

Measures to Reduce Noise, Vibration, and Scattering Dust of 'Eunpyeong Xi the Star'

Category	Impact Analysis	Mitigation Measures
Noise and vibration	<ul style="list-style-type: none"> • Soundproofing measures such as mobile soundproofing walls • Prohibition of slow-moving and warning sounds emitted by construction vehicles on site • Continuous measurement management of noise 	<ul style="list-style-type: none"> • Installation of external soundproof walls (H=8M), and mobile soundproof walls for excavation equipment • Installation of simple soundproof walls • Installation of noise meter outside the soundproof wall • Periodic noise measurement outside the complex
Scattering dust	<ul style="list-style-type: none"> • Controlling the generation of dust by continually spraying water in the complex • Control of dust leakage by installing dust net 	<ul style="list-style-type: none"> • Installation of a dust net outside of gang foam • Installation of automatic washing machines • Installation of spraying facilities on temporary roads • Operation of high pressure sprayers • Operation of sprinkler trucks on external roads • Installation of dustproof covers for fieldwork soil • Installation of dust protection covers for transport vehicles
Other measures	<ul style="list-style-type: none"> • Regular environmental cleanup activities around the construction sites • Pre-detection of damage to surrounding buildings by various instruments • Designate a weekly contact person for residents in the surrounding area to listen to complaints periodically 	<ul style="list-style-type: none"> • Environmental management of the construction site (Periodic cleaning by personnel, operation of sludge storage boxes, installation of separate waste collection sites) • Management of various instruments (Noise meter, crack gauge to check damage to surrounding buildings, and inclinometer)

Encouraging Social Contribution Activities by Employees

Support with COVID-19 Emergency Relief Items at Nha Be, Vietnam

As a global constructor, GS E&C promotes social contribution in line with the demands and expectations of local communities at our overseas sites. In 2019, we received feedback regarding local community needs and carried out social contribution activities. In 2021, we provided support with emergency relief items to respond to the COVID-19 crisis and carried out a project to improve the family environment for four families with 30 computers. In 2022, we built a computer class at a school near the Nha Be business site in Ho Chi Minh, Vietnam for 1,095 persons, and promoted a project to improve the residential environment for 16 persons. In addition, we carried out the residential environment improvement project for four families at Long Binwad area in the Ho Chi Minh City and built an additional computer class in one school. GS E&C will fulfill its responsibility as a global construction business by leading social contribution activities at overseas sites as well as domestic sites.



Sponsored computer classes at schools near Nha Be, Vietnam

Employee Donation System

GS E&C operates an employee donation system to encourage employees' participation in social contribution activities. The fundamental donation is raised with a certain share of salary and used as a financial source for social contribution activities. When employees donate a certain amount, GS E&C increases the amount of donation by making an additional grant matching the employees' donation.

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Culture and Sport Support Project for Sharing and Companionship - Connect Project

Operation of Gallery “Siseon”

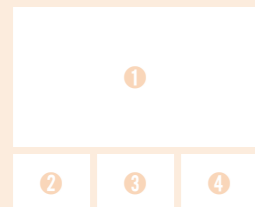
Since November 2018, GS E&C has been operating Gallery “Siseon” on the first floor lobby of the Head Office to conduct social contribution activities in support of new artists. Artists who are eligible to exhibit their works in Gallery “Siseon” are selected fairly by consultants with expertise. Consultants bring out the artists’ potential, and provide various advice for holding the exhibition. In 2021, we published a review book including a consultant’s assessment of artists and their works along with the works of 84 new artists, who exhibited their work in Gallery “Siseon”. In 2022, works by 22 artists were displayed in the gallery.

Art Exhibition by Developmentally Disabled Persons - Dream Connect

GS E&C formed an agreement with the International Disabled Cultural Exchange Association to host an art exhibition that showcases works by developmentally disabled persons for 10 days from December 26, 2022. A total of 35 pieces by 23 developmentally disabled artists were exhibited at the art exhibition held in the lobby gallery of GS E&C’s head office. In addition, we delivered support items (art supplies) to support art activities of developmentally disabled artists.

Theater Performance - Connect Musical

GS E&C held a children’s musical performance in Elysian Gangchon for two weeks during the summer vacation to support the activities of theater artists. We provided a theater company with the space and cost necessary for the performance and held a play on the theme of environmental protection in line with the trend of the ESG era to create useful contents and time for children who are the major audiences.



- ❶ Art review of Gallery “Siseon”
- ❷ Art exhibition by developmentally disabled persons
- ❸ Connect Musical
- ❹ Connect Concert

Music Concert - Connect Concert

GS E&C held two music concerts, ‘Connect Concert,’ on the first floor of the head office in June 2022, and at Cheonggye Plaza in October. The Music Concert, ‘Connect Concert’ provided performance opportunities for musicians who did not have many chances to work due to the COVID-19 pandemic. In addition, we provided a precious opportunity for our employees and visitors to relax and enjoy the music.

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Establishment of Transparent Governance

Governance

GS E&C has appointed the BOD to accomplish the goals of corporate growth through the creation of sustainable value with stakeholders under GS E&C's mission of "pursuing growth as a Sustainable Global Company." We manage issues related to overall economy, environment, and society through subcommittees under the BOD to improve the expertise and efficiency of the BOD. The GS Group applies the Group's policies to ensure independence and diversity of non-executive directors to each company in line with the trend of strengthening transparent and sound governance as the source of corporate competitiveness. GS E&C also enhances the efficiency and expertise of the BOD through verifying the essential expertise of non-executive directors based on their age, gender, and experience. GS E&C has designated four subcommittees: three subcommittees under the BOD (the Audit Committee, the Non-executive director Candidate Recommendation Committee, and the ESG Committee), and one subcommittee outside the BOD (Internal Trade Committee). The roles and responsibilities of the subcommittees have been clarified through the operating regulations. In 2022, the operating regulations were revised to extend the deadline for agenda notification from 12 hours to one week before the subcommittees' meeting and to add provisions for assistance from outside experts for a more faithful operation of the subcommittees. Baseline provisions have been established in the operational regulations to evaluate the efficiency of the BOD's operations. Annual self-evaluation of the BOD is conducted by non-executive directors to assess the roles, responsibilities, structure, operation, and subcommittees to derive improvement measures.

Article 22 of the Regulations for the BOD Operation

Article 22 (Evaluation of the Board of Directors): An evaluation of the BOD and each committee may be conducted for more efficient operation of the BOD.

Establish BOD-centric ESG Governance

Composition of the BOD

The BOD of GS E&C consists of seven members including two inside directors, four non-executive directors, and one other non-executive director as of May 2023. The representative director holds the position of chairman of the BOD in order to facilitate timely decision making. However, the roles of the BOD chairman and the CEO are separated to secure the independence of the BOD. The ratio of non-executive directors is maintained at more than a half (4 out of 7), which satisfies paragraph 1, Article 542-8 of the Commercial Act that requires at least three non-executive directors constituting the majority of the total number of directors to ensure the independence of the BOD.

BOD Members

As of General Shareholder Meeting on 2023.03.24

Category	Name	Roles	Date of appointment	Date of expiration (scheduled) of term of office	Career highlights	Reason for appointment
Inside Director	Chang-soo Huh	Chairman of GS E&C, Chairman of the Board of Directors, Chairman of the Non-executive DirectorCandidate Recommendation Committee	2023.03 (2002.03)	2026.03	Chairman of GS E&C	-
	Byeong-yong Lim	CEO	2022.03 (2013.03)	2025.03	Vice Chairman and CEO of GS E&C	-
Other Non-Executive Director	Jin-soo Huh	Member of the ESG Committee	2023.03 (2020.03)	2026.03	[Former] Chairman of the BOD of GS Energy	-
Non-executive Directors	Hee-gook Lee	Chairman of the ESG Committee	2021.03	2024.03	[Former] Chairman of LG Technology Association	Management expert
	Hee-jin Cho	Member of the Audit Committee, Member of the Non-executive Director Candidate Committee	2021.03	2024.03	[Former] Chief Prosecutor, Seoul Eastern District Prosecutor's Office	Legal expert
	Ho-Young Lee	Chairman of the Audit Committee, Member of the ESG Committee	2022.03	2025.03	Professor at the Management Department, Yonsei University	Accounting expert
	Ho-In Gang	Member of the Non-executive Director Candidate Recommendation Committee, Member of the ESG Committee	2022.03	2025.03	[Former] Minister of Land, Infrastructure and Transport	Construction industry expert

In the case of re-election, the date of the first appointment shall be stated in parentheses.

Independence of the BOD

Candidates are selected by the BOD and the Non-executive Director Candidate Recommendation Committee and the final appointment is confirmed as an agenda for the general shareholders' meeting to ensure the independence of the BOD. Information such as important aspects of the final candidates' background and relationship with the largest shareholder is provided to ensure the fairness of the non-executive director appointment process. Individuals appointed as non-executive directors are not allowed to hold more than two non-executive director's positions so that they can concentrate on their work. To hold an additional position, they are required to receive approval from the BOD.

BOD Operation

GS E&C holds regular BOD meetings seven times a year to decide on matters such as the quarterly approval of financial statements as stipulated by laws and articles of incorporation, and provide approval on important business issues. Furthermore, impromptu meetings are held whenever there is an agenda to be resolved. The resolution of the BOD is made with majority of the directors attending and the consent of a majority of directors obtained. In 2022, the BOD meetings were held for eight times to revise the operating regulations of the BOD and subcommittees, and to appoint BOD members. GS E&C plans and announces the annual schedule of the BOD at the end of the previous year to increase the rate of board members' attendance. The meeting schedule and issues on the agenda are notified and shared at least one week prior to the BOD and committee meetings, to give members enough time to review the agenda. We provide materials and training to help members review and participate in discussions at the BOD meetings.

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BOD Operation and Performance

Unit: Cases, %

Category	2020	2021	2022
BOD meetings	9	8	8
Agendas considered by the BOD	15	22	19
Average attendance rate	97	98	93

2022 BOD Agenda Related to Sustainability

Category	Agenda
2022.02.08	Approval of large-scale internal transactions with affiliates based on the Fair Trade Act
	Approval of the adaptation of an electronic voting system in the general meeting of shareholders
	Report on change of Compliance Officer
2022.02.23	Approval of the 2022 Plan regarding safety and health
	Report on the ESG environmental analysis and activity plan for 2022
	Report on the 2022 CP work plan
2022.03.25	Approval of the amendment of the BOD and Subcommittee Operating Principles
	Approval of the appointment of members of subcommittees
2022.05.17	Report of the GS Group's ESG activity status and GS E&C's promotion tasks
	Report on CP performance and plan
2022.08.18	Approval of the revised personnel management regulations for executive officers
	Report on CP performance and plan
2022.11.30	Approval of human resource affairs related to executive officers
	Report on ESG activity and performance for 2022 and ESG activity plan for 2023
	Report on CP performance

Subcommittees under the BOD

GS E&C operates subcommittees under the BOD to enhance the expertise and efficiency of BOD's decision-making process. There are four subcommittees: three subcommittees under the BOD (the Audit Committee, the Non-executive Director Candidate Recommendation Committee, and the ESG Committee), and one subcommittee outside the BOD (Internal Trade Committee). In order to strengthen independence, subcommittees are operated with non-executive directors occupying the majority seats. The ESG Committee is composed of five directors including all non-executive directors, and the Audit Committee is only composed of non-executive directors. The majority of the Non-executive Director Candidate Recommendation Committee consists of non-executive directors. Each subcommittee's organization, operation and authority are stipulated in accordance with the committee regulations established by the BOD and the Audit Committee's resolution.

Subcommittees

Category	Committee	Function	Composition	Name of directors
Committees under the BOD	Audit Committee	Supervises and supports accounting and major business affairs	• Three non-executive directors	Ho-young Lee (Committee president), Hee-gook Lee, Hee-jin Cho
	Non-executive Director Candidate Nomination Committee	Recommends candidates for the position of non-executive directors at the general shareholders' meeting	• One inside director • Two non-executive directors	Chang-soo Huh (Committee president), Ho-in Gang, Hee-jin Cho
	ESG Committee	Establishes and decides the direction of ESG management.	• One non-executive director • Four non-executive directors	Hee-gook Lee (Committee president), Jin-soo Huh, Ho-young Lee, Ho-in Gang, Hee-jin Cho
Committee Outside the BOD	Internal Transaction Committee	Reviews and screens internal transactions and recommends corrective measures	• One inside director • Two non-executive directors	Byeong-yong Lim (Committee president), Hee-gook Lee, Ho-in Gang

Expertise and Diversity of the BOD

GS E&C appoints non-executive directors with expertise in various fields to strengthen the diversity and expertise of the BOD, and selects persons with expertise in management, economy, law, construction industry, and technology for the position of non-executive directors in line with the "Non-executive Director Independence and Diversity Policy" enacted on May 17, 2022 as well as Articles of Association and the Corporate Governance Structure Charter. Upon the appointment of directors, we consider diversity elements including age, gender, experience and background to bring various perspectives to the BOD operations and prevent unequal distribution toward specific backgrounds and occupation groups. GS E&C's BOD is comprised of experts in various areas (architecture, technology, law, accounting, management, etc.). In 2021, Hee-jin Cho, [Former] Chief Prosecutor, Seoul Eastern District Prosecutor's Office, was appointed as the first female non-executive director of GS E&C in the general meeting of shareholders to enhance the diversity of the BOD and help the company respond to legal risks in wider business areas. Training programs are provided to enhance the expertise of the BOD. In 2021, we provided a total of 20 internal and external training courses to non-executive directors on topics such as the internal financial reporting system, and sharing of the comprehensive audit plan.

Composition of BOD Competencies

Category	Name	Construction Industry	Finance and Accounting	Business Management	Legal
Inside Director	Chang-soo Huh			●	
	Byeong-yong Lim			●	
Other Non-Executive Director	Jin-soo Huh			●	
	Hee-gook Lee			●	
Non-Executive Director	Hee-Jin Cho				●
	Ho-Young Lee		●		
	Ho-In Gang	●			

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BOD Performance Evaluation and Remuneration

GS E&C conducts self-evaluation of the BOD and its committees every year in order to ensure more active and efficient operations in accordance with Article 22 of the BOD Operating Principles. The evaluation is conducted in four areas, viz. the role of the BOD, responsibilities and obligations, composition of the BOD, and independence. The remuneration limit for the BOD is determined by a resolution of the general shareholders' meeting every year in accordance with Article 388 of the Commercial Act and Articles of Association of GS E&C. The remuneration is paid fairly and transparently in accordance with the payment regulations after a resolution of the general shareholders' meeting. The remuneration of all directors and auditors and of the executives who receive more than KRW 500 million are disclosed in the business report. In 2022, the CEO received a remuneration that is about 12 times the average annual salary of employees, and the difference in remuneration between the CEO and employees is reported transparently.

Highlight

Efforts by the ESG Committee to Mitigate Non-financial Risks

GS E&C promoted the ESG Committee under the BOD at the general shareholders' meeting in March 2022 to enhance the status of ESG management. The ESG Committee is composed of five directors including four non-executive directors, and the independence of the Committee is guaranteed through the appointment of a non-executive director as the Committee president. The ESG Committee serves as a core element of the BOD's ESG risk management system, and reviews the ESG activity accomplishments annually. In particular, the Committee performs deliberations on the ESG promotion plan, environment and regulation plan, and ESG assessment response plan; plays the role of a key control tower that identifies and discusses various company issues, such as environmental, social, and governance; and establishes sustainability management strategies and directions. In 2022, the Committee visited the Jeju Environmental Incineration Facility to explore the direction of environmental waste disposal methods.

ESG Committee Agenda

Number of Meetings	Date	Agenda	Description	Approval Status
1st	2022.02.23	Resolution	Resolution Agenda: Approval of the ESG activity plan for 2022 • 2022 ESG activity plan (Climate change response strategy, system for ESG management of the supply chain, human rights due diligence process, water/waste management system, transition to eco-friendly vehicles, strategic ESG assessment response, enhancing ESG awareness of employees, stakeholder communication)	Approved
		Report	2022 ESG Environmental Analysis Report	-
2nd	2022.05.17	Resolution	Approval on the application of the GS Group's ESG strategy and common policies • Human Rights Charter, suppliers' Code of Conduct, policy regarding the independence and diversity of non-executive directors	Approved
		Report	Report on the progress of major tasks • Climate change response strategy, ESG management system for the supply chain, human rights due diligence process, water/waste management system, transition to eco-friendly vehicles, company-wide eco-friendly activities	-
		Report	Recent ESG trends	-
3rd	2022.08.18	Report	Progress in ESG activity • Climate change response strategy, system for ESG management of the supply chain, human rights due diligence process, water/waste management system, transition to eco-friendly vehicles, strategic ESG assessment response	-
		Report	Report on ESG performance for 2022, and approval of the ESG activity plan for 2023 • 1) Carbon neutral strategy 2) ESG evaluation results for 2022 3) ESG activity plan for 2023	Approved

BOD Self-evaluation Results

Unit: Points, out of 5



- 1 Third Regular Board of Directors
- 2 Jeju Environmental Resource Circulation Center Incineration Facility (Inside)
- 3 Jeju Environmental Resource Circulation Center Incineration Facility (Outside)

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Maintaining “Excellent” Evaluation for Governance

Since 2011, GS E&C has been receiving ESG evaluations by the Korea Corporate Governance Service (KCGS). The ESG index evaluates the non-financial performance of a company in environmental and social terms as well as governance, which helps in identifying the company’s sustainability management level. GS E&C has received grade “A” in Governance from 2019 to 2022, while maintaining excellent ESG evaluation results.

Results of ESG Evaluation

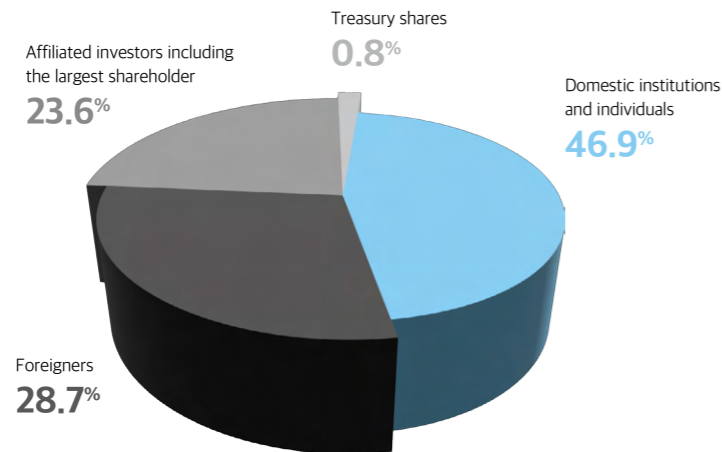
Category	2020	2021	2022
Comprehensive	A	A	A
Governance	A	A	A
Environmental	B+	A+	A
Social	A	A	A

Shareholder-friendly Management System

GS E&C’s Shareholders

The total number of shares issued by GS E&C stood at 85,581,490 common shares as of December 2022; 84,888,895 of them come with voting rights (692,595 treasury shares excluded). All of the shares issued by GS E&C are common shares, and we have introduced the single voting right system to apply the principle of one voting right per share. The current status is specifically disclosed in the Business Report.

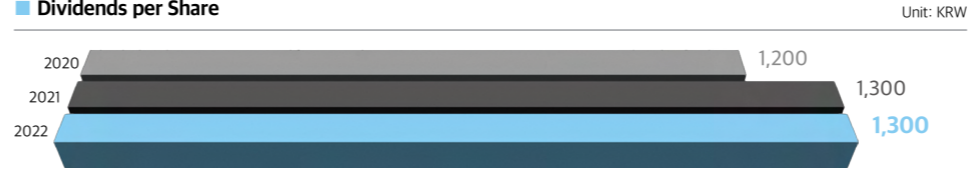
2022 Shareholding Ratio



Shareholder Return Policy

GS E&C pursues the goal of enhancing shareholder value and expanding shareholder return as the highest priority, and determines the scale of dividends considering the current year’s profit, annual cash flow, and strategic investment for the future. The dividend payout ratio has remained at an average of 29.9% for the past 3 years. A total of KRW110.3 billion was paid as dividends in 2022, at the same rate as the previous year. We will maximize shareholder value through the determination of dividends level considering the changes in the business environment, financial resources for future investment, and financial structure.

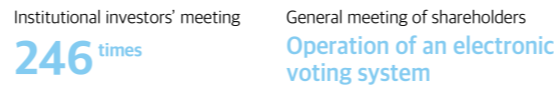
Dividends per Share



Efforts to Guarantee Shareholder Activities

The general shareholders meeting, where shareholders’ rights can be exercised based on transparent management information, is announced on the electronic disclosure system up to two weeks (in practice, four weeks) before the meeting, and shareholders can exercise their voting rights either directly or through proxy solicitation. GS E&C introduced an electronic voting system to enhance convenience for shareholders who wish to exercise their voting rights without attending the meeting. We place no restrictions on the proposals made by shareholders in order to encourage them to propose agendas at the general shareholders’ meeting in accordance with Article 363-2 of the Commercial Act (Shareholder’s Rights to Make Proposals). We will continue to inform the procedure of shareholder proposals and strive to establish an internal process of processing an agenda, thereby increasing the shareholder’s convenience of presenting proposals.

Number of Institutional Investors’ Meetings and Operation of General Meeting of Shareholders



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Implementation of Responsible and Fair Ethical Management

Ethics Management Process

Ethics Management System

GS E&C promotes ethics management to establish the standards and environment that encourage employees to make the correct decisions in situations that present an ethical dilemma based on the three elements of ethical management, “code of conduct, organization monitoring compliance, and consensus by education”.

■ GS E&C Ethics Management System

Core Values

A company trusted by customers and society for its transparent and fair management practices

Directions



Establishment of the Code of Ethics system (Ethics Charter, Code of Ethics, Ethical Guidelines)

Supervisory organization, establishment of a system, monitoring and inspection

Education and promotion to raise ethical awareness

Activities

Policy to promote continuous ethics management and improvement of the system

Continuous ethics management and improvement of the system

Ethics education and promotion, Establishment of a new corporate culture by strengthening punishments for unethical behaviors

Compliance Program

GS E&C established the CP (Compliance Program) Team to operate the Compliance Program. We established a system that presents clear behavioral standards for compliance with fair trade related laws in order to prevent the violation of law as well as to identify and take measures on any violations. The system satisfies the eight elements of the Compliance Program recommended by the Fair Trade Commission. In addition, we implemented education on the CP system and the purpose of its introduction for all employees along with a recognition survey related to CP. All employees including regular and dispatched employees at the head office, as well as personnel in professional positions and contract positions at each site, are required to take an ethical management and fair trade pledge at the beginning of each year to establish a culture of compliance with the fair trade law within the organization.

Internalization of CP

In 2023, GS E&C plans to obtain grade A in the CP Grade Assessment conducted by the Korea Fair Trade Mediation Agency through the establishment of measurable goals for CP operation and index management, reflection of CP promotion tasks on executive KPI, actualization of reward and punishment regulations for employees, and the implementation of a policy of restriction and reward. We will strive to strengthen employees' recognition regarding the necessity of CP operation and work relentlessly to internalize compliance awareness through educating employees on the risks of legal violation and holding compliance meetings.

■ Highlights of CP Promotion Performance in 2022

Category	Performance
January 2022	All employees took the pledge to practice ethical management and compliance with fair trade.
March 2022	Reflection of fair trade KPI for all executives
June 2022	Conducted cyber education on the fair trade law for all employees (96% completed) and four in-depth education programs by risk sector [~2022.11] Inspection and revision of operating regulations and procedures regarding CP
October 2022	Re-statement of the CEO's will to practice ethical management and publication of the CP Declaration on the homepage and EP Revision of CP operation regulations and the compliance handbook (Distribution of guidebook)
December 2022	Reward for the CEO and Compliance Officer in recognition of excellent CP activities
year	Activities to prevent violations of the law through the business consultation system throughout the year (51 times, including housing marking/advertising review)

■ Results of CP Education in 2022

Training method	Area	Target departments
Online	Understanding the Fair Trade Act	All employees
Group training	Subcontracts, cartels, internal transactions, and indication advertisements/clauses	Subcontracts: Each CM team, Construction HQ and CS Team, Performance Support Team, Procurement Division
		Cartel: Building Sales Team, Urban Maintenance Team, Building/Housing/Infrastructure Estimate Budget Team, Environmental Business Team, Order Sales Team
		Internal transactions: New Business Planning Team, Procurement division, General Management Team
External education (Federation)	Disclosure	Finance Team, SPC, staff of subsidiaries

■ Assessment of CP Operational Effectiveness in 2022

Unit: Cases, %, %

Category	2021	2022
Consultation on preventing violations of the law	37	58
Utilization of guidance provided by the compliance program for departments with risks	58	73
Investigation of the CEO's will to practice ethical management and the adequacy of company resource support	84	91

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Operation of the Ethics Committee

GS E&C operates the Ethics Committee to integrate the ethics management system into every decision-making process. The Ethics Committee performs deliberations and votes on issues related to ethical policy, reviews activities for the promotion of ethics management and results, and monitors the activity of the Compliance Officer to manage the legal risks. The CFO acts as the chairperson of the Committee and the executives in charge of each business HQ with extensive practical experience serve as members of the steering committee to perform the practical guidance / inspection / improvement activities related to compliance with the law, business regulations as well as expand the ethical management policy to each business HQ. In 2022, the Ethics Committee was held twice (once in the first and second halves) to discuss prevention and audit activities for ethical management.

Reporting Channels and Response to Ethical Violations

GS E&C encourages reporting on cases of ethical violations by establishing a range of reporting channels including the On-line Company Reporting & Ethics Misconduct Channel as well as phone and fax lines, and operating the informant protection policy to establish a sound and ethical corporate culture. The On-line Company Reporting & Ethics Misconduct Channel can be accessed freely through the in-house Intranet or GS E&C's homepage, and the general civil complaints and reports submitted by mails/telephone/fax from the outside are classified and managed through the "VOC (Voice Of Clients) Management System". In particular, if a partner's employee reports an ethical violation related to an employee of GS E&C, the informant is either rewarded or the informant's company is selected as an excellent partner. The Compliance Office conducts an investigation immediately upon receipt of the report. If the report on ethical violation is found to be true, the employee involved and related employees are subjected to disciplinary action according to the personnel regulations, and the partner will be imposed with sanctions according to the internal deliberation standards if they are involved in an act in violation of ethical standards. In 2022, 69 reports were received, of which 28 cases were found to be true, and disciplinary actions were taken according to severity of the case. If a disadvantage to the informant occurs or is expected, GS E&C offers position change or aggravates punishment for retaliation to protect the identity of the informant and to increase the effectiveness of the reporting channel.

Preventing Ethics Management Risks through On-site Investigation Activity

GS E&C implements "Patrol Inspection" and "Issue Diagnosis" during the on-site investigation activities each year to prevent ethical risks considering the characteristics of the construction business where on-site diagnosis of ethical status is crucial. We check business procedures, violations of compliance, and individual unethical behaviors, and take corrective actions immediately if any violations are found, and share matters requiring improvement with related teams at the headquarters to implement appropriate measures. In 2022, we conducted an adequacy check of serious accident safety inspection activities and activities to prevent workplace bullying to strengthen the management and prevention of social issues. In addition, we granted incentives to sites that showed outstanding performance based on on-site inspections to induce active participation in ethical management, enhance awareness of ethical management and encourage the voluntary participation of employees at worksites.

■ Patrol Inspection and Diagnosis of Issues in 2022

Unit: Cases

Category	Cases	Remarks
Patrol inspection	33	Selection and rewarding of two outstanding sites
Issue diagnosis	5	
Support for the safety inspection of structures	28	Safety inspection activities related to serious accidents

Expansion of the Ethics Management Practice Culture

Ethics Survey to Ensure Improved Ethical Standards

GS E&C implements an "Ethics Survey" to verify the current status of ethical management, establish improvement directions as well as determine the overall ethical level of its employees. The contents of the survey questionnaire are designed with 30 items under categories including the level of ethical management awareness, education and promotion activities, and reporting system. The survey targets include GS E&C employees and suppliers to maintain transparent and fair business relationships and to identify areas requiring improvement for shared growth management. The 2022 Ethics Survey showed overall improvement in the level of ethical management and ethical awareness among GS E&C employees, while the evaluation score for its suppliers decreased slightly. GS E&C aims to carry out ethical management activities such as checking the direction of compliance activities, reorganizing educational contents, and strengthening preventive activities based on the results of the survey.

Ethics Education for Employees

GS E&C utilizes various channels to provide ethics education and increase the ethical awareness of employees. In 2022, we provided a program for prevention of workplace bullying for all employees, and conducted group education on ethical violation cases for new site managers. In 2023, we plan to promote the reward system related to ethical practice and provide education on practical cases of repeated issues. We also publish an ethics management newsletter to share the status of investigations on ethical violation cases and draw employees' interest and strengthen participation in ethics management through quizzes to enhance their understanding.

Ethics Education for Suppliers

Executives of GS E&C visits suppliers' worksites to provide them with ethics education, share the ethical policies of GS E&C and induce their participation to achieve shared growth. Educational contents are designed to prevent possible ethics management risks, on topics including the ethical standard system of GS E&C, cases of ethical violation, and the ethical violation reporting channel. Suppliers are required to submit the Corporate Integrity Pledge when signing a transaction contract with us to prevent unfair trade practices, and commitment to the establishment of sound transaction practices with subcontractors is also part of the Code of Ethics and the related regulations.

■ Ethics Training

Unit: Persons

Category	2020	2021	2022
Group training	462	605	643
On-line training	6,031	5,842	5,014
Training provided through on-site visits	803	256	652
Partner training	329	11	312

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Company-wide Risk Management

Risk Management

Company-wide Risk Management

GS E&C has established a comprehensive and organic risk response system through close cooperation among each business sector and the HQ. The company-wide risk areas such as business, investment, law, environment, social, HR, ethics, new business, and fair trade are reviewed and identified based on types of risk. Risk management organizations such as Subcommittees under the BOD, the Business Deliberation Committee, and the Compliance Support Organization are organized to maintain the company-wide risk management system at the BOD level.

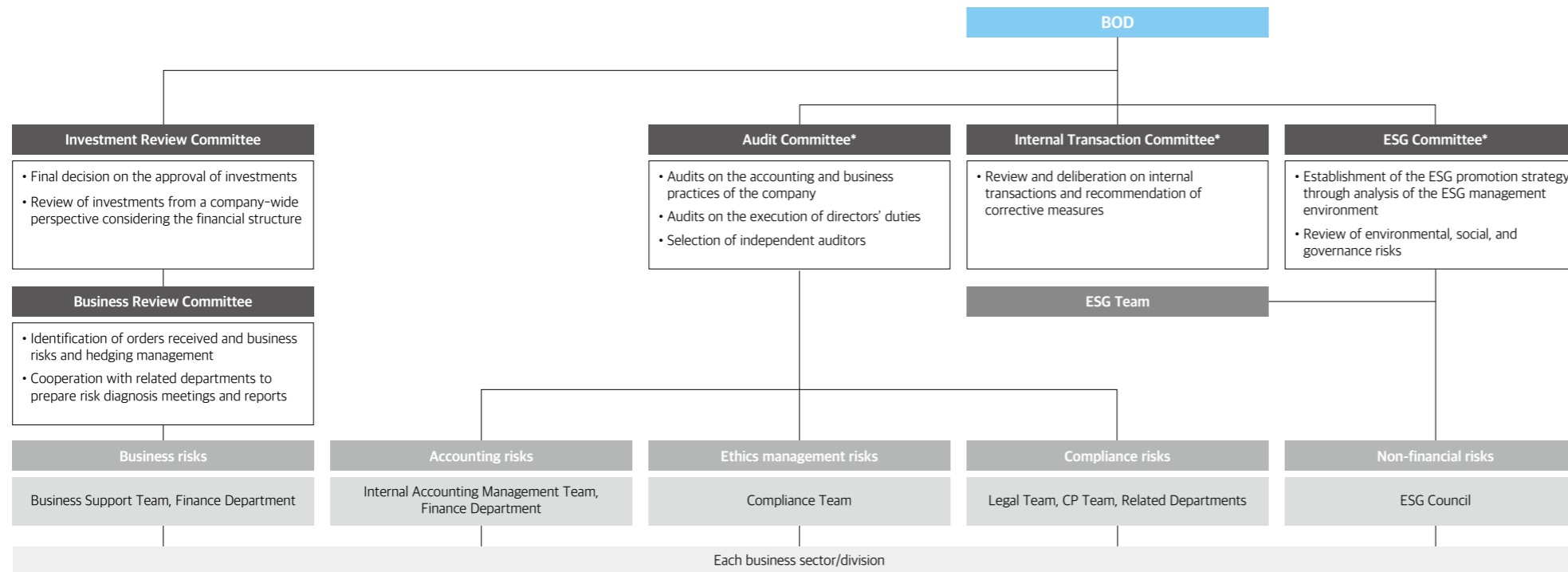
Management of Business Risks

GS E&C conducts financial evaluation under supervision of the company-wide Business Review Committee to assess the business feasibility of various projects. We manage the entire risks associated with each project through risk assessment and review by related departments during each project stage. We identify risks in the early stages and draw a conclusion by the correct decision making process to promote the project systematically and efficiently. In doing so, we make use of a checklist for RM and establish a risk deliberation procedure during each stage of the project such as sales, bidding determination, estimation, report prior to bidding, report of bidding results, and project performance stage. In addition, a deliberation procedure is enacted at the stage of identifying new business to prepare the future growth engines for sustainable growth.

Management of Business Environment Risks

GS E&C establishes a BOD level risk management system for the management of environment risks including non-financial risks other than business risks. In particular, legal risks related to industrial accidents, as indicated by trends such as the adoption of the Serious Accidents Punishment Act, have increased recently. Monitoring of compliance with law and regulations is implemented by compliance support organizations such as the Legal Affairs Team. The compliance control standards are enacted and implemented by the CP team. In addition, the ESG Committee reviews non-financial risks through the exclusive ESG department. The Internal Transactions Committee and the Audit Committee establish a culture of ethical management and transparent organization through audits of the company's accounting and business practices, as well as audits of duty execution by directors, selection of external auditors, monitoring of compliance activity, and review on internal transactions, and manage the internal and external risk of the company for sustainable management.

Company-wide Risk Management System



* Subcommittees under the BOD

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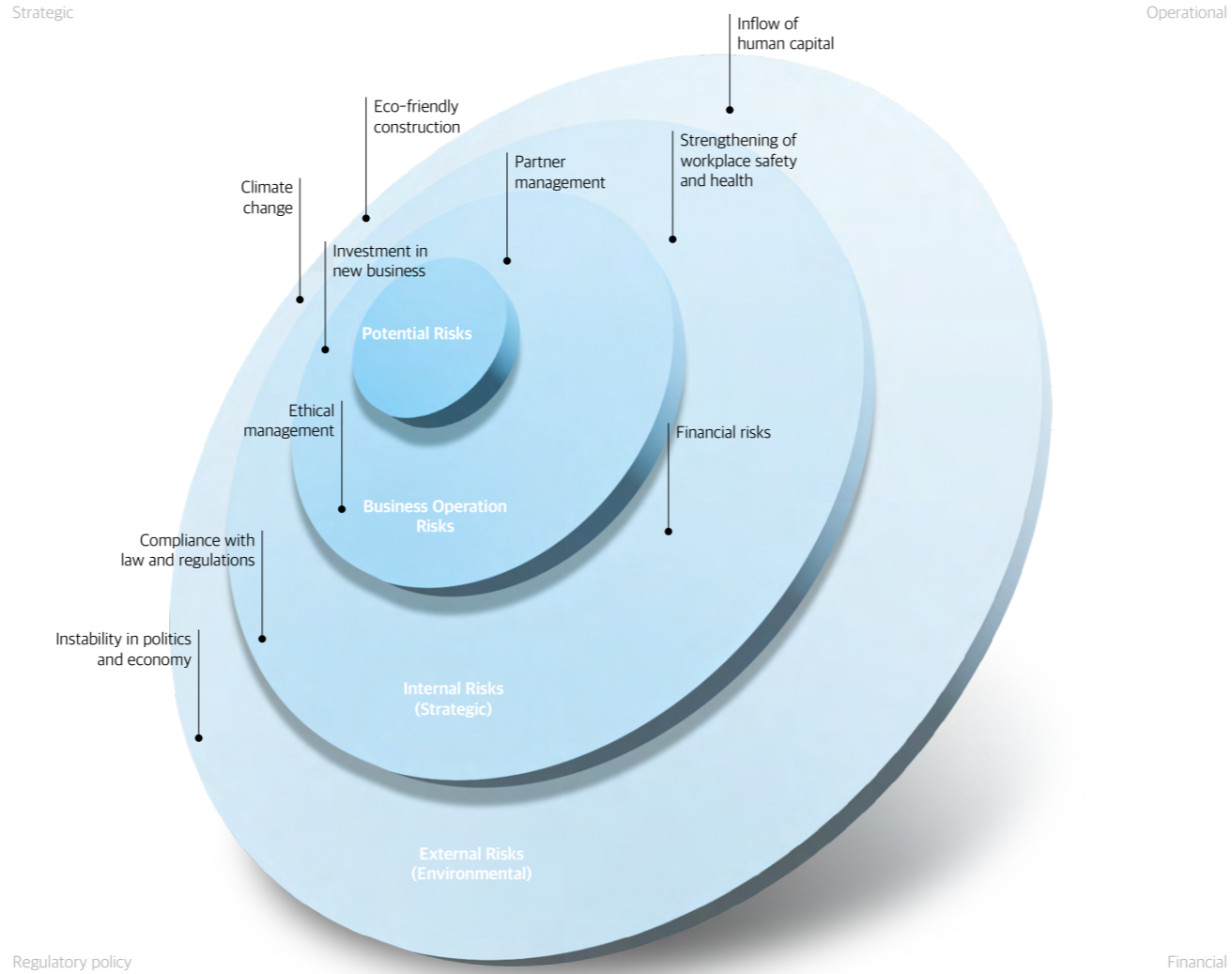


Response to Risk

Risk classification and definition

GS E&C classifies and defines the risks as strategic, operational, regulatory policy, and financial risks to respond to the core risks effectively from a company-wide perspective. Strategic risks mean comprehensive risks affecting the management goals and strategic direction of the company. Operational risks pertain to risks related to personnel, process, technology, IT, and security threats that can affect the company management directly. Regulatory policy risks encompass external risks pertaining to climate change, and country risks pertain to the risks associated with the advancement to overseas markets. Financial risks include uncertainties regarding industrial activity, exchange rate, and business risks. GS E&C prepares proper risk response measures by each risk management organization within the company-wide risk management system with regard to the classified and defined risks.

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Classification and Definition of Risks



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■ Identification of Core Risks and Response Status

Core risks	Definition of risk	Classification of risks	Impact on business	Response activity
Eco-friendly construction	<ul style="list-style-type: none"> Increased demand for the reduction of energy consumption and GHG emissions in the building and construction area Strengthening of regulations related to Carbon Neutrality 	Strategic risks	<ul style="list-style-type: none"> Risk of deterioration in management performance and projects received in the energy business sector of GS E&C due to the decrease of demand 	<ul style="list-style-type: none"> Increase of investment in renewable energy (Solar power, wind power) Increase of investment in eco-friendly R&D technologies Establish a response strategy for Carbon Neutrality and climate change Flexible assignment of workforce
Climate change	<ul style="list-style-type: none"> Increase in environmental contamination caused by construction waste Impact of climate change on the construction sites 	Strategic risks	<ul style="list-style-type: none"> Waste, wastewater, fine dust and GHG emissions lead directly to financial losses by causing environmental pollution at construction sites. Reduction of working days on account of adverse weather or occurrence of damage to safety and health due to climate change 	<ul style="list-style-type: none"> Establish a response strategy to accomplish Carbon Neutrality and address climate change Strengthening of monitoring and the recycling of construction waste Water reuse and reduction in the discharge of wastewater
Compliance with laws and regulations	<ul style="list-style-type: none"> Breach of the Serious Accidents Punishment Act Responses to the change in construction industry regulations 	Regulatory policy risks	<ul style="list-style-type: none"> Inability to comply with strengthened laws or regulations would bring disadvantages in the bidding process, Further, this brings the risk of reduced chances for winning contracts. 	<ul style="list-style-type: none"> Strengthening of the safety and health management system Compliance with the regulatory policy (Serious Accidents Punishment Act and Occupational Safety and Health Act) and monitoring of performance
Strengthening of workplace safety and health	<ul style="list-style-type: none"> Accidents at workplaces Industrial accidents due to scorching heat and cold waves 	Operational risks	<ul style="list-style-type: none"> The occurrence of industrial accidents is associated with possible breaches of the Serious Accidents Punishment Act. A workplace accident possibly causes a decline in the non-financial index assessment. 	<ul style="list-style-type: none"> Strengthening of activities to prevent accidents associated with equipment Strengthening of competencies for construction / safety personnel and implementation of training Preventive management of heat / cold related diseases
Performance of ethical management	<ul style="list-style-type: none"> Violation of corporate ethical regulations Non-compliance with the Fair Trade Act 	Regulatory policy risks	<ul style="list-style-type: none"> Increase in the costs of responding to regulations such as fines and penalties, and the possibility of losing the corporate brand image / reputation 	<ul style="list-style-type: none"> Practice of ethical pledge and strengthening of education on corporate ethics Operation of reporting channels and adoption of strong response measures against unethical behaviors Operation of the Compliance Program (CP team)
suppliers management	<ul style="list-style-type: none"> Suppliers' financial stability Violation of ethical management by suppliers On-site safety management Misuse of superior status 	Operational risks	<ul style="list-style-type: none"> Financial losses due to suppliers Losing the corporate image due to the violation of ethical standards by suppliers Losing reliable relationships and termination of agreements with suppliers due to the misuse of superior status 	<ul style="list-style-type: none"> Risk assessment and response for suppliers Communication and consultation channels Construction and safety support system GS suppliers and the on-line whistleblowing system
Inflow of human capital	<ul style="list-style-type: none"> Hiring of minors Workforce with insufficient skills Decrease in employee diversity 	Operational risks	<ul style="list-style-type: none"> Labor force issues at the construction sites Increase of costs in accordance with the hiring of workforce 	<ul style="list-style-type: none"> Establishment of a human rights management system and the enactment of the Human Rights Charter Support for the conversion of duty and workforce efficiency Provide equal opportunities by expanding employee diversity and inclusive hiring
Investment in new business	<ul style="list-style-type: none"> Lack of future growth engines Competitors attracting more opportunities for new business 	Strategic risks	<ul style="list-style-type: none"> Decline in corporate competitiveness owing to lack of future growth engine 	<ul style="list-style-type: none"> Enhancement and concentration of new business competencies Acquisition of differentiated technologies based on future growth industries
Instability in politics and economy	<ul style="list-style-type: none"> Recession in world economy and political conflicts Labor strikes 	Regulatory policy risks	<ul style="list-style-type: none"> Decreased demand for construction due to economic recession Reduction in the number of working days due to labor strikes 	<ul style="list-style-type: none"> Strengthening the monitoring of domestic/overseas trends and risk management Improvement of relationships with stakeholders and establishment of trusted relationships(Prevention of negative movements such as strikes, boycott, negative media reports)
Financial risks	<ul style="list-style-type: none"> Fluctuations in the economy, prices of raw materials, regulations, exchange rates, and oil prices 	Financial risks	<ul style="list-style-type: none"> Cost risks due to the increase of raw material costs Declined competitiveness within the capital market due to the increase of debt ratio 	<ul style="list-style-type: none"> Ongoing management of financial risks Monitoring of the raw material market and diversification of supply channels Management of debt ratio by strengthening profitability-oriented housing business

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Scope of data: A. HQ / B. 155 domestic sites / C. 1 Technology Institute / D. 6 overseas branches / E. 45 overseas sites / F. 23 overseas corporations / G. 794 suppliers

Economic

[Summary] Consolidated Statements of Comprehensive Income

Category	Unit	2021	2022
Sales	KRW 100 million	90,366	122,992
Cost of sales	KRW 100 million	76,858	110,126
Gross profit	KRW 100 million	13,508	12,866
Operating profits	KRW 100 million	6,465	5,548
Net profit before tax	KRW 100 million	6,579	6,649
Net profit	KRW 100 million	4,288	4,412
Other comprehensive income	KRW 100 million	187	4
Total comprehensive income	KRW 100 million	4,475	4,417

[Summary] Consolidated Statements of Financial Position

Category	Unit	2021	2022
Current assets	KRW 100 million	81,951	94,116
Non-current assets	KRW 100 million	69,886	75,350
Total assets	KRW 100 million	151,837	169,466
Current liabilities	KRW 100 million	67,693	82,055
Non-current liabilities	KRW 100 million	35,417	33,849
Total liabilities	KRW 100 million	103,110	115,904
Issued capital	KRW 100 million	4,279	4,279
Capital surplus	KRW 100 million	9,513	9,427
Other equity	KRW 100 million	368	368
Other accumulated income (Accumulated)	KRW 100 million	1,228	1,228
Retained earnings	KRW 100 million	34,057	36,598
Non-controlling interest	KRW 100 million	2,474	5,245
Total equity	KRW 100 million	48,727	53,562

Consolidated Financial Stability

Category	Unit	2021	2022
Current ratio	%	121	115
Liabilities ratio	%	212	216
Equity capital ratio	%	32.09	31.60

Industrial Value

Category	Unit	2020	2021	2022	Scope of data
Order newly received abroad	%	19.4	28.4	10.1	A-F
New overseas markets	No. of nations	1	1	0	

Intellectual Value

Category	Unit	2020	2021	2022	Scope of data
R&D expenses	KRW 100 million	339	340	234	A, C
R&D investment rate	%	0.33	0.38	0.28	

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Environmental

Greenhouse Gas

Category		Unit	2020	2021	2022	Scope of data
Greenhouse Gas (GHG) Emissions	Total	tCO ₂ -eq	207,747	225,570	247,406	A-C, E,G
	Scope 1 (Direct Emissions)	tCO ₂ -eq	49,466	46,324	51,593	
	Scope 2 (Indirect Emissions)	tCO ₂ -eq	71,211	65,838	68,988	
	Scope 3 (Other Indirect Emissions)	tCO ₂ -eq	87,071	113,408	126,825	
GHG Intensity / by Sales*		tCO ₂ -eq/ KRW 100 million	2.34	2.89	2.87	
GHG Emission Reduction (Scope 1, +2)	BAU emissions	tCO ₂ -eq	123,076	120,036	115,512	A-C
	Metrics and targets	tCO ₂ -eq	6,401	6,249	6,078	
	Reduction	tCO ₂ -eq	14,394	24,942	15,347	

* The values of the past two years are different from previous reports due to the change in the calculation method for greenhouse gas and energy intensity (per area → per sales).

Energy

Category		Unit	2020	2021	2022	Scope of data
Energy Consumption**	Total	TJ	2,224	2,086	2,231	A-C, E
	LNG (city gas, natural gas)	TJ	101	99	113	
	Kerosene	TJ	64	84	146	
	Diesel	TJ	541	485	487	
	Gasoline	TJ	32	26	25	
	Electricity	TJ	1,466	1,376	1,442	
	Others	TJ	19	16	18	
Non-renewable Energy Consumption	Total	TJ	2,224	2,086	2,231	
Energy Intensity / by Sales*		TJ/KRW 100 million	0.02	0.02	0.02	
Energy Reduction Performance	BAU emissions	TJ	2,294	2,261	2,177	
	Metrics and targets	TJ	119	117	114	
	Reduction	TJ	265	448	264	

* The values for the past two years are different from the past report due to the change in organizational boundaries for energy consumption (excluding those used by suppliers).

Water

Category		Unit	2020	2021	2022	Scope of data
Amount of Water Used	Total	m ³	2,762,034	2,691,483	2,703,781	A-C
	Water supply	m ³	649,130	632,549	666,927	
	Groundwater	m ³	1,248,961	1,217,059	1,408,963	
	River water	m ³	863,943	841,875	627,891	
Amount of Water Reused		ton	159,639	176,068	94,380	

Material

Category		Unit	2020	2021	2022	Scope of data
Amount of Materials Used	Concrete (ready-mixed concrete)	m ³	3,747,229	4,130,527	4,907,184	A-C
	Cement	ton	129,095	128,379	192,824	
	Aggregates	m ³	1,232,631	629,252	496,460	
	Asphalt (ascon)	ton	201,082	133,599	96,437	
	Sand	m ³	1,322	1,028	14,222	
	Steel	ton	276,231	360,186	416,236	
	Plaster board	ton	37,237	31,843	52,953	
Recycled Raw Materials (Recycled Aggregate)		m ³	61,399	5,462	5,085	

Waste

Category		Unit	2020	2021	2022	Scope of data
Amount of Waste	Total	ton	792,460	1,049,565	1,072,872	A-C
	Recycling	ton	789,997	1,047,128	1,072,705	
	Incineration	ton	767	620	126	
	Landfilled	ton	1,696	1,817	40	
	Others	ton	0	0	0	
Waste Recycling Rate	Total	%	99.7%	99.8%	99.9%	

Pollutant

Category		Unit	2020	2021	2022	Scope of data	
Hazardous Chemical Emissions (Waste Oil, Waste Paint, Etc.)		ton	127	124	51		
Water Pollutant	COD	Discharge	m ³	N/A	1.0	1.2	A (Elysian Gangchon, Elysian Jeju)
		Discharge concentration	ppm	N/A	5.3	4.8	
		Legal criteria	ppm	N/A	20.0	20.0	
	BOD	Discharge	m ³	0.2	0.3	0.4	
		Discharge concentration	ppm	1.0	1.6	1.6	
		Legal criteria	ppm	10.0	10.0	10.0	
	SS	Discharge	m ³	0.4	0.3	0.2	
		Discharge concentration	ppm	1.8	1.3	0.8	
		Legal criteria	ppm	10.0	10.0	10.0	

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Eco-certified Products and Services

Category	Unit	2020	2021	2022	Scope of data
Total sales of environment-friendly products and service	KRW 100 million	8,313	8,366	10,368	A-C
Ratio of High-efficiency buildings	%	67	68	86	

Environmental Invest

Category	Unit	2020	2021	2022	Scope of data	
Green Purchases	Total amount	KRW 100 million	837.0	938.0	1,010.9	A-C
	HB certified	KRW 100 million	129.2	42.9	69.0	
	Highly energy-efficient machinery	KRW 100 million	8.5	285.7	256.9	
	Energy consumption efficiency grade 1 or 2	KRW 100 million	236.7	231.6	408.5	
	Eco-label	KRW 100 million	460.0	357.9	237.3	
	Certified wood (FSC, PEFC, SFI, CSA, others)	KRW 100 million	0.0	0.0	0.0	
	Others	KRW 100 million	3.3	20.1	39.2	
Eco-friendly R&D	KRW 100 million	37.4	34.9	60.6		
New environment-friendly business investment	KRW 100 million	55.6	674.0	138.1		
Environment management cost	KRW 100 million	331.0	347.0	339.0		

Legal Environmental Regulations

Category	Unit	2020	2021	2022	Scope of data
Corporate violations subject to fine	Cases	0	0	0	A-C
Corporate fine	KRW million	0	0	0	

Integrated Environmental Management Performance

Category	Disclosure	Scope of data
Greenhouse Gas(GHG) Emissions	2022 goal	5.26% reduction compared to BAU
	2022 achievement	13.29% reduction compared to BAU
Energy Consumption*	2022 goal	5.26% reduction compared to BAU
	2022 achievement	12.13% reduction compared to BAU
Reuse of water	2022 goal	3.3%
	2022 achievement	3.5%
Waste recycling rate	2022 goal	98.0% or more
	2022 achievement	99.9%
Green purchase rate	2022 goal	10.3%
	2022 achievement	8.0%
Investment in green products (Environment management cost)	2022 goal	100% or more
	2022 achievement	113%
Compliance with environmental laws (Number of corporate dispositions)	2022 goal	0 case
	2022 achievement	0 case

* Calculated based on domestic Scope 1 and 2 government quotas

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Employees Status

Category		Unit	2020	2021	2022	Scope of data		
No. of Employees	Total number of employees	Persons	6,350	5,433	5,422	A-F		
	Age	Below 30	Persons	421	429		543	
		30-50	Persons	4,219	3,419		3,222	
		Over 50	Persons	1,710	1,585		1,657	
	Gender	Male	Persons	5,698	4,853		4,790	
		Female	Persons	652	580		632	
		Ratio of female employees	%	10.3	10.7		11.7	
		Ratio of female employees in STEM*	%	N/A	N/A		9.7	
	Job Type	Ratio of regular employees	%	73.0	71.8		70.2	
		Ratio of contract employees	%	27.0	28.2		29.8	
	Minority Employee	No. of employees with disabilities	Persons	115	99		90	
		Ratio of employees with disabilities	%	1.9	1.5		1.7	
		No. of foreigners	Persons	29	18		18	
		Foreign Employee	Total	Persons	1,434		1,265	1,391
			India	Persons	186		127	129
			Philippines	Persons	176		148	110
			Nepal	Persons	30		14	3
			Bangladesh	Persons	416		364	664
			Egypt	Persons	27		20	8
			Vietnam	Persons	190		159	145
Others	Persons		409	433	332			
No. of persons entitled to veterans' benefits	Persons	109	90	86				
No. of discharged commissioned officers	Persons	275	244	223				
No. of LGBT people	Persons	0	0	0				
Number of Managers	Total number of managers	Persons	6,350	5,433	5,422			
	Number of female managers	Total	Persons	652	580	632		
		Basic	Persons	373	344	406		
		Intermediate	Persons	278	235	225		
		Senior	Persons	1	1	1		
	Ratio of female managers	%	2.6	1.9	3			
Ratio of female management staff in profit-creating fields	%	5.5	4.4	2.4				

* The value of the previous two years is absent because it is calculated based on departments: science (research personnel, nurses, etc.), technology (IT, information protection, developer, etc.), engineering (electrical/ civil engineer, technician, etc.), and mathematics (accounting, finance, etc.).

Employee Diversity Goal**

Category	Goal	Scope of data
Ratio of female management staff	2.3% or more	A-F
Ratio of female management staff in profit-creating fields	2.4% or more	
Female Manager (Junior Staff)	Over 390	
Female manager (Senior Staff, Junior Staff)	Over 230	
Female Manager (Executive)	Over 1	
No. of employees with disabilities	Over 100	
Ratio of employees with disabilities	1.5% or more	
No. of persons entitled to veterans' benefits	Over 90	
No. of foreigners	Over 18	
No. of discharged commissioned officers	Over 223	
No. of new employees	Over 88	

Employee Remuneration

Category	Unit	2020	2021	2022	Scope of data		
Average annual salary for employees*	Basic wage	Average wage	KRW	80,949,545	70,085,710	66,718,499	A-F
	Male	KRW	N/A	N/A	70,010,472		
	Female	KRW	N/A	N/A	41,775,266		
Average annual salary for executives	Basic wage	Average wage	KRW	408,003,250	404,586,659	432,701,467	
	Basic wage+ Incentive*	Average wage	KRW	N/A	N/A	813,448,566	
Average annual salary for managers	Basic wage	Average wage	KRW	83,425,077	82,283,626	83,556,062	
		Male	KRW	87,206,736	87,309,103	88,945,536	
		Female	KRW	79,643,418	77,258,149	78,166,587	
	Female to male	%	91.0	88.0	87.9		
	Basic wage+ Incentive*	Average wage	KRW	105,982,284	103,720,418	110,155,708	
		Male	KRW	116,168,220	114,511,851	122,791,780	
		Female	KRW	95,796,348	92,928,984	97,519,636	
Female to male	%	82.0	81.0	79.4			
Average annual salary for non-management staff	Basic wage	Average wage	KRW	63,004,275	44,140,078	42,621,541	
		Male	KRW	67,510,139	51,506,445	48,580,090	
	Female	KRW	58,498,410	36,773,711	36,662,991		
	Female to male	%	86.7	71.4	75.5		

* No value for the previous two years because it is calculated from 2022

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Recruitment of Employees

Category		Unit	2020	2021	2022	Scope of data	
Number of Recruitment (New + Experienced)	Total	Persons	11	47	309	A-F	
	Gender	Male	Persons	9	44		275
		Female	Persons	2	3		34
	Age*	Below 30	Persons	N/A	N/A		90
		30-50	Persons	N/A	N/A		214
Over 50		Persons	N/A	N/A	5		

* No value for the previous two years because it is calculated from 2022

Employee Retention

Category		Unit	2020	2021	2022	Scope of data
Retirement rate		%	3.7	6.2	11.5	A-F
Voluntary turnover rate*		%	2.0	5.4	9.8	
College students' job preference ranking		Ranking	1	3	3	
Average Number of Years of Service	Average	Years	15.0	15.8	15.5	
	Gender	Male	Years	15.6	16.3	16.1
		Female	Years	11.5	12.2	11.1

* Number of voluntary turnover/total number of employees (excluding relocation to affiliates, disciplinary dismissal, recommended resignation, and transfer support)

HR Development

Category		Unit	2020	2021	2022	Scope of data
Employee Training Performance	No. of employees (accumulated)	Persons	29,425	28,358	40,553	A-F
	Employee training expenses	KRW 100 million	14.7	18.4	20.3	
	Average training cost per person (total training cost/ total employee)	KRW	231,496	338,671	374,400	
	Average hours of training and development	Hours	28.9	46.3	40.9	
	Employees' engagement	Hours	57	55	53.9	
	Organization capacity evaluation response rate	%	90.0	87.0	84.7	
Participants in training programs	Participants in stress zero program	Persons	1,554	1,139	300	
	Participants in leadership training	Persons	697	7,059	2,369	
	Participants in job competence training	Persons	26,098	18,691	35,564	
	Participants in global talent cultivation training	Persons	2,630	2,608	2,620	

Performance Evaluation*

Category		Unit	2020	2021	2022	Scope of data
Number of employees subject to performance evaluation		Persons	N/A	N/A	3,347	A-F
Performance evaluation frequency		Times	N/A	N/A	3	
Ratio of employees who received performance evaluations		%	N/A	N/A	97	

* No value for the previous two years because it is calculated from 2022

Labor Union

Category		Unit	2020	2021	2022	Scope of data
No. of labor union members		Persons	723	457	374	A-F
Ratio of employees who have joined the labor union		%	32.7	26.2	23.0	

Parental Leave

Category		Unit	2020	2021	2022	Scope of data
No. of employees eligible for parental leave	Male	Persons	1,635	1,349	1,035	A-F
	Female	Persons	142	149	138	
No. of employees who used parental leave	Male	Persons	76	130	78	
	Female	Persons	62	87	52	
No. of employees who returned after parent leave	Male	Persons	24	32	24	
	Female	Persons	23	31	22	
No. of employees who worked for 12 months after parental leave	Male	Persons	19	23	25	
	Female	Persons	29	20	29	
Reinstatement rate after taking parental leave	Male	%	45.3	42.1	63.6	
	Female	%	41.8	50.0	63.2	
No. of grievances handled	Male	%	86.4	95.8	83.3	
	Female	%	96.7	87.0	96.7	

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Handled Grievances

Category	Unit	2020	2021	2022	Scope of data	
No. of Grievances Handled	Total No. of violations	Cases	37	24	33	A-F
	Domestic	Cases	35	23	33	
	Overseas	Cases	2	1	0	

Occupational Health and Safety

Category	Unit	2020	2021	2022	Scope of data	
Ratio of Grievances Handled through Safe Complaint Handling Channel*	%	N/A	N/A	96	G	
Critical Injuries of Suppliers	Total deaths	Persons	3	1	0.51	A-G
	Employees	Persons	0	0	0	
	Partners	Persons	3	1	0.51	
	Occupational Accident	Persons	2	1	0.51	
	Construction/Technology accident	Persons	1	0	0	
Industrial disaster	Employee LTIFR**		0.09	0.12	0.14	
	Partner LTIFR**		3.29	2.96	2.72	
	Employee OIFR***		2.21	4.78	5.95	
Safety Innovation School	No. of employees who have completed Safety Innovation School	Persons	522	1,060	1,618	
	Safety Innovation School's training visits	Times (Persons)	61(1,341)	48(976)	89(1,978)	
Executives' Safety and Health Management Activities	CEO's visit to site	Times	10	10	10	
	CSO's visit to site	Times	91	93	96	

* No value for the previous two years because it is calculated from 2022

** Accidental industrial accident rate: number of accidental industrial accidents per million hours

*** Diseased industrial accident rate: number of diseased industrial accidents occurring per million hours

Social Contribution

Category	Unit	2020	2021	2022	Scope of data
Cash donation for social contribution	KRW 100 million	57.7	56.1	60.2	A-F
No. of employees who have participated in social contribution activities	Persons	117	95	114	
(Total) Investment in social contribution activities	KRW 100 million	62.3	59.1	63.3	
Types of Social Contribution	Charitable donation	%	51.0	48.2	37.0
	Investment in community	%	46.0	48.4	56.0
	Commercial initiative	%	3.0	3.4	7.0
No. of Social Contribution Beneficiaries	No. of welfare beneficiaries	Persons	6,217	3,815	4,054
	No. of education support beneficiaries	Persons	3,352	1,653	4,502
	No. of cultural support beneficiaries	Persons	10,368	16,238	365,884

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Suppliers

Category		Unit	2020	2021	2022	Scope of data
Suppliers Management	Number of suppliers	EA	866	891	794	G
	No. of major suppliers	EA	366	378	350	
	Sales ratio of major suppliers	%	69.3	69.00	67.6	
	Ratio of suppliers with economic (including financial) risks	%	0.7	0.7	1.0	
	Ratio of suppliers with environmental risks	%	0	0	0	
	Ratio of suppliers with social risks	%	0	0	0	
Financial Support for Suppliers	Management support fund	KRW 100 million	252	390	199	
	Mutual pension	KRW 100 million	194	300	300	
	Ratio of cash payment	%	94.5	95.2	95.8	
	Ratio of cash equivalent payment	%	100	100	100	
	Payment due date	Days	10	10	10	
Technical Support for Suppliers	New technology joint development expenses	KRW 100 million	4	2.6	4.2	
	Patent and new technology registration	Cases	7	5	8	
	PRECON activities for cost reduction	Cases	19	26	23	
Support for Suppliers' Training	Xi CEO forum participants	Persons	20	42	24	
	Suppliers' employees who completed Safety Innovation School	Persons	1322	275	122	
	Suppliers' site directors and working-level staff who completed training	Persons	313	236	228	
Support for Suppliers' Communication	Suppliers' CEOs who participated in the forum	Persons	20	42	100	
	Number of briefing sessions and meetings on the outsourcing system	Times	5	3	7	
	Internal Review Committee meetings held	Times	19	17	15	

Customer Satisfaction

Category		Unit	2020	2021	2022	Scope of data
Complaints submitted by housing customers		Cases	6,029	4,115	2,978	A-C
No. of complaints received through the VOC system		Cases	4,204	1,430	966	
Xi brand GCSI score		Points	73.7	73.7	73.8	
Customer satisfaction surveys		Points	82.3	83.0	80.0	

Funding for Major Associations

Category		Unit	2020	2021	2022
Construction Association of Korea	Revision of domestic construction regulations	KRW million	574.7	594.8	589.2
Federation of Korean Industries	Revision of domestic construction laws		400.0	660.0	930.0
International Contractors' Association of Korea	Revision of overseas construction regulations		381.5	363.0	392.9
Korea Business Council for Sustainable Development	Research of sustainable development policies		90.0	80.0	65.0
Korea Chamber of Commerce and Industry	Revision of domestic construction laws		102.6	107.6	305.6
Financial support for other major associations	Korea International Trade Association and other tax-exempt institutions		2,422.0	2,905.5	3,416.1

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Governance

Board of Directors

Category	Unit	2020	2021	2022	Scope of data	
Average incumbency in BOD	Years	6	5	5	A-F	
BOD self performance evaluation (Out of 5)	Points	4.8	4.8	4.7		
BOD Operation	BOD meetings	Cases	9	8	8	
	No. of items discussed	Cases	15 deliberations/ 7 reports	22 deliberations/ 12 reports	19 deliberations/ 14 reports	
	Average attendance rate	%	97	98	93	
	Reelection rate	%	14	0	14	
Non-executive director Attendance Rate by Committee	Non-executive director Candidate Recommendation Committee	%	100	100	100	
	Audit Committee	%	89	100	94	
	ESG Committee	%	N/A	100	100	
Composition of the BOD	No. of directors	Total number of directors	Persons	7	7	7
		No. of female directors	Persons	0	1	1
		Inside directors	Persons	2	2	2
		Non-executive directors	Persons	4	4	4
		Other Non-executive director	Persons	1	1	1
Concurrent Positions of Non-executive Directors and Non-executive directors	Directors for which the number of other positions is limited to less than 4	Persons	4	4	4	
	Non-executive directors who have experience in construction	Persons	3	1	1	
	Number of other positions restricted for directors	EA	2	2	2	

BOD Remuneration*

Category	Unit	2020	2021	2022	Scope of data
Base salary of CEO	KRW	1,136,160,000	1,153,212,000	1,196,610,000	A-F
Average annual salary for employees except CEO	KRW	80,949,545	70,085,710	69,797,220	
CEO's remuneration to average employee annual salary	Times	14.0	16.5	17.1	

* The previous two-year value differs from last year's report due to changes in the calculation method from 2022 (deletion of items that do not correspond to the CEO's total basic salary).

Ownership**

Category	Unit	2020	2021	2022	Scope of data
Ratio of shareholders holding 5% or more shares	%	N/A	N/A	17.84	A-F
Share ratio of the largest shareholder and its related parties	%	N/A	N/A	23.64	

* No value for the previous two years because it is calculated from 2022

Ethical Management

Category	Unit	2020	2021	2022	Scope of data	
Individual Violations	Total No. of violations	Cases	33	12	31	A-F
	Dismissal	Cases	15	8	8	
	Demotion	Cases	2	0	0	
	Suspension	Cases	10	4	21	
	Pay cut	Cases	6	0	2	
Reported Case Investigated	Total No. of violations	Cases	70	55	69	
	True	Cases	24	20	28	
	False	Cases	46	35	41	
	Report	Cases	70	55	69	

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GRI 2

Index	Disclosure	Page	
General disclosures	GRI 2-1	Organizational details	6
	GRI 2-2	Entities included in the organization's sustainability reporting	6~11
	GRI 2-3	Reporting period, frequency and contact point	2
	GRI 2-4	Restatements of information	2
	GRI 2-5	External assurance	83
	GRI 2-6	Activities, value chain and other business relationships	6
	GRI 2-7	Employees	72~73
	GRI 2-8	Workers who are not employees	72
	GRI 2-9	Governance structure and composition	59
	GRI 2-10	Nomination and selection of the highest governance body	59~60
	GRI 2-11	Chair of the highest governance body	59~60
	GRI 2-12	Role of the highest governance body in overseeing the management of impacts	59~62
	GRI 2-13	Delegation of responsibility for managing impacts	59~62
	GRI 2-14	Role of the highest governance body in sustainability reporting	60
	GRI 2-15	Conflicts of interest	63~64
	GRI 2-16	Communication of critical concerns	60
	GRI 2-17	Collective knowledge of highest governance body	60
	GRI 2-18	Evaluation of the performance of the highest governance body	61
	GRI 2-19	Remuneration policies	61
	GRI 2-20	Process for determining remuneration	61
	GRI 2-21	Annual total compensation ratio	61
	GRI 2-22	Statement on sustainable development strategy	5
	GRI 2-23	Policy commitments	13
	GRI 2-24	Embedding policy commitments	13
	GRI 2-25	Processes to remediate negative impacts	65~67
	GRI 2-26	Mechanisms for seeking advice and raising concerns	65~67
	GRI 2-27	Compliance with laws and regulations	71, 75
	GRI 2-28	Membership associations	81
	GRI 2-29	Approach to stakeholder engagement	14
	GRI 2-30	Collective bargaining agreement	73

Standard Usage Statement: GS E&C reported sustainable management activities and data from January 1, 2022 to December 31, 2022, in accordance with the GRI standard reporting method.

GRI 1 Used: GRI 1: Foundation 2021

Corresponding GRI industry standards: N/A

GRI 3

Index	Disclosure	Page	
Material Topics	GRI 3-1	Process to determine material topics	15~16
	GRI 3-2	List of material topics	15~16
	GRI 3-3	Management of material topics	15~31

GRI 200

Index	Disclosure	Page	
Economic Performance	GRI 201-1	Direct economic value generated and distributed (EVG&D)	62
	GRI 201-2	Financial implications and other risks and opportunities due to climate change	28~29
	GRI 201-3	Defined benefit plan obligations and other retirement plans	Not Applicable
	GRI 201-4	Financial assistance received from government	Not Applicable
Market Presence	GRI 202-1	Ratios of standard entry level wage by gender compared to local minimum wage	72
Indirect Economic Impacts	GRI 203-1	Infrastructure investments and services supported	54~57
Funding practices	GRI 204-1	Proportion of spending on local suppliers	74
Anti-corruption	GRI 205-1	Operations assessed for risks related to corruption	63~64
	GRI 205-2	Communication and training about anti-corruption policies and procedures	64, 75
	GRI 205-3	Confirmed incidents of corruption and actions taken	75
Anti-competitive Behavior	GRI 206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	75

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GRI 300

Index	Disclosure	Page	
Raw Materials	GRI 301-1	Materials used by weight or volume	70
	GRI 301-2	Recycled input materials used	70
	GRI 301-3	Reclaimed products and their packaging materials	Not Applicable
Energy	GRI 302-1	Energy consumption within the organization	70
	GRI 302-2	Energy consumption outside of the organization	Not Applicable
	GRI 302-3	Energy Intensity	70
	GRI 302-4	Reduction of energy consumption	70
	GRI 302-5	Reductions in energy requirements of products and services	Not Applicable
Water	GRI 303-1	Interactions with water as a shared resource	39, 41
	GRI 303-2	Management of water discharge-related impacts	Not Applicable
	GRI 303-3	Water withdrawal	39, 70
	GRI 303-4	Water discharge	Not Applicable
	GRI 303-5	Water consumption	70
Biodiversity	GRI 304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	38
	GRI 304-2	Significant impacts of activities, products, and services on biodiversity	38
	GRI 304-3	Habitats protected or restored	38
	GRI 304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	38
Emissions	GRI 305-1	Direct (Scope 1) GHG emissions	70
	GRI 305-2	Energy indirect (Scope 2) GHG emissions	70
	GRI 305-3	Other indirect (Scope 3) GHG emissions	70
	GRI 305-4	GHG emissions intensity	70
	GRI 305-5	Reduction of GHG emissions	70
	GRI 305-6	Emissions of ozone-depleting substances (ODS)	Not Applicable
	GRI 305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	Not Applicable
Waste	GRI 306-1	Waste generation and significant waste-related impacts	36~41
	GRI 306-2	Management of significant waste-related impacts	36~41
	GRI 306-3	Waste generated	70
	GRI 306-4	Waste diverted from disposal	70
	GRI 306-5	Waste directed to disposal	70
Supply Chain Environment Assessment	GRI 308-1	New suppliers that were screened using environmental criteria	24
	GRI 308-2	Negative environmental impacts in the supply chain and actions taken	24

GRI 400

Index	Disclosure	Page	
Employment	GRI 401-1	New employee hires and employee turnover	73
	GRI 401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	48
	GRI 401-3	Parental Leave	48, 73
Occupational Health and Safety	GRI 403-1	Occupational health and safety management system	18
	GRI 403-2	Hazard identification, risk assessment, and incident investigation	17~21
	GRI 403-3	Occupational health services	Not Applicable
	GRI 403-4	Worker participation, consultation, and communication on occupational health and safety	17~19
	GRI 403-5	Worker training on occupational health and safety	18, 21, 25
	GRI 403-6	Promotion of worker health	48
	GRI 403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	17~21, 74
	GRI 403-8	Workers covered by an occupational health and safety management system	21
	GRI 403-9	Work-related injuries	19~21, 74
	GRI 403-10	Work-related ill health	Not Applicable
Training and Education	GRI 404-1	Average hours of training per year per employee	73
	GRI 404-2	Programs for upgrading employee skills and transition assistance programs	43~44, 47
	GRI 404-3	Percentage of employees receiving regular performance and career development reviews	45, 73
Diversity and Equal Opportunity	GRI 405-1	Diversity of governance bodies and employees	60, 72~73
	GRI 405-2	Ratio of basic salary and remuneration of women to men	72
Freedom of Association and Collective Bargaining	GRI 407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	48
Security Practices	GRI 410-1	Security personnel trained in human rights policies or procedures	45~46
Local Communities	GRI 413-1	Operations with local community engagement, impact assessments, and development programs	54~57
	GRI 413-2	Operations with significant actual and potential negative impacts on local communities	56
Supplier Social Impact Assessment	GRI 414-1	New suppliers that were screened using social criteria	Not Applicable
	GRI 414-2	Negative social impacts in the supply chain and actions taken	46
Customer Health and Safety	GRI 416-1	Assessment of the health and safety impacts of product and service categories	18~21
	GRI 416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	18~21
Protecting customer information	GRI 418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	52~53

The Sustainability Accounting Standards Board (SASB) standard is an industry-specific sustainability accounting standard published by the Sustainability Accounting Standards Board. GS E&C has various businesses such as plants and infrastructure based on the construction business. We reported this page according to standards applicable to the ENGINEERING & CONSTRUCTION business.

Category	Code	Category	Metric	Description
Environmental Impacts of Project Development	IF-EN-160a.1	Quantitative	Number of incidents of non-compliance with environmental permits, standards, and regulations	GS E&C is fulfilling its legal responsibilities by complying with environmental regulations. As of end of 2022, there were no corporate violations subject to fine under its corporate name.
	IF-EN-160a.2	Qualitative	Discussion of processes to assess and manage environmental risks associated with project design, siting, and construction	GS E&C operates an environmental management system in accordance with procedures and guidelines for related fields based on the Environmental Manual. We conduct a preliminary impact assessment before construction, and evaluate and manage environmental risks to proactively support environmental issues to prevent risks. In addition, we conduct environmental management competency training for employees and suppliers to strengthen their environmental awareness.
Structural Integrity & Safety	IF-EN-250a.1	Quantitative	Amount of defect- and safety-related rework costs	As of 2022, the defect-and repair cost are KRW 84,178 million (based on consolidation) and is transparently disclosed in the 2021 Business Report.
	IF-EN-250a.2	Quantitative	Total amount of monetary losses as a result of legal proceedings associated with defect- and safety-related incidents	As of 2022, no monetary losses associated with defect- and safety-related incidents were incurred.
Workforce Health & Safety	IF-EN-320a.1	Quantitative	(1) Total recordable incident rate (TRIR) and (2) fatality rate for (a) direct employees and (b) contract employees	Industrial accidents of employee are disclosed. In 2022, the number of deaths is three for employee, LTIFR 0.14 for employees, LTIFR 2.72 for suppliers, and OFIR 5.95 for employees.
Lifecycle Impacts of Buildings & Infrastructure	IF-EN-410a.1	Quantitative	Number of (1) commissioned projects certified to a third-party multi-attribute sustainability standard and (2) active projects seeking such certification	In 2021, 12 construction sites were certified to an eco-friendly certification. They were certified as buildings with energy efficiency in accordance with Article 17 of the 'Green Building Creation Support Act' and Article 11 (3) of the 'Rules for Certification of Building Energy Efficiency Rating and Zero Energy Buildings'.
	IF-EN-410a.2	Qualitative	Discussion of process to incorporate operational-phase energy and water efficiency considerations into project planning and design	GS E&C is practicing environmental management in all its business processes including design and operation. In particular, we proactively respond to key environmental fields related to the construction industry such as GHG emissions, water resources, and waste. We achieved 26 cases of construction of waste-to-energy facilities and 28 cases of operation by actively utilizing waste-to-energy technology.
Climate Impacts of Business Mix	IF-EN-410b.1	Quantitative	Amount of backlog for (1) hydrocarbon related projects and (2) renewable energy projects	There is one renewable energy operation project (Zakarpattia Solar PV 24MW in Ukraine). The amount of backlog is KRW 51.6 billion.
	IF-EN-410b.2	Quantitative	Amount of backlog cancellations associated with hydrocarbon-related projects	As of the end of 2022, no related projects were canceled.
	IF-EN-410b.3	Quantitative	Amount of backlog for non-energy projects associated with climate change mitigation	As of the end of 2022, no orders were received.
Business Ethics	IF-EN-510b.1	Quantitative	(1) Number of active projects and (2) backlog in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	As of the end of 2022, there were two projects (Iraq and Myanmar) from countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index. The order backlog for the above projects is KRW 226 billion.
	IF-EN-510b.2	Quantitative	Total amount of monetary losses as a result of legal proceedings associated with charges of (1) bribery or corruption and (2) anticompetitive practices	As of the end of 2022, no charges of (1) bribery or corruption and (2) anticompetitive practices were incurred.
	IF-EN-510b.3	Qualitative	Description of policies and practices for prevention of (1) bribery and corruption, and (2) anti-competitive behavior in the project bidding processes	On May 20, 2021, the Fair Trade Compliance Program (CP) was introduced for fair and transparent corporate management. The CP operation regulation was established by the Fair Trade Compliance Program. The regulation specifies compliance policies for fair trade-related laws and regulations in all business activities such as bidding and trading, stipulates sanctions for violations. In order to make employees aware of fair trade and the code of ethics accurately, we are asking for a pledge of ethical management and fair trade practice.
Activity Metrics	IF-EN-000.A	Quantitative	Number of active projects	As of the end of March 2023, 120 construction and housing sites, 20 infrastructure sites, 12 Eco sites, and 3 plant sites are in progress.
	IF-EN-000.B	Quantitative	Number of commissioned projects	As of the end of December 2022, 34 domestic sites and 1 overseas site were completed.
	IF-EN-000.C	Quantitative	Total backlog	As of the end of December 2022, total backlog is KRW 56.4005 trillion (based on consolidation): KRW 34.5093 trillion in construction and housing, KRW 10.9132 trillion in new business, KRW 296.5 billion in plant, KRW 5.6727 trillion in infrastructure, KRW 1.9902 trillion in Eco and KRW 3.0185 trillion in others.

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TCFD

Category	TCFD Recommendations	Page	CDP
Governance	Describe the board's oversight of climate-related risks and opportunities	26p	C1.1, C1.1a, C1.1b
	Describe management's role in assessing and managing climate-related risks and opportunities.	26p	C1.2, C1.2a
Strategy	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	27p	C2.3a, C2.4a
	Describe the impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	27p	C3.4
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	27p	C3.2, C3.2a
Risk Management	Describe the organization's processes for identifying and assessing climate-related risks	30p	C2.1, C2.2
	Describe the organization's processes for managing climate-related risks.	30p	
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	30p	
Metrics and Targets	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	30p	C2.1b, C3.3
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	30p	C6.1, C6.3, C6.5
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	30p	C4.1, C4.1a, 4.2, 4.3, C4.1b

UNGC Advanced Level

Category	Principle	Page
Human Rights	Principle 1 Businesses should support and respect the protection of internationally proclaimed human rights; and	45~46
	Principle 2 make sure that they are not complicit in human rights abuses.	45~46, 67
Labour	Principle 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	45, 46, 48
	Principle 4 the elimination of all forms of forced and compulsory labour;	45
	Principle 5 the effective abolition of child labour; and	45
Environment	Principle 6 The elimination of discrimination in respect of employment and occupation.	44~46, 48
	Principle 7 Businesses should support a precautionary approach to environmental challenges;	26~31, 37, 41
	Principle 8 undertake initiatives to promote greater environmental responsibility; and	34~40
Anti-corruption	Principle 9 and promote development and expansion of eco-friendly technologies.	41
	Principle 10 Businesses should work against corruption in all its forms, including extortion and bribery.	66~67, 75

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2022 Awards

No.	Name of awards	Received from	Participation	Name of prize
1	2022 Money Today Overseas Construction Awards	Money Today	North East Line(NEL) Project	Grand Prize
2	iF Design Award 2022	iF Design(Germany)	Ston Cloud	Architecture category
3			Xiscap	Product category
4	Global Water Awards 2022	GWI	GS Inima Atacama seawater desalination plant	Desalination Plant of the Year
5	2022 Money Today Korea Residential Service Awards	Money Today	Ilsan Xi 3rd	Best Living Infrastructure Award
6	Grand Housing Brand	Newsway	Eunpyeong Xi The Star	Small Housing and Officetel
7	Grand Prize in Apartment Brand	Asian Economy	Xi Brand	Power Brand Section
8	2022 18th Well-Being Apartment Grand Prize	Hankyung Business	Eunpyeong Xi The Star	Space Innovation Section
9	Hankyung Residential Culture Awards in the first half of 2022	Korea Business News	Wonho Xi the Fore	Grand Prize in Apartment
10	2022 DNEWS Smart Construction Awards	DNEWS	GS E&C	Grand Prize
11	26th Best Apartment Contest	Maeil Business Newspaper	Gwacheon Xi	Grand Prize
12	2022 Korean Land Contest	Financial News	Gwacheon Xi	General sector
13	2022 Korea Luxury Housing Awards	Money Today	Eumseong Xi Central City	Grand Prize in Apartments (Large)
14	2022 Korea's Representative Apartment Awards	Korea Economic Daily TV	Arte Xi	Award from the Minister of Land, Infrastructure and Transport
15	17th Asia Construction Grand Prize	Asian Economy	XIAN vie	Smart Housing Section
16	2022 Eco-Friendly Construction Industry Awards	The Economist	Eunpyeong Xi The Star	High-rise Apartment Section
17	2022 Aju Business Daily Construction Awards	Aju Business Daily	Eumseong Xi Central City	Grand Prize in Housing
18	2022 E-today Smart Construction Awards	E-today	ESG	ESG
19	2022 Social Contribution Grand Prize	Financial News	Social Contribution Section	Grand Prize in Social Contribution
20	Civil Engineering and Construction Awards in the second half of 2022	Maeil Business Newspaper	Seoul Munsan Expressway	Road Traffic Facilities
21	13th Korea Green Construction Awards	Seoul Shinmun	ESG	Grand Prize in the Eco-Friendly Section
22	Hankyung Residential Culture Awards in the second half of 2022	Korea Business News	Daemyung Xi Grand City	Grand Prize
23	2022 Construction Industry Awards	E-daily	Indukwon Xi SKVIEW	Grand Prize in Residential Innovation
24	2022 Green Housing Awards	Hankook Ilbo	Asan Xi Grand Park	Grand Prize in Community Section
25	2022 DNEWS Economic Construction Real Estate Awards	DNEWS	ESG	Grand Prize in ESG
26	2022 Korean Marketing Awards	Seoul Daily	Xi TV	Grand Prize in Brand Marketing

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Membership associations

Membership Status

Category	Division						
	Architecture & Housing	New Business	Plant	Infrastructure	ECO Business	RIF Tech	Management (others)
Name of Association	<ul style="list-style-type: none"> • Korean Institute of Electrical Engineers • The Korean Institute of Illumination and Electrical Installation Engineers • Korea Institute of Construction Management • Korea Institute of Building Construction • The Society of Air-conditioning and Refrigerating Engineers of Korea • Korea Green Building Council • Korea Equipment Technology Association • Korea Construction Machinery and Equipment Council • Korea Air Cleaning Association • Korean Institute of BIM • Korea Ecological Restoration Association • Korea Institute of Ecological Architecture and Environment • The Korean Institute of Landscape Architecture • Korea Housing Association • Korea Remodeling Association • Korean Architectural Association • Korean Association for Real Estate Development • Architectural Institute of Korea • Korean Interior Design Society • Korean Traditional Landscape Society 	<ul style="list-style-type: none"> • K-CCUS • Korea H2 Business Summit • Korea financial Investment Association • Korea Data Center Energy Efficiency Association (KDCEA) • Construction Association of Korea • Korea Construction Engineers Association • Korea Construction Association • Korea Professional Construction Mutual Aid Association • Korea Construction Mutual Aid Association • Korea Engineering Mutual Aid Association • Korea Professional Construction Mutual Aid Association • Korea Electrical Construction Mutual Aid Association • Korea Fire Safety Institute 	<ul style="list-style-type: none"> • Korea Plant Engineering Development and Research Council (EDRC) • International Contractors' Association of Korea • Korea Plant Society • Korea Plant Industries Association • Korea PDS • AIChE(American Institute of Chemical Engineers) • NACE(National Association of Corrosion Engineers) • Korea Rotating Mechanical Engineers Association • AACE International • IRCA(International Register of Certificated Auditors) 	<ul style="list-style-type: none"> • Korean Society of Transportation • Korea Urban Railway Association • Korea Water Resources Association • Korean National Committee on Large Dams • Korean Geosynthetic Society • Korean Society of Road Engineers • Korea Road Association • Korean Society of Coastal and Ocean Engineers • Korea Ports & Harbours Association • Korean Society of Coastal Disaster Prevention • Korean National Committee on Irrigation and Drainage • The Korea Railway Association • Korean Society for Railway • Korean Railway Construction Association • Korea Rail Engineering Association • Korean Society of Civil Engineers • Korean Geotechnical Society • Korean Society for Rock Mechanics • Korean Tunneling and Underground Space Association • Korean Society of Steel Construction • Korea Concrete Institute • Korea Society of Disaster & Security • The Construction Management Association of Korea • Korea ITS Society 	<ul style="list-style-type: none"> • Korea Wind Energy Industry Association • Korea Atomic Energy Industry Association (KAIF) • Korea Nuclear Export Industry Association (KNA) • Korean Nuclear Society (KNS) • Korean Society of Water and Wastewater • Korean Society of Environmental Engineers • Korean Society on Water Quality • Korean Society of Combustion • Korean Organic Resource Recycling Association • Korea Fluid Mechanical Society • Korea Mechanical Society • Korea Electrical Contractors Association • International Contractors' Association of Korea 	<ul style="list-style-type: none"> • Korea Industrial Technology Association • Korea Construction and Transportation Association • Korea Computational Structural Engineering Institute • The Korean Society for Noise and Vibration Engineering • Building SMART Korea • Korean Society of Road Engineers • Korean Geo-environmental Society 	<ul style="list-style-type: none"> • Korea Business Council for Sustainable Development • UN Global Compact Network Korea • Korea Federation of Construction Contractors • Korea Federation of Employers • Korea Construction Company Personnel Management Council • Korea Chamber of Commerce and Industry • Federation of Korean Industries • KOREA Investor Relations Service • Korea Listed Companies Association • Seoul Patent Attorney Association • American Bar Association • Korea Fair Competition Federation • KOSHA 18001 Society • Construction Safety Manager Committee • Construction Safety Manager Association • Safety and Health Education Development Council • Maekyung Safety and Environment Institute SEL Club • Construction Safety Executive Association • Construction and Health Council • Korea Society for Construction Quality • Korea Construction Quality Association • Construction Environment Association • Construction Association of Korea • Korea Construction Engineers Association • Korea Construction Association • Korea New & Renewable Energy Association • Korea Fire Construction Association • Korea Facilities Maintenance Association • Korea Mechanical Construction Contractors Association • Korea Electrical Contractors Association • Korea Information & Communication Contractors Association • Korean Society for Human Resource Development, • Korea Organization Management Development Association • Korea International Trade Association • Construction and Economy Research Institute of Korea • Construction Industry Vision Forum • Korea CFO Association • National Academy Engineering of Korea

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GHG Verification Summary

Introduction

KSA Certification, Ltd was commissioned by GS E&C Corporation. ("GS E&C") to verify the domestic GS E&C's Direct emissions (Scope 1 emissions) & Indirect emission (Scope 2 emissions) of Greenhouse Gas Inventory Report for the calendar year 2022 ("the report") based upon a reasonable level of assurance, to verify the overseas GS E&C's emissions (Scope1,2,3 emissions) & domestic GS E&C's Other indirect emissions (Scope3) of Greenhouse Gas Inventory Report for the calendar year 2022 ("the report") based upon a limited level of assurance. GS E&C is responsible for the preparation of the GHG emissions data on the basis set out within the WRI/WBCSD GHG protocol: 2004 and the principles set out in ISO 14064-1:2006. Our responsibility in performing this work is to the management of GS E&C only and in accordance with terms of reference agreed with them. KSA expressly disclaims any liability or responsibility for any decisions, whether investment or otherwise, based upon this assurance statement.

Scope of Assurance

The emissions data covered by our examination comprise Direct emissions (Scope 1 emissions), Indirect emission (Scope 2 emissions) and Other indirect emissions (Scope3):

- Reporting period under verification: Calendar Year 2022
- Organizational boundary for reporting:

■ Scope 1(Direct emissions) & Scope 2(Indirect emission)

Organizational Boundary	Number of Sites / Buildings	Verification activity
Buildings	11 buildings: Gran Seoul, Elysian Resort etc.	Desk Review, Site visit, Activity data verification
Domestic construction sites	134 sites: in dept. of Architecture, Infra, Plant, ECO business division	Desk Review, Site visit, Activity data verification
Overseas construction sites	12 sites: in dept. of Architecture, Infra, Plant, ECO business division	Desk Review, Activity data verification

■ Scope 3(Other Indirect emissions)

Category	Organizational Boundary	Verification activity
Upstream of Purchased Goods and Services	Fuel used by construction services provided by partners to domestic and overseas sites (using heavy equipment by partner companies)	Desk Review, Activity data verification
Domestic and Overseas business travel	Employee's Domestic and Overseas business travel (excluding mobile combustion owned by GS E&C)	Desk Review, Activity data verification

Verification Approach

The verification has been conducted by KSA from 21th Feb. through 7th Jun. 2023 and performed in accordance with the verification principles and tasks outlined in ISO 14064-3:2006, IPCC Guideline: 1996/2006, Greenhouse Gas Management Scheme Guideline: 2022-54. We planned and performed our work so as to obtain all the necessary information and explanations to provide us with sufficient evidence to suggest a limited verification opinion concerning the completeness of the emission inventory as well as the reported emission figures in ton CO₂ equivalent. As part of the verification process:

- We have reviewed and verified the GS E&C's 'Green Information Management System'
- We have reviewed the GHG Inventory Report
- We have reviewed and verified process to generate, aggregate and report the emissions data

Conclusions

As a result of the work described above, in our opinion nothing has come to our attention that would cause us to believe that the GHG Emissions data set out in GS E&C's for the year 2022 were confirmed as below;

■ Greenhouse Gas Emissions of GS E&C Corporation in 2022

Unit: tCO₂eq

검증범위	Domestic	Overseas	Total emissions
Direct emissions (Scope 1)	33,509	18,084	51,593
Indirect emissions (Scope 2)	66,656	2,332	68,988
Other indirect emissions (Scope 3)	1. Purchased goods and services	38,848	125,675
	6. Business travel	1,149	1,150
Total	188,141	59,265	247,406

- ※ In order to report the GHG emissions as an integer, the rounded number on the statement might be different from the number on the system with ± 1.0 tCO₂eq
- ※ Total emissions = scope 1 + scope 2
- ※ Scope 3 calculation scope: 1. Sub-contractor heavy equipment at construction site, 6. business trips (domestic and overseas)
- ※ For the electricity emission factor of overseas business sites, the domestic emission factor is applied.

June 19, 2023



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Introduction

Korea Management Registrar (KMR) was commissioned by GS E&C to conduct an independent assurance of its Integrated Report 2023 (the “Report”). The data and its presentation in the Report is the sole responsibility of the management of GS E&C. KMR’s responsibility is to perform an assurance engagement as agreed upon in our agreement with GS E&C and issue an assurance statement.

Scope and Standards

GS E&C described its sustainability performance and activities in the Report. Our Assurance Team carried out an assurance engagement in accordance with the AA1000AS v3 and KMR’s assurance standard SRV1000. We are providing a Type 2, moderate level assurance. We evaluated the adherence to the AA1000AP (2018) principles of inclusivity, materiality, responsiveness and impact, and the reliability of the information and data provided using the Global Reporting Initiative (GRI) Index provided below. The opinion expressed in the Assurance Statement has been formed at the materiality of the professional judgment of our Assurance Team. Confirmation that the Report was prepared in accordance with GRI standards 2021 was included in the scope of the assurance. We have reviewed the topic-specific disclosures of standards which were identified in the materiality assessment process. We also confirmed that the report was prepared in accordance with the TCFD recommendations and SASB.

- GRI Sustainability Reporting Standards 2021
- Universal standards
- Topic specific standards

- GRI 201: Economic Performance
- GRI 205: Anti-corruption
- GRI 206: Anti-competitive Behavior
- GRI 207: Tax
- GRI 301: Materials
- GRI 302: Energy
- GRI 303: Water and Effluents
- GRI 304: Biodiversity
- GRI 305: Emissions
- GRI 306: Waste
- GRI 308: Supplier Environmental Assessment
- GRI 401: Employment
- GRI 403: Occupational Health and Safety
- GRI 404: Training and Education
- GRI 405: Diversity and Equal Opportunity
- GRI 406: Non-discrimination
- GRI 413: Local Communities

To readers of GS E&C Integrated Report 2023

- GRI 414: Supplier Social Assessment
- GRI 416: Customer Health and Safety
- GRI 418: Customer Privacy

- SASB Sustainability Disclosure Topics & Accounting Metrics
- TCFD recommendations

As for the reporting boundary, the engagement excludes the data and information of GS E&C’s partners, suppliers and any third parties.

KMR’s Approach

To perform an assurance engagement within an agreed scope of assessment using the standards outlined above, our Assurance Team undertook the following activities as part of the engagement:

- reviewed the overall Report;
- reviewed materiality assessment methodology and the assessment report;
- evaluated sustainability strategies, performance data management system, and processes;
- interviewed people in charge of preparing the Report;
- reviewed the reliability of the Report’s performance data and conducted data sampling;
- assessed the reliability of information using independent external sources such as Financial Supervisory Service’s DART and public databases.

Limitations and Recommendations

KMR’s assurance engagement is based on the assumption that the data and information provided by GS E&C to us as part of our review are provided in good faith. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling at lower levels in the organization were applied. To address this, we referred to independent external sources such as DART and National Greenhouse Gas Management System (NGMS) and public databases to challenge the quality and reliability of the information provided.

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Conclusion and Opinion

Based on the document reviews and interviews, we had several discussions with GS E&C on the revision of the Report. We reviewed the Report's final version in order to make sure that our recommendations for improvement and revision have been reflected. Based on the work performed, it is our opinion that the Report applied the GRI Standards. Nothing comes to our attention to suggest that the Report was not prepared in accordance with the AA1000AP (2018) principles.

Inclusivity

GS E&C has developed and maintained different stakeholder communication channels at all levels to announce and fulfill its responsibilities to the stakeholders. Nothing comes to our attention to suggest that there is a key stakeholder group left out in the process. The organization makes efforts to properly reflect opinions and expectations into its strategies.

Materiality

GS E&C has a unique materiality assessment process to decide the impact of issues identified on its sustainability performance. We have not found any material topics left out in the process.

Responsiveness

GS E&C prioritized material issues to provide a comprehensive, balanced report of performance, responses, and future plans regarding them. We did not find anything to suggest that data and information disclosed in the Report do not give a fair representation of GS E&C's actions.

Impact

GS E&C identifies and monitors the direct and indirect impacts of material topics found through the materiality assessment, and quantifies such impacts as much as possible.

Reliability of Specific Sustainability Performance Information

In addition to the adherence to AA1000AP (2018) principles, we have assessed the reliability of economic, environmental, and social performance data related to sustainability performance. We interviewed the in-charge persons and reviewed information on a sampling basis and supporting documents as well as external sources and public databases to confirm that the disclosed data is reliable. Any intentional error or misstatement is not noted from the data and information disclosed in the Report.

Competence and Independence

KMR maintains a comprehensive system of quality control including documented policies and procedures in accordance with ISO/IEC 17021:2015 - Requirements for bodies providing audit and certification of management systems. This engagement was carried out by an independent team of sustainability assurance professionals. KMR has no other contract with GS E&C and did not provide any services to GS E&C that could compromise the independence of our work.

June 2023 Seoul, Korea

CEO *E. J. Hwang*



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