

# Grow with Green Sustainability

GS E&C Integrated Report 2021



## About this Report

GS E&C believes that it has to create stable financial values through business activities and pursue 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, under the vision of becoming a “Sustainable Global Company.” Through our 10th integrated report, we intend to disclose all our financial and non-financial performance achieved through ESG management to the stakeholders with transparency.

### Reporting Principles

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

### Reporting Boundary

Headquarter, 196 business sites and major supply network at home and abroad

### Reporting Scope

Economy (Korean International Financial Reporting Standards, K-IFRS), Society and Environment

### Reporting Period

January 1, 2020 - December 31, 2020  
(Partially includes key performance in the first half of 2021)

### Reporting Cycle

Annual (Latest report published in June 2020)

### Assurance of Report

This report has been verified by BSI, an independent assurance provider to ensure the credibility and integrity of its preparation process and contents. The result of this third-party assurance engagement can be found on page 90-91.

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## CEO Message



### Dear Stakeholders,

I would like to extend my sincerest gratitude for your unwavering support and encouragement for GS E&C.

Last year, not only did we run our preexisting business successfully even under the COVID-19 pandemic situation; we also expanded our new businesses in line with the green energy and carbon neutrality trends. Instead of being a construction company only, we are aiming to become a total solution company based on the growth of our new businesses including eco-friendly businesses such as new and renewable energy, water treatment, battery recycling, and modular construction as well as our housing business, which is creating stable profits by gaining recognition for the best technology and brand values.

We are making various efforts to accomplish zero accident and practicing righteous management by pushing for fair HR affairs and coexistence with subcontractors and strengthening ethics management. We are continuously striving to gain market trust and enhance corporate sustainability.

In addition to financial achievements, we pursue corporate sustainability by creating values in the environmental, social, and governance sectors. To keep pace with global efforts for responding to climate changes such as the 2050 Carbon Neutral Declaration, we are developing eco-friendly technology-based businesses including new and renewable energy businesses, environmental businesses, and ongoing new businesses. We are managing environmental risks by reducing waste and energy consumption and conducting enterprise-wide environmental activities such as eco-friendly technology R&D. We are creating environmental values and disclosing our environmental goals and performance transparently.

We are conducting diverse activities to strengthen our ability to prevent construction accidents and create a safe workplace, including systematizing the preliminary review on dangerous construction processes, strengthening safety regulations, operating safety patrols, and applying the IT safety management system to more construction sites. We operate the subcontractor payment TF team to minimize financial conflicts for coexistence with our subcontractors. In addition, we pursue win-win growth through social contribution activities such as volunteer work and donations to the underprivileged.

We are operating a committee under the Board of Directors to support BOD-centric management. Consisting of experienced and qualified directors, the committee ensures the efficiency and expertise of the BOD by reviewing and deliberating on major items. Furthermore, we appointed our first female outside director in March 2021 to ensure the gender diversity of the BOD.

We have been making efforts for a long time now to create a suitable business structure for the era of ESG. With the ESG Committee we formed in April 2021 as the center, we will create a future-oriented value chain by improving our business structure based on ESG, aligned with the Ten Principles of the UN Global Compact. In keeping with the era of ESG, we will do our best to become a sustainable company, communicating with various stakeholders including shareholders, clients, employees, partners, and local communities. Your continuous support and interest will be highly appreciated.

Thank you.

July 2021

GS E&C CEO Lim Byeong-yong

안병용

# 10-year History of Integrated Report

GS E&C has been reporting its financial and non-financial performance faithfully through its annual integrated report since 2011, with the purpose of disclosing its sustainability management activities and performance transparently to a variety of stakeholders. Marking the publication of the 10th integrated report, we looked back on the 10 years' history of our integrated reports. We will grow as a global E&C company, disclosing our efforts for sustainability management transparently.

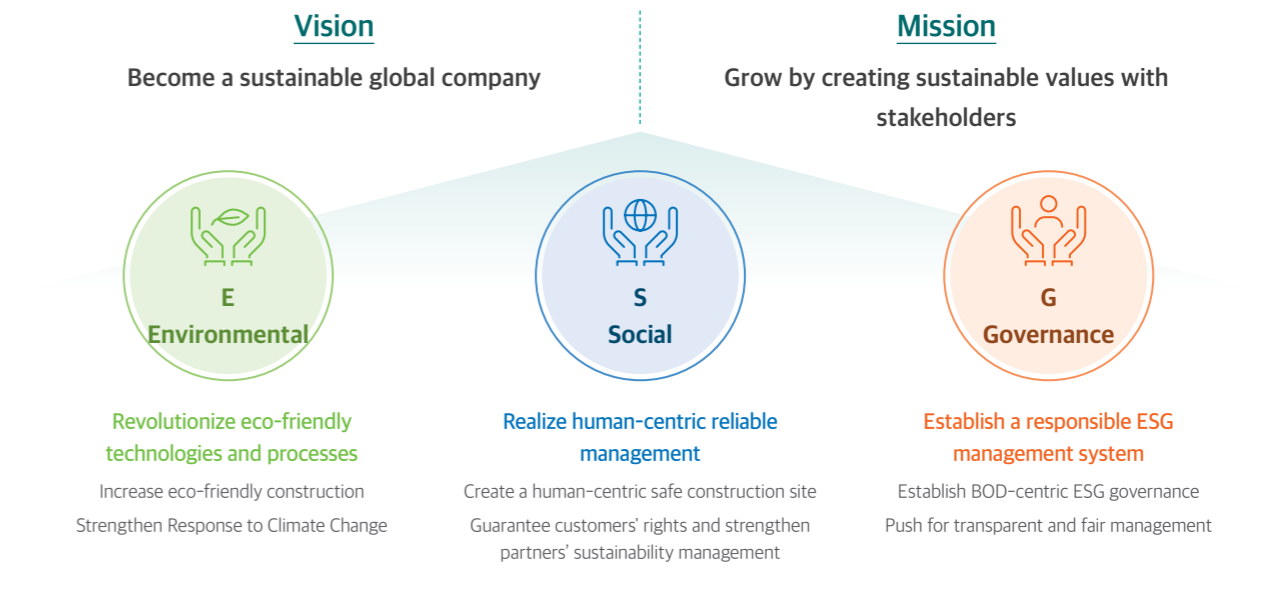


\*From 2021, our report has been renamed based on the published year and not on the reporting year.

# ESG Strategy

As ESG management is of growing importance in society, GS E&C is aiming to become Korea's representative ESG company by fulfilling its corporate social responsibility to the fullest. We established an ESG strategy to provide sustainable values for all stakeholders including our customers. We are pushing for ESG management with our top management, ESG organizations, subsidiaries, and partners. We will realize our own and social sustainable development by implementing ESG tasks selected to accomplish the vision of "becoming a sustainable global company."

## Strategy



## Sustainability Players

### Enterprise-wide ESG network



1) Carbon Disclosure Project: Global indexes to evaluate a company's response to environmental issues such as climate change, water resources, and forests; a company's environmental management information such as GHG emissions  
 2) Task Force on Climate-Related Financial Disclosures: TCFD recommendations published by FSB (Financial Stability Board) for the disclosure of financial information related to responses to climate change



# Circular Economy



## Rechargeable Battery Business

On October 20, 2020, GS E&C founded Enerma Inc. to enter the rechargeable battery recycling market, meeting the domestic and overseas demand for rare metals and keeping up pace with future business trends. We reduce newly developed mines and contribute to carbon neutrality by collecting 5,000 tons of key cathode materials such as nickel, cobalt, lithium, and manganese from used rechargeable batteries every year. In 2020, we entered into a technology partnership with leading enterprises so as to ensure key technologies. We plan to start commercial operation in 2023, investing KRW 140 billion in Yeongilman Industrial Complex 4, Pohang. In addition, we are planning to expand our business to battery materials including battery precursors to further enhance our business profitability.



# Clean Water



## Smart Fish Farming, Clean Production of Marine Products

GS E&C is entering new businesses based on its construction business and new and renewable energy. GS E&C and one of its subsidiaries, GS Inima, are putting forth the efforts to commercialize innovative new and renewable energy technology for seawater desalination through an international joint research with PUB (Singapore). This technology reduces power consumption by at least 20% by saving energy required for desalination facility operation. Based on our experience and technology in water treatment plant business, we are taking part in the “Smart Fish Farm<sup>1)</sup> Cluste Construction Project” conducted by the Busan Metropolitan Government in order to enter future clean inland fish farm business. We will establish a smart inland fish farming system for clean water with our experience in advanced water treatment plant construction. Our new business is expected to supply safe and fresh marine products and contribute to the protection of the marine environment.

<sup>1)</sup> Smart fish farming: A seafood farming using variety of technologies such as ICT, IoT which is characterized by being a form of knowledge industry marked for its technology intensive and eco-friendly aspects.





## Clean City

### 11 SUSTAINABLE CITIES AND COMMUNITIES



#### Xi, the Leader of Eco-Friendly Apartments

To lead eco-friendly construction as an ESG leader, GS E&C has been applying the landscaping concept of “forests” to all Xi apartments since early 2000. We are creating an eco-friendly environment in Xi apartments, providing pleasant residential facilities such as ground green spaces, trails, and nature playgrounds. In addition, we are minimizing environmental impact by using eco-friendly construction materials. With such efforts, Xi has been ranking first on the apartment brand preference list. As such, we will strengthen our market status as an ESG leader in the construction industry.



## Sustainable Construction

### 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



#### Eco-Friendly Construction “Prefab” Market

GS E&C entered the eco-friendly modular construction (prefab) business to widely promote sustainable values based on future industries. In 2020, GS E&C took over two advanced modular housing companies (Danwood S.A. and Elements Europe Ltd.) to ensure competence in modular (prefab) construction. Modular (prefab) construction complies with sustainable values by reducing construction waste and exhaust gas by half.

Moreover, we built an automated precast concrete (PC) plant in Eumseong-gun, Chungcheongbuk-do which is expected to start operating in July 2021. PC construction is a method of construction in which structural members such as columns, beams, slabs, and walls are assembled on the construction site just like Lego blocks. Not only does it reduce the construction period, but also it enhances quality and durability. Since the outbreak of COVID-19, this construction method is gaining more attention as non-face-to-face culture spreads in construction as well. We will strive to apply more eco-friendly construction methods to our construction business.





# Workplace Safety

**3** GOOD HEALTH  
AND WELL-BEING



## IBoT, an Integrated Smart Construction Safety Management system

GS E&C applied IBoT (Internet Bluetooth of Things) to the construction sites for the first time in Korea. IBoT is a smart safety management system that manages risk factors using a Bluetooth network. It detects risk factors such as fire and smoke using a variety of sensors and sets off the alarm in a dangerous situation. We expect that IBoT will play an important role in creating a safe workplace. In addition, to create a safe environment for workers, we will keep working on R&D activities for smart safety system technologies which can be applied to construction sites.

## Introduced the Four-Legged Robot “SPOT” to Construction Sites for the First Time in the Korean Construction Industry

GS E&C introduced to its construction sites “SPOT”, a four-legged robot equipped with a variety of hi-tech devices such as LIDAR, 360-degree camera, and IoT sensors. SPOT is able to run on hostile terrain or pass obstacles smoothly. Its IoT sensors are used for construction site safety management by detecting harmful gases and thermal images in dangerous areas. We will apply the key technologies of the Fourth Industrial Revolution such as big data, AI-based image analysis, and AR in order to enhance their onsite utilization.



# ESG Leadership & Diversity

**16** PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS



## ESG Committee, the Control Tower for Sustainability Management

In April 2021, GS E&C newly formed the ESG Committee, the control tower for Sustainability management. We are practicing ESG management systematically by operating the ESG Committee and the ESG Team under the Corporate Sustainability Management Division. Consisting of five directors including four outside directors, the ESG Committee reviews and approves business strategy, directivity and performance in terms of environment (E), society (S), and governance (G).

## The First Female Outside Director

In March 2021, GS E&C appointed Lawyer Hee-Jin Cho as its first female outside director. This was our measure to preemptively respond to the amendment of the Financial Investment Services and Capital Markets Act that demands at least one female registered director by July 2022, and with her appointment, we strengthened our BOD's expertise in ESG such as fair trade and support for compliance. Furthermore, we will establish a balanced leadership structure and lead ESG management by ensuring the diversity of our BOD.

# Business Overview

On December 19, 1969, GS E&C was first founded as Lackhee Development Co. (LDC). March 2005 was when the company earned its current name of GS E&C. We consider customer values as our top priority in all business fields including construction, housing, plant, and infrastructure. Not only do we provide construction services, but also we are becoming a total solution company that discovers and operates new businesses. As a leading company in the era of ESG, GS E&C will grow as a global eco top tier E&C company that widely promotes sustainable values all over the world.

## General information

Consolidated basis as of December 2020



**Company name**  
GS E&C



**Total assets**  
13,770.7 billion



**No. of employees**  
6,350

**Date of establishment**  
December 19, 1969

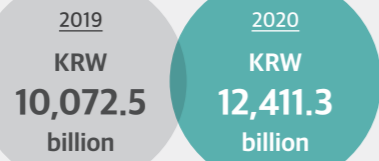
**Credit rating**  
A

**No. of business sites**  
196

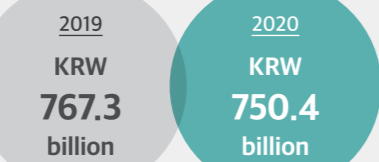
## Sales



## Orders received

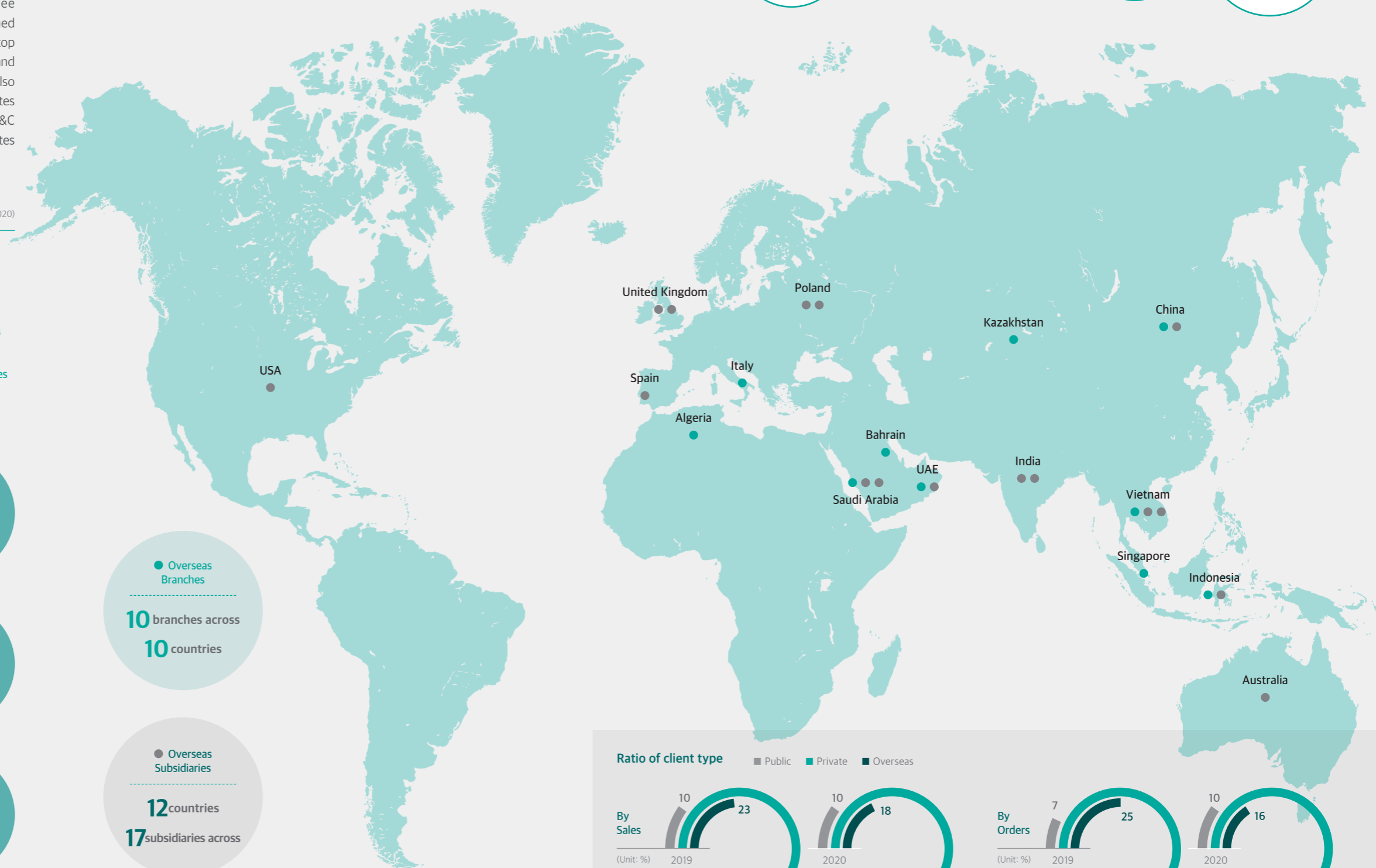
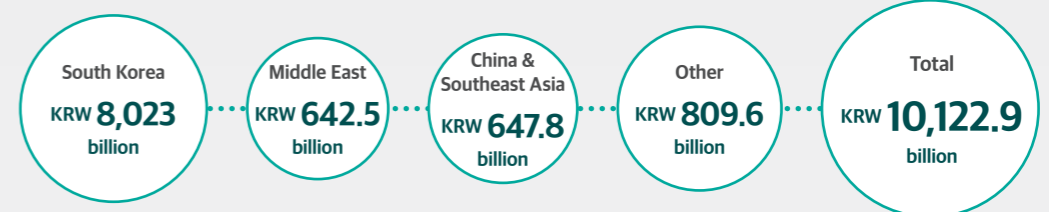


## Operating profit



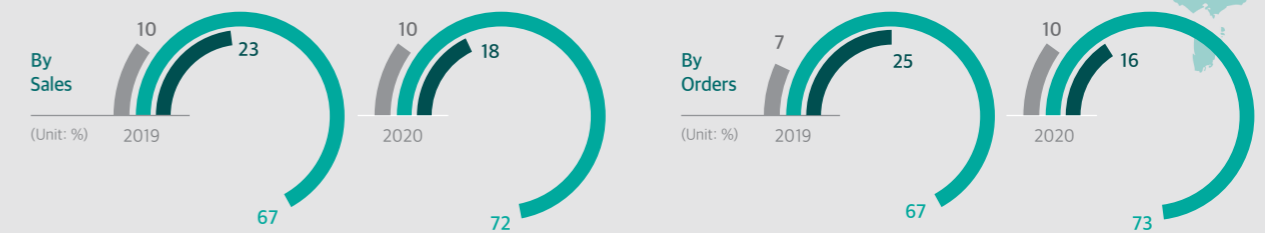
## Sales by major market

\* As of December 2020



## Ratio of client type

Public Private Overseas





# Architecture / Housing

## Business Areas

Residential facilities, office facilities, cultural / leisure / sports facilities, clean room / production / logistics facilities, remodeling, and domestic development projects

## Overview

Our construction business deals with all types of structures including houses, office facilities, commercial facilities, and production facilities. We have expertise in construction management as well as differentiated technology for state-of-the-art office buildings and hi-tech factory facilities (CR, GMP) and Internet data centers (IDC), including extensive experience in large-scale projects. In addition, our engineering organization has competence and technology to construct high-rise buildings at home and abroad and carry out overseas projects. In housing, we are planning and supplying premium residential products based on brand awareness of Xi and our technology, keeping pace with consumers' changing awareness of houses. We also suggest lifestyles for our customers by establishing a two-way communication platform as well as providing residential spaces. Lastly, we are working on securing various community facilities and creating a concierge service-based environment in order to enhance customer satisfaction after our customers move into the apartments we built. Based on the brand power of Xi, we are creating profits by finding mid- and long-term provincial projects with outstanding business potential, instead of focusing on Seoul and Seoul Capital Area only.

## Looking Ahead

With buildings getting larger and more advanced, the demand for state-of-the-art office buildings applied with a building automation system called Intelligent Building System and hi-tech equipment production facilities such as semiconductor and LCD factories are steadily growing. Furthermore, the demand for Internet data centers (IDC), etc. is increasing alongside the growth of the IT industry. Our construction business is expected to grow continuously based on our differentiated technology, expertise, and experience in large-scale projects.

As the government's housing policy aims at increasing the housing supply, government-initiated housing supply projects such as third-generation new city construction are expected to grow. In line with the government's policy, we will take an active part in various projects in order to maintain our market status and ensure business stability.

In the medium to longer term, we will diversify our products in line with the changing population structure, diverse personal tastes, and changing consumer awareness of housing. We will lead the housing culture by establishing a customized lifetime platform to enhance residents' satisfaction. We will hold a

dominant market position amid the intensifying competition using our varied business structure. Lastly, we will concentrate our competences on strengthening the brand power of Xi.

### 1. Songdo Xi Crystal Ocean

Construction period: January 2021 - June 2024  
Order received: Approx. KRW 1.4 trillion

### 2. Seocho Gran Xi

Construction period: July 2018 - June 2021  
Order received: Approx. KRW 440 billion

### 3. Brighten Yeouido

Construction period: July 2019 - April 2023  
Order received: Approx. KRW 470 billion



1



2



3



# New Business

## Business Areas

Modular houses, water treatment concession<sup>1)</sup>, and other related businesses

### Overview

GS E&C is expanding its business to various fields including modular (prefab) housing, water treatment concession, and other related businesses. Modular (prefab) construction and precast concrete construction are different from traditional construction. A structure is made at a factory up to a certain level and delivered to the construction site. Then, the building is completed on-site. GS E&C has taken over Europe's leading modular construction companies that have established subsidiaries in Korea in order to respond to the modular construction market by supplying various types of modular structures. In particular, our precast concrete producer, GPC, replaces conventional framing and enhances productivity. GPC will strengthen its market position in the precast concrete industry by proactively entering the high-performance construction member market encompassing walls and UHPC.

Water treatment concession business requires a variety of competences such as design, procurement, construction, financing, operation, and maintenance, featuring a high entry barrier and long-term stable profits. In 2021, GS E&C took over GS Inima based in Spain. Since then, GS Inima has been developing as a global water treatment and making an enormous accomplishment. The company has been strengthening its global competitiveness since its expansion of business portfolio to industrial water through acquisition of industrial water assets in 2019. In addition, the company is ensuring a growth engine through technology development in collaboration with GS E&C. Based on this water treatment technology, GS E&C has been participating in the Busan Smart Fish Farming Project since last July.

### Looking Ahead

Modular (prefab) construction has a variety of merits such as eco-friendliness, shorter construction periods, and fewer safety issues. Modular construction, called a future vision of construction business, is expected to grow more as an alternative of traditional construction methods. As a global modular (prefab) construction company especially in Europe and Asia, GS E&C will grow as a new global leader based on its subsidiaries' complementary specializations, strong points, technologies and networks.

Once a nation develops over a certain level, the demand for improving the quality of life and infrastructure increases. As a result, stable water treatment infrastructure becomes essential for the nation. To meet such demand, GS E&C will steadfastly invest in stable and highly profitable water treatment operation assets based on our experience in acquiring and operating water treatment enterprises. Furthermore, we plan to keep on participating in global desalination projects to commercialize the world's first desalination technology we have developed. Based on sustainable growth strategy, we are committed to developing GS Inima as a global top tier company that leads eco-friendly energy and energy conservation.

1. **Modular houses supplied by Danwood S.A**
2. **Greenwich built by Elements Europe Ltd.**
3. **GS Inima's seawater desalination project in Oman**  
 Operation period: BarkaV - 2Q 2021 - 3Q 2023 / Ghubrah III - 2Q 2021 - 2Q 2024  
 Operation and maintenance period: 20 years after construction work is completed  
 Total investment: BarkaV - USD 129 million, Ghubrah III - USD 275 million
4. **Smart Fish Farming Cluster in Busan**  
 Operation period: November 2022 - October 2042  
 Our investment: KRW 4 billion
5. **Precast Concrete (PC) plant in Eumseong-gun, Chungcheongbuk-do**  
 Operation Period: July 2021~  
 Our Investment: 68.5 billion

<sup>1)</sup> Water treatment concession: Making profits by operating water treatment plant assets for a long period of time through direct investment.



1



2



3



4



5



# Plant

## Business Areas

Oil, gas, petrochemical plants, environmental and distributed energy business

### Overview

Plant construction is a complex industry that combines the basic and detailed design of oil, gas, petrochemical and environmental (waste treatment and water treatment) facilities, the procurement of materials, the final completion of construction, and all other services encompassing feasibility studies, maintenance, and operation. GS E&C owns world-class competitiveness in oil refinery plant and environmental business. Our oil refinery construction began with the CDU Expansion Project conducted by GS Caltex in 1979. Now we are receiving project orders from all around the world, winning the best recognition from the global market. We constructed a variety of plant facilities in Korea, including the Mapo Resource Recovery Facility that boasts the best performance in environmental business encompassing waste treatment and water treatment. We are making efforts to receive more orders for new and renewable energy development and operation projects in the domestic and overseas green energy markets including both advanced and developing countries.

As the governments and markets of different countries become more interested in ESG, energy paradigms are forecast to change swiftly for carbon emission reduction. We will expand our value chain through development and investment business especially in new and renewable energy such as photovoltaics and wind power. Lastly, we will establish a stable profit model by developing power transmission and transformation IPT (private sector's power transmission) projects.

### Looking Ahead

The demand for petrochemical plants is forecast to increase with the increasing population, improving quality of life, and expanding energy industry facilities of emerging countries in Asia and Africa. In 2021, it is expected that the demand for oil will recover in line with the supply of COVID-19 vaccines and the economy revitalization plans of different countries. In particular, opportunities for receiving new project orders are forecast to increase as more countries tend to invest more in infrastructure especially in India and China. In plant business, we will ensure more overseas orders through continuous cost reduction activities and risk management. Based on our experience in global plant projects, we are expanding our business from high-risk low-profit EPC lump sum<sup>1)</sup> projects to higher value-added projects such as PMC<sup>2)</sup>, FEED<sup>3)</sup>, turn around (plant maintenance), O&M (operation and maintenance), and investment development.

1) EPC lump sum: Lump sum contract for design, procurement, and construction  
 2) PMC (Project Management Consultancy): Comprehensive project management  
 3) FEED (Front-End Engineering Design): Basic design

#### 1. Rabigh II CP 3/4 (Saudi Arabia)

Construction period: June 2012 - July 2017  
 Order received: USD 1,377 million

#### 2. LG Chemical, Y2C(Yeosu No.2 Complex)

Construction Period: August 2018~June 2021  
 Orders Received: 969.2 billion

#### 3. D-Project Environmental Facility GP3 (Guangdong, China)

Construction period: July 2017 - April 2020  
 Order received: USD 320 million

#### 4. Zakarpattia Photovoltaic Power Generation Project (Ukraine)

Construction Period: June 2019~ March 2020  
 Orders Received: 21.7million Euro





# Infrastructure

## Business Areas

Road, bridge, railway, port, dam, subway, etc.

### Overview

Through infrastructure business, GS E&C constructs basic facilities for other industries by creating new spaces for public interests in the natural environment.

Since the foundation of GS E&C, we have been participating in numerous public and private civil engineering and SOC projects. We have been contributing to the national economy and balanced land development by constructing a wide range of infrastructure such as roads, bridges, railways, subways, and ports. Applying our Technology Research Center's new construction techniques and expertise obtained through continuous R&D activities, some of our projects include the construction of Seohaedaegyo Bridge (world's 10th longest span bridge, 7.3 km), Gohajukgyo Bridge (Korea's first three dimensional cable-stayed bridge), and Namhaedaegyo Bridge 2 (world's first suspension bridge with inclined main tower). In addition, after entering and preoccupying the Vietnamese market in early stages, we are now in the process of conducting new city development projects in Vietnam. In Singapore, we are carrying out several subway construction projects based on our outstanding technology and experience. Lastly, we are making construction sites more effective by applying smart construction technology and automated construction equipment.

### Looking Ahead

With the amendment of the Act on Public-Private Partnerships in Infrastructure, infrastructure business is expected to expand in Korea through increased private investments, and various types of infrastructure business are also expected to revitalize. In terms of domestic business, as a result of focusing on private projects, we were designated as a priority enterprise in the Wiryae-Sinsa Railway Project. Moreover, we were also able to obtain the right to manage and operate Seoul-Munsan Expressway. GS E&C will put forth the efforts to receive more infrastructure project orders from the private sector in the future. Even though we are restricted in our overseas sales activities due to the spread of the COVID-19 pandemic, we are trying to keep being on an upbeat note, participating in more sustainable private projects and carrying out development suggestion projects. Moving forward, we plan to take part in bidding in cooperation with foreign leading companies and make profits in new markets to enter the markets of advanced countries such as Australia's PPP projects.

1. **Railway Test Tracks, Singapore**  
Construction period: May 2020 - December 2024  
Order received: 526.3 billion
2. **New Selander Bridge, Tanzania**  
Construction Period: October 2018 ~ December 2021  
Orders received: 116.5 billion
3. **Busan Expressway (Mandeok-Centum)**  
Construction Period: November 2019 ~ November 2024  
Orders received: 262.3 billion



1



2



3





# VALUE THROUGH GREEN INNOVATION








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# Minimizing Environmental Impact



With the emergence of various environmental issues such as global warming and fine dust, the environment is becoming increasingly important. Environmental laws and regulations were tightened accordingly, including the Green Buildings Construction Support Act that took effect in 2013 and the Emissions Trading Scheme introduced in 2015. The ability of a company to respond to environmental risk is directly connected to its competitiveness. Based on our enterprise-wide eco-friendly construction process, we are preemptively preventing environmental risk that may arise from violations of environmental laws and regulations. In addition, we are securing and developing various building energy patents in accordance with the Green Buildings Construction Support Act in order to minimize environmental impact. We will prepare for continuously changing energy paradigms by increasing our investment in eco-friendly technology and developing new and renewable energy technology.

 Environmental management	 Published <b>Environmental Facility Guide</b>	 Investment in new eco-friendly business <b>KRW 5,558</b> million
 Green Construction Process	 Water reused <b>159,639</b> m <sup>3</sup>	 Waste recycling rate <b>99</b> %

## Environmental Management

### Environmental Management Strategy

Environmental issues such as climate change and resource depletion are intensifying, and the environment is becoming increasingly important throughout the world. Domestic and overseas environmental regulations are strengthened. In addition, the ability of a company to respond to environmental risk is directly connected to its competitiveness. GS E&C has established an environmental management strategy system, and it has been strengthening its ability to respond to environmental issues so as to keep pace with global changes preemptively and fulfill its responsibility as a global top-tier construction company to the fullest. We have established 3 strategic directions and 10 strategic tasks with the goal of reducing GHG emissions by 31.86% from the BAU level by 2050. We are managing our KPIs thoroughly in accordance with the green management evaluation report assessment procedure.

#### Long-term strategy of environmental management

<b>Strategy</b>	Eco Global Top Tier
<b>Goal</b>	To reduce GHG emissions by 31.86% by 2050 (from the BAU level)*

Strategic directions	Strategic tasks
----------------------	-----------------



\* 2030 national GHG emission reduction standard (construction): Reduce 5.95% from the BAU level

### Environmental Management Organization

GS E&C is conducting environmental management activities such as environmental management system certification, environmental performance management, and external networking, led by the Green Environment Team under the Quality Environment Part of the Sustainability Management Division. In addition, we have formed the Energy Management Committee to specify energy conservation goals by business sector and to monitor their performance. We are exerting efforts to create eco-friendly business sites by encouraging all employees to be well aware of the importance of the environment and actively participate in environmental management activities.

#### Environmental management organization chart



\* Holding concurrent position of CGO(Chief Green Officer)

### Strengthening Environmental Management Competency

#### Compliance with Environmental Regulations and Enforcing Inspection

With the amendment of the Special Act on the Reduction and Management of Fine Dust, GS E&C is proactively implementing the "Voluntary Agreement on High-Concentration Fine Dust Reduction" supervised by the Ministry of Environment. We are also doing our best to reduce fine dust at our business sites. In addition, we strengthen environmental inspection using the mobile GS E&C application "Environmental Regulation Self-Inspection" in order to make our business sites eco-friendlier. In 2020, we made and distributed a construction environment management facility guide and an environmental management casebook. We are proactively responding to strengthened construction environment laws and developing our environmental management competence. We achieved our goal of having "zero environmental fine" in 2020 by carrying out our legal responsibility to the fullest and strengthening environmental inspection in compliance with the environmental regulations.



### Green Investment for Environmental Management of Construction Sites

GS E&C divides its environmental investment into three: onsite environment management expenses, environmental technology investment, and new eco-friendly business investment. We establish and implement a plan for each item.

#### Environmental management expenses\* (Unit: KRW 100 million)

Category	2018	2019	2020	2021
Plan	284	292	312	308
Performance	298	301	331	-

\* Environmental pollution prevention facility installation/operation expenses + Waste treatment expenses

#### Investment in environmental R&D and new business (Unit: KRW million)

Category	2018	2019	2020	2021 Plan
Environmental R&D	3,368	2,828	3,743	3,658
New eco-friendly business Technology development expenses	-	160	53	524
Investment in new eco-friendly business	-	-	5,558	67,400

### Guide for Environmental Facility Installation

With the environmental regulations being tightened recently, the need for an installation standard for environmental facilities for construction sites is emerging. In November 2020, we made and distributed the “Environmental Management Facility Installation Guide” to the construction sites in order to improve unclear and different installation standards and meet new legal standards. The Guide has 15 themes including wheel washing facilities and waste sorting storages. Each of them consists of Installation Guide, Signs, and Notice for better understanding.



Environmental Facility Installation Guide



### Environmental Training for Employees

GS E&C provides systematic education to help its employees understand eco-friendly management and enhance the efficiency of eco-friendly management activities. We distribute onsite environmental management guidelines whenever an intensive environmental management is needed (winter, rainy season, etc.). In case any issue arises regarding environment, we use the internal EP bulletin board to upload a case study for reference by all employees. In addition, we conduct site visits and videoconferences to deliver information related to legal environmental management regulations, environmental issues, and environmental improvement cases to new CMs, onsite environmental management staff, and Headquarters staff. When more professional expertise and skills are required, we are providing advanced programs (noise/vibration, fine dust) to meet the onsite environmental management requirements.

### Environmental Training for Partners

We provide training for partners’ managers and supervisors—who are the main agents of construction—in order to strengthen their competence and interest in environmental management. We visit a new construction site and provide tailored environmental management training considering the characteristics of the site. We also support establishing an environmental management system. Our training including resource saving/recycling, energy conservation, and GHG emission reduction contributes to raising partners’ environmental awareness. We will do our best to raise partners’ interest in the environment by sharing the latest environmental policy and social issues.

#### 2020 environmental training for employees and partners

 <b>Environmental education</b> 142times 568persons	 <b>Remote video education</b> 46times 208persons
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### Named GGBS Star Champion by the Building and Construction Authority of Singapore

GS E&C qualified as GGBS<sup>1)</sup> Star Champion by garnering the highest environmental certification grade (STAR) for 5 consecutive years from the Building and Construction Authority of Singapore. We received a Star Grade for Project N101 for the underground highway construction ordered by the Land Transport Authority of Singapore. GS E&C is now recognized as a global green construction company through this certification. We will continue to be an ESG leading company, expanding our performance.

1) As an environmental certification system operated by the Building and Construction Authority of Singapore, GGBS evaluates companies that are working on construction projects in Singapore in terms of environmental policy, noise/vibration, waste, civil complaint handling, etc., and assigns a grade.

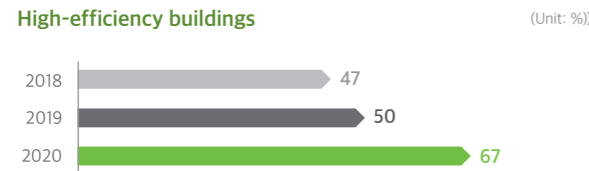
## Green Construction Process

GS E&C is practicing environmental management in all its business processes. We are practicing enterprise-wide environmental management throughout all business processes including design, supplier selection, material procurement/production, building, demolition, and operation. In particular, we proactively respond to key environmental fields related to the construction industry such as GHG emissions, waste, water resources, air quality, and environmental preservation. In addition, we are improving our performance by measuring our environmental management continuously and disclosing the results transparently. For this, we have been operating the Green Information Management System we established. Using this system, we are monitoring GHG emissions systematically and managing our environmental performance.



### Eco-Friendly Design, Constructing High-Efficiency Building

GS E&C enhances building energy efficiency through eco-friendly design. We develop energy optimization design technology to construct green buildings and green homes. This is done by adopting insulation design for energy conservation and using new and renewable energy such as geothermal heat and solar power so that buildings can generate energy themselves. For higher building energy efficiency, we applied our new and renewable energy design system to Heukseok River Park Xi Apartment Complex, which is currently under construction.



### Eco-Friendly Procurement, Utilizing Green Materials

#### Green Procurement

GS E&C is supplied with materials and products through green procurement so as to contribute to spreading the government's eco-friendly product promotion policy. We identify materials that can be replaced with green products and purchase green products preferentially. We have established the green procurement system through which we are monitoring internal green procurement and managing the relevant performance. In 2020, we exceeded our green procurement goal of 11.8% and recorded 12%. We purchased a total of KRW 83.8 billion through green procurement. In addition, we provide incentives to eco-certified companies and eco-friendly product suppliers when evaluating our partners and new suppliers.

**Green purchases** (Unit: KRW 100 million)

Category	2018	2019	2020
Eco-friendly construction materials (HB Mark)	81.18	132.02	129.16
Highly energy-efficient machinery	130.12	149	8.54
Energy Consumption Efficiency Grade 1 or 2	132.57	154.23	236.70
Eco-Label	592.6	139.67	459.95
Others	16.45	10.11	3.25
<b>Total</b>	<b>952.92</b>	<b>576.03</b>	<b>837.60</b>

### Green Construction Materials

GS E&C uses eco-labeled materials at its construction sites to minimize environmental impact. We used 8 EPD (Environmental Product Declaration) products for construction materials such as internal wall materials, floor materials, and window materials by 2020. In addition, we are continuously using eco-friendly materials including 8 certified low-carbon materials, 29 certified resource recycled materials, and 26 certified harmful substance reduction materials.

#### “Eco-Sand”, Natural Resource Keeper

Cognizant of the importance of natural resources, GS E&C is procuring natural resources through recycling in order to hand down natural resources to future generations. In the past we had trouble procuring sand and gravel due to the difficulty to collect natural aggregates and public opinion against sea sand collection. To procure sand and gravel stably, we developed an eco-sand production system that is both eco-friendly and economically feasible. We produced eco-sand by crushing rock debris<sup>1)</sup> generated during tunnel blasting at the Expressway No. 14 Changnyeong-Milyang Construction Site. The transport process was minimized by installing a crusher plant<sup>2)</sup> onsite and collecting aggregates. As a result, we secured a steady supply of eco-sand and saved 250,000 liters of diesel while reducing GHG emissions by 667tCO<sub>2</sub>-e.

- 1) Rock debris: Stones generated during excavation
- 2) Crusher plant: A factory that produces stones by crushing parent rocks collected from a highway construction site

### Eco-Friendly Transport, Maximizing Fuel Efficiency

GS E&C is conducting the eco-driving campaign to minimize environmental impact during transport. We educate our drivers so that they avoid engine idling, drive at moderate speed, and refrain from using outdated vehicles. In particular, avoiding engine idling is very effective in reducing GHG emissions. To further promote green transport, we will distribute eco-driving posters and conduct the relevant campaigns.

### Eco-Friendly Construction, Preventing Environmental Pollution in Areas Near Operational Sites

#### Fugitive Dust and Fine Dust Reduction

GS E&C developed rapid ventilation and portable dust collector technology in order to reduce fugitive dust and fine dust generated during construction. A portable dust collector sucks the dust generated during construction. It mixes dust with water and discharges it as soil. In addition, we are trying to minimize air pollution resulting from construction by installing wheel cleaning facilities and anti-dust covers.



Installation of portable screen and dust collectors

#### Protection of Plants and Endangered Species

GS E&C is making efforts to protect plants and endangered species discovered during construction. We analyze and proactively respond to the neighboring environment through an environmental impact assessment. We are protecting the ecosystem in various ways such as vegetation nurseries, eco-corridors, wildlife fences, and low-noise, low-vibration construction methods. In 2020, we planted 1,076 nursery trees and protected the habitats of legally protected species such as common kestrels, otters, and Chinese sparrowhawks during construction.

#### Efforts to Preserve the Aquatic Ecosystem

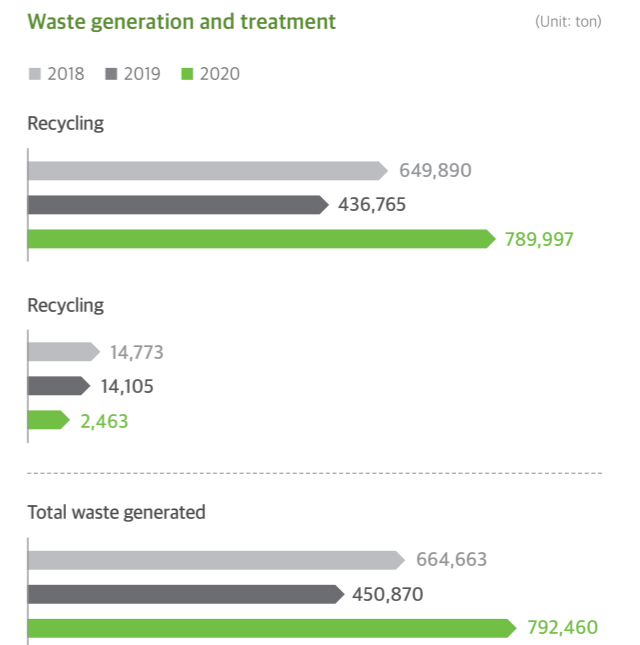
GS E&C is making efforts to protect the aquatic ecosystem. We also have an air bubble barrier technology that protects the aquatic ecosystem. Air bubble barrier technology keeps marine organisms from moving to other areas by generating high-pressure air bubbles in the water. It prevents the inflow of organisms and preserves the aquatic ecosystem. In addition, we are monitoring water quality and preventing water pollution by conducting an environmental impact assessment on a regular basis during construction. Lastly, we installed wastewater treatment facilities to meet the allowable wastewater discharge criteria.

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

GS E&C is converting waste into energy using waste-to-energy technology. Waste-to-energy technology treats and converts waste into electric power and heat at the same time. As a result, it minimizes the environmental impact of waste and saves resources by generating energy. We have a record of 21 construction projects and 20 operation projects of waste-to-energy plants based on various waste-to-energy technologies such as automatic waste collection system, mechanical biological treatment (MBT) for waste, and stocker incineration technology.

#### Reinforced Waste Monitoring and Recycling

GS E&C establishes and operates waste discharge and recycling goals in order to minimize waste discharge during construction. In particular, we are taking the initiative in waste recycling so as to carry out our environmental responsibility to the fullest. As part of this, we lawfully dried and recycled construction sludge (29,371m<sup>3</sup> of heaving soil) generated at the Baegot New Town Coastal Road Expansion Construction Site. Thanks to such efforts, we recorded a waste recycling rate of 99% in 2020. (96.8% in 2019)



### Reducing Waste with Smart Construction

GS E&C introduced eco-friendly construction methods such as composite PC method, modular method, and BIM method in order to reduce waste generation. The PC method and modular method minimize dust and noise by making a structure first and then finishing the work at the site by assembling. The PC method is generally used to construct underground parking lots of apartments. Not only can it minimize complaints about waste and noise; it also reduces the construction period and costs in the modular method, pre-fabricated modules like Lego blocks are assembled at the site, which is also effective for reducing waste. In the BIM method, a structure is designed as a virtual model in 3D, not 2D. Using this method, we prevent excessive design, calculate the quantities and costs of construction materials more accurately, and reduce waste generation effectively.

### Use and Reuse of Water Resource

In 2020, we increased sprinkling water in accordance with the voluntary agreement to respond to highly concentrated fine dust when an emergency fine dust reduction measure order was issued. We operated sprinklers at all times and increased sprinkling water for the roads near the construction sites. As a result, the use of service water increased. To reuse service water, we used wastewater purified at the wastewater discharge facility of the Privately Funded Seobu Expressway Underpass Construction Site for wheel washing system and road cleaning vehicles. As a result, we recycled 159,639 tons of service water. We are making efforts to reuse service water and reduce wastewater during construction.

### Water usage by source

(Unit: m<sup>3</sup>)

Category	2018	2019	2020
Service water	1,935,270	1,955,358	2,080,404
Underground water	426,384	456,741	344,114
River water	326,299	346,591	337,516
<b>Total</b>	<b>2,687,953</b>	<b>2,758,690</b>	<b>2,762,304</b>

### Amount of water reused



### Wastewater Treatment Using Eco-Friendly CO<sub>2</sub> Neutralization System

GS E&C developed a carbon dioxide-dissolving device to facilitate the highly efficient dissolution of carbon dioxide in alkaline wastewater. We have established a safe automatic control system for this device. In 2019, our technology was registered as a carbon dioxide neutralization system patent (10-1953829) for the first time among construction companies. It was applied to Eumseong PC Plant Wastewater Treatment Center, which is being operated as part of our new business fields, replacing a hazardous chemical (sulfuric acid).



Patent of carbon dioxide neutralization system

### Eco-Friendly Operation

#### “Building Energy” with Enhanced Energy Efficiency

GS E&C developed building energy technologies such as heat source optimization, new and renewable energy optimization, and underground parking lot lighting design in order to reduce energy consumption during building operation. Heat source optimization technology responds to the demand for heating and cooling of buildings by finding an optimized energy supply solution. New and renewable energy optimization technology produces the energy required for buildings autonomously by properly utilizing new and renewable energy such as solar power and geothermal heat. In addition, through applying optical lens to LED lighting used in underground parking lot, we facilitated high-efficiency building operation with small energy.

### Eco-Friendly Demolition

GS E&C established the demolition and waste management guidelines in order to minimize the environmental impact of waste and prepare and utilize our own demolition manual in accordance with the Construction Waste Recycling Promotion Act. In addition, we tear down structures after finishing asbestos removal. We dispose of waste generated during demolition safely in accordance with the Enforcement Rules of the Wastes Control Act.

### Waste Treatment Process

To treat waste generated at business sites lawfully, GS E&C verifies the waste treatment companies before bidding, led by the Green Environment Team. During the verification process, we check the collection/transport/final/interim treatment license and waste treatment contract confirmation. In order to prevent the issue of abandoned waste, we check whether all waste treatment service bidders have an abandoned waste treatment fulfillment guarantee. In addition, we link our waste management system to the legal waste treatment system so as to achieve our waste recycling goal.

### Water Pollutants discharged\*

Category	Unit	2018	2019	2020	
BOD	Discharge	m <sup>3</sup>	0.6	0.2	0.2
	Discharge concentration	ppm	2.3	0.7	1.0
	Legal criteria	ppm	10.0	10.0	10.0
SS	Discharge	m <sup>3</sup>	0.5	0.3	0.4
	Discharge concentration	ppm	1.8	1.1	1.8
	Legal criteria	ppm	10.0	10.0	10.0

\* Based on Gangchon Elysian and Jeju Elysian

### Management of Water Pollutants

GS E&C is running Elysian Gangchon and Elysian Jeju and operating sewage treatment plants in these business sites. To minimize environmental pollution resulting from water pollutants generated from the sewage treatment plants, we are managing water pollutants based on stricter criteria than the legal discharge concentration levels.

### Hazardous Chemical Search Engine

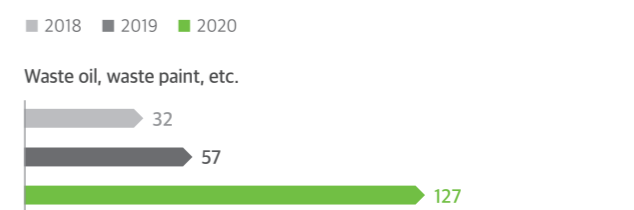
GS E&C has been operating its own chemical search system that it developed for the safe management of hazardous chemicals. Once you enter the information of hazardous chemicals such as MSDS<sup>1)</sup> numbers, CAS<sup>2)</sup> numbers, and content by CAS number, the chemical search system tells you if they exceed the criteria. We preemptively respond to any risk that may occur during chemical handling by managing hazardous chemical judgment results and chemical inventories.

- 1) MSDS (Material Safety Data Sheet): Information of chemicals
- 2) CAS (Chemical Abstract Service): A service that assigns numbers to chemicals

### Management of Hazardous Chemicals (Designated Waste)

GS E&C sorts and treats designated waste generated from construction equipment and during top coating, etc. such as waste oil and waste paint in accordance with the Wastes Control Act. We are operating and managing designated waste storages and relevant facilities in compliance with the designated waste management regulations in order to prevent environmental pollution resulting from the leak of designated waste.

### Hazardous waste chemical discharged



Designated waste storage installation specification

# Response to Climate Change

## Implementation of TCFD Framework

As numerous leading countries declare the net zero carbon emissions by 2050, there is growing emphasis on companies' roles in reducing GHG emissions. To disclose companies' climate change-related risk information consistently, G20 Financial Stability Board established TCFD (Task Force on Climate-related Financial Disclosures) Recommendations in 2018. We will disclose our climate change-related governance, strategy, risk management and indexes, and reduction goals in accordance with the TCFD recommendations. We will actively take part in global climate change prevention movements.



- Failing to achieve the GHG emission reduction goals
- Strengthened demand for disclosure of environmental information
- Response to tightened environmental laws
- Safety management of construction site facilities, equipment, and workers
- Environmental conflict
- Entering new eco-friendly business and preoccupying the market
- Ensuring competitiveness in green architecture technology
- Reducing operation expenses by introducing high-efficiency energy conservation technology

### TCFD Recommendations



#### Governance

The organization's governance amid climate-related risks and opportunities

### GS E&C's Response

GS E&C's Green Environment Team, which is responsible for responses to climate changes, reports climate change risks, opportunities, goals, and strategies to the CSO on a monthly basis. The CSO manages environmental management and climate change-related risks and opportunities. In addition, he/she takes charge of climate change issues and determines corporate responses. In 2022, we will upgrade the ESG Committee to a BOD committee to strengthen our ESG issue management including climate change.



#### Strategy

Actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

If we violate any of the environmental regulations including climate change response regulations, our corporate image will be damaged, and we will suffer financial loss due to penalties. In addition, construction work may be suspended, resulting in waste of manpower and delayed project completion. GS E&C establishes and implements an enterprise-wide environmental management strategy to respond proactively to environmental issues.

### TCFD Recommendations



#### Risk Management

Processes used by the organization to identify, assess, and manage climate-related risks

### GS E&C's Response

GS E&C has been operating Cooperative Risk Management Network by different fields in order to manage risks by division, identify the correlations between individual risks, and respond to risks proactively. We control all expected and unexpected risks throughout all business processes from bidding to construction completion. We also improve the effectiveness of risk management through monthly and quarterly risk analyses.



#### Metrics and Targets

Metrics and targets used to assess and manage the relevant climate-related risks and opportunities

### GHG emissions (Domestic/Abroad Scope 1, 2, 3)\*

(Unit: tCO<sub>2</sub>-e)

■ 2018 ■ 2019 ■ 2020

#### Scope 1 (Direct emissions)



#### Scope 2 (Indirect emissions)



#### Scope 3 (Other indirect emissions)



\* The verification has been performed in accordance with the verification principles and tasks outlined in ISO 14064-3:2006, IPCC Guideline : 1996/2006, Greenhouse Gas and Energy Management Scheme Guideline : 2020-3.

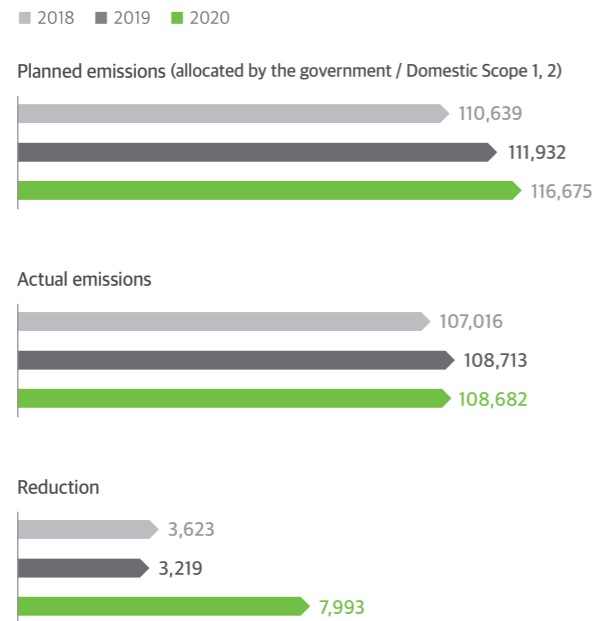


## Measures to Combat Climate Change

### Reduction of GHG Emissions through Enterprise-Wide Eco-Friendly Activities

GS E&C has set the goal of reducing GHG emissions by 31.86% from the BAU level by 2050. In 2020, GS E&C is conducting eco-friendly activities throughout all business processes, such as LED lights, videoconferencing instead of business trips, and air-conditioning temperature control, so as to achieve the GHG emission reduction goal suggested by the government. As a result, we reduced emissions by 7,993tCO<sub>2</sub>-eq compared to the 2020 reduction goal agreed upon with the government.

#### Reduction of GHG emissions (Unit: tCO<sub>2</sub>-e)



### Systematic GHG Emission Management

GS E&C joined the GHG Emission and Energy Goal Management System. In 2015, we prepared a statement, surveyed the goal intention, negotiated goals, and prepared and submitted an implementation plan in accordance with the GHG emission and energy goal management schedule. We report our GHG emissions upon legal request every year through third-party verification. We are proactively reducing GHG emissions by disclosing our GHG emissions, energy consumption, and green management goals through the environmental information disclosure program.

### Energy Management Committee

Since 2012, GS E&C has been operating the Energy Management Committee under Quality Environment in order to respond to rising oil prices and the GHG Emission Goal Management System. The Committee provides the relevant education programs for working-level staff of various divisions and teams including the Green Environment Team, Business Division CM Team, Technology Division, and Planning Division. In addition, we are making efforts to save building energy and reduce GHG emissions by reporting our energy conservation activities, checking the relevant progress, and establishing measures through a regular meeting.

# Eco-friendly Technologies

## R&D Strategy

GS E&C is making a continuous investment in R&D to prepare for the future by identifying sustainable values. We are enhancing our competitiveness by quickly securing core technologies necessary for our main business, using core technologies for new businesses that we're promoting in these days and technologies that improve the productivity of our main businesses. We are also increasing our productivity and work efficiency based on support for digital-based technologies. Investment in green technologies occupies 36.13% of total R&D investment, which indicates our plans to discover future promising technologies by merging the construction industry and ESG value.

## Increasing Investment in Eco-friendly Technologies

With the introduction of the Korean Green New Deal policy and rising demand for transition to a low-carbon economy, GS E&C is increasing its investment in the development of low-carbon and eco-friendly technologies. In particular, we are carrying out R&D activities to lead the development of eco-friendly technologies such as low-carbon technology, energy-saving technology, environmental load reduction technology, and water and sewage treatment technology.

### Carbon Heating Sheet Technology for Curing in Winter

Concrete curing in low temperature during the winter can result in delayed strength gain, which in turn can delay construction and cause accidents. To resolve this issue, GS E&C developed concrete drying acceleration technology. We attach a conductive carbon fiber surface heater to gang forms and steel forms and supply heat at low power. As a result, we reduced the winter form removal time by approximately 50%. If we apply carbon heating sheets more widely, we can reduce the time of curing using heaters, which is expected to reduce CO<sub>2</sub> and energy consumption. We verified this technology at Yeongtong Xi, Sillim Bongcheon Underground Tunnel, and Chuncheon Xi Park. We will apply the technology more widely.

### Photovoltaic Technology

GS E&C is developing and applying photovoltaic technology as part of its low-carbon, clean energy project. A tracking agrivoltaic system can be installed in farmland. This system automatically tracks the sun using its driving mechanism such as actuator and slew drive. This technology greatly enhances power generation efficiency, improving power generation by 22% compared to the fixed-type photovoltaic systems. An all-in-one floating photovoltaic system is a power generation facility wherein a photovoltaic module is installed on a floating structure such as a buoyant body or a mooring facility. We developed a PE supporting structure that maintains buoyancy and supports photovoltaic panels. The supporting structure is easier to install for buoyant bodies than a fixed mooring facility. Buoyant bodies are connected by pins, enabling them to withstand offshore conditions easily.

### Real-Time Control CSOs (Combined Sewer Overflows) Smart Treatment Technology

A large amount of high-concentration overflows may occur if heavy precipitation is concentrated around CSOs areas. In the past, pollutants were controlled through storage or flow control of storm overflow chambers, which showed low efficiency. Also when connected to a sewage treatment plant, the load on the sewage treatment plant increased. To resolve such issues, GS E&C developed the technology of automatically controlling and filtering CSOs using water flow and quality sensing. This technology can reduce operating expenses by 15% compared to preexisting methods and it supports monitoring and control by being interlocked with the integrated IoT sewage management pushed by local governments. In addition, this low-cost, low-energy process can be used for removing nonpoint pollution sources.



# VALUE THROUGH STAKEHOLDER ENGAGEMENT



Work Safety & Talented Workforce	40
Customer Relationship	50
Sustainable Supply Chain	56
Community Investment	60



# Work Safety & Talented Workforce



A safe workplace and a happy company culture are directly connected to corporate performance. A safe workplace protects workers from disasters and enhances work efficiency. A happy organizational culture motivates employees and encourages job commitment and self-directed learning. GS E&C is creating a safe workplace based on its IT-based smart safety management system and mandatory safety regulations. We help our employees develop their job competencies through our own talent cultivation system and self-directed learning support program "Study with Me." Through various welfare programs, we are making efforts to create a corporate culture where employees can develop and utilize their talent at their workplace.

		Participants in Safety Innovation School <b>1,341</b>		Safety Traffic Signal System inspection/evaluation <b>572</b> times
		Training hours per employees <b>28.9</b> hours		Participants in Global Learning Programs <b>2,630</b>
		Parental leave users (male/female) <b>64 / 49</b>		Stress Zero Program participants <b>1,554</b>

## Work Safety

### Safety & Health Management System

GS E&C considers "safety" as a top priority. To ensure the safety of our employees, Gs E&C determines and practices safety and health tasks every year and strengthened our safety standards based on the ISO45001:2018 Certification of sites home and abroad. In 2020, not only are we conducting safety management focused on severe accident prevention, but also we have spread the safety and health guidelines and monitored the divisions under CSO<sup>1)</sup>, the relevant divisions of the headquarters and the construction sites on a regular basis with the goal of zero severe accident. Especially since falling and equipment failures accounted for 72% of deaths in the recent 5 years, strengthening of preventative measures of these accidents has been selected as our key task. We were able to reduce the occurrence of such accidents by intensive management and support for high risk work, equipment inspection education for managers and strengthening equipment inspection.

1) CSO: Chief Safety Officer

#### Safety and health goal and tasks 2021

- Slogan** Safety for all
- Goal** Zero severe accident
- Tasks**
  - Intensive management of high-risk work and vulnerable parts
  - Intensive management of equipment operation
  - Strengthening construction/safety and health staff's competency

#### Occupational injuries of employees and partners

Category	2018	2019	2020
Employee LTIFR*	0.06	0	0.09
Partner LTIFR	1.31	2.11	3.29
Employee OIFR**	3.94	3.54	2.21

\* LTIFR: Lost time injury frequency rate. Number of lost time injuries in the reporting period / Total hours worked in the reporting period x 1,000,000  
 \*\* OIFR: Occupational illness frequency rate. Number of occupational illnesses in the reporting period (No. of persons who report occupational illness or No. of occupational illness cases) / Total hours worked in the reporting period x 1,000,000

### Prevention of Accidents

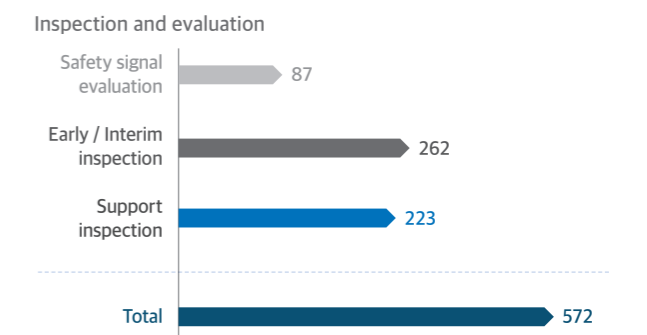
#### On-site and Equipment Safety Inspection

GS E&C has been operating the Safety Traffic Signal System to monitor the construction sites. In this system, the level of safety is evaluated in Green, Yellow, and Red. For a site that receives a lower grade, we hold a workshop to find safety issues and conduct on-site inspection at least twice a month.

To prevent construction machinery and equipment accidents which may result in severe accidents, we manage and supervise tower crane installation/dismantlement and bridge girder installation from beginning to end. As types of equipment are becoming diverse with new plants being constructed, the competency of staff responsible for equipment management is of growing importance. Accordingly, in 2021, we will ensure more equipment management staff from 6 persons to 9 persons and cultivate equipment experts with an abundance of experience and skills.

#### Safety Traffic Signal System 2020

(Unit: times)



#### Tower crane inspection in 2020

(Unit: times)

Description	No. of times
Supervision of installation and dismantlement	148
Supervision of ascending and descending work	155

**BOD and Executives' Safety and Health Management Activities**

GS E&C CEO and CSO visit the sites and check safety on a regular basis to enhance employees' awareness of safety. Although the number of their visits decreased in 2020 due to the spread of COVID-19, we added the number of safety inspection conducted and the number of critical injuries to the executive KPIs so as to improve the level of executives' responsibility for safety. Starting in 2021, we will be strengthening our safety and health management system by holding a CEO safety and health meeting on a quarterly basis and a video conference of safety and health managers on a weekly basis. In addition, we report a safety and health plan to the BOD and obtain its approval for accident prevention in accordance with the Occupational Safety and Health Act.

**Guidelines for On-site Response to COVID-19**

In order to respond to the spread of COVID-19, GS E&C established different guidelines for on-site response to the pandemic depending on social distancing levels. We limited the number of persons for gatherings and mandated all employees to measure and record their body temperature. We also place hand sanitizers at the entrances and washrooms and disinfect the workplaces on a regular basis. We distributed the guidelines for confirmed cases and employees who apply for COVID-19 testing, so as to prevent the spread of the virus.

**Highlight**

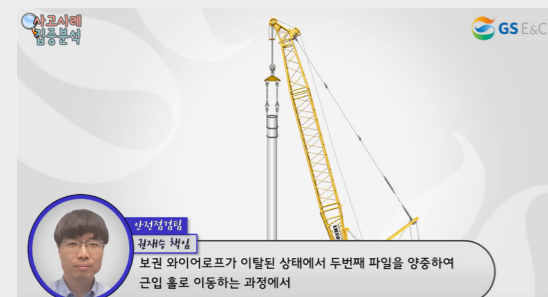
**Safety Innovation School**



GS E&C has been operating Safety Innovation School since 2006 and providing safety training for on-site workers at the construction sites since 2015. Moreover, we provide different safety and health training programs (beginner, competency enhancement, advanced, and professional) for employees depending on the length of their career. For our partners' safety and health, we provide win-win partnership training for our clients and contractors.

GS E&C opened Smart Safety & Health Training Center to provide immersive training programs similar to an actual site using new technologies such as virtual reality (VR) and augmented reality (AR). The center provides VR programs such as fall experience and confined space experience. As it is getting difficult to provide on-site training due to the pandemic, we produced and distributed Safety Innovation School (SIS) Tube, a non-face-to-face video training content. The video provides the employees with useful information such as safety and health laws, accident cases, on-site pre-inspection, and preventive measures.

With the prolongation of the pandemic in 2020, the number of persons who have completed safety training and the number of workplace-visit training reduced. There were also great changes in the training environment. In November 2020, GS E&C conducted a survey for 551 employees in order to improve our training curricula and develop non-face-to-face training programs. Based on on-site workers' opinions collected through the survey, we plan to improve our overall training programs and create a healthy workplace.



SIS Tube training video

**Performance of Safety Innovation School** (Unit: persons, times)

Category	2018	2019	2020
No. of employees who completed training (accumulated)	5,263	5,905	1,341
Workplace-visit training	155	149	61

**Certified for Education & Training Management System**

In August 2018, GS E&C Safety Innovation School was certified for education and training management system (ISO 29993:2017) by the International Standard Organization (ISO) for the first time in the Korean construction industry. We are maintaining our certification status in 2020 and ensuring international trust. To provide practical safety training applicable to the rapidly changing business environment, we have formed the Curriculum Development Deliberation Committee consisting of on-site employees and experts. Based on this organization, we are designing and operating trainee-centric optimized curricula.

**Safety Training Program by the Employee Lifecycle\***

Category	New/ Experienced	Junior/Senior Staff (intermediate)	Senior Staff (assistant director)	New Construction Manger
Construction	Beginner (24Hr)	Competent (24Hr)	Advanced (16Hr)	Expert (16Hr)
Management	Beginner (16Hr)	Competent (16Hr)		

※ Construction: Architecture, civil engineering, electrical engineering, mechanical engineering (equipment), official duties, etc.

※ Management: Management(BM), materials chief, etc.

\* There are other mandatory safety & health education and training being conducted on a regular basis in accordance with the Occupational Safety and Health Act.

**Manager-level Safety & Health Training Courses (Including legal supplementary training)**

Category	Beginner (24Hr)	Reminder (24Hr)	Advanced (16Hr)	Special (4Wks)
Participants	New / Experienced Employee (Less than one year experience)	Employees with more than 2 years of experience (Once)	Employees with Beginner Course certificate (once / under 3 years of experience)	Safety School for employees subject to job transfer

※ Standards for Reminder education : Paragraph 2, Article 29 of Occupational Safety and Health Act

**Reinforcing Partners' Safety Management**

GS E&C is operating the partner incentive program to enhance the level of safety and health management of its partners by encouraging them to manage safety voluntarily. We conduct a safety evaluation on the seven types of work in which severe accidents are likely to occur and give incentives for seven partners selected as Safety Champions every year. We are utilizing outstanding partners with excellent safety management competency as much as possible. An exclusive contract right is granted to the top 2 partners once each and the right to participate in bidding to other five partners three times each. In addition, we assign safety management of seven high-risk works to safety managers with at least 1 year of experience, in order to enhance supervision on on-site safety.

**Enhancing Preliminary Safety Review**

GS E&C is operating the Pre-Construction Meeting (PCM) system to prevent accidents. We made PCM compulsory before construction for high-risk processes in different business fields, such as infrastructure, construction, and plant, to check safety in advance. We also prevent risk factors that may result from high-risk work by checking the fulfillment of the safety plan before and during work.

**Newly-positioned Safety Managers**

GS E&C newly introduced the safety manager system to prevent accidents that may occur at infrastructure construction sites such as tunnels, highways, and ports. We appoint persons who are capable of handling safety management based on their technical competence and an abundance of experience in the relevant field as safety managers. Safety managers supervise on-site safety-related work. To enhance their responsibility for on-site safety management, we included safety managers in the subject of disciplinary action in the event of a severe accident.

**Safety Management for Foreign Workers**

Foreigners account for about 50% of on-site workers. To enhance their awareness of safety and prevent accidents that may occur due to the lack of communication, GS E&C provides safety and health training in different languages on a regular basis. After the training, we evaluate our employees' understanding using QR codes and check their awareness of safety. The evaluation is provided in different languages, including Korean, English, Chinese, and Vietnamese, and only those who have received 70 points or higher are allowed to work at a site. Workers who have received lower than 70 points are required to take the training and evaluation again. As such, we make sure that only workers who are well-informed of the safety regulations work at construction sites.

**Evaluation on new workers' understanding of safety and health**



※ Retraining and reevaluation if workers have received lower than 70 points



### Smart Safety Management Systems

GS E&C prevents accidents for workers' safety at dangerous sites and for high-risk works by using equipment based on IT technology of the Fourth Industrial Revolution. We introduced a CCTV monitoring system (CMS), which is generally used for housing construction sites, to infrastructure and plant construction sites and established smart safety management systems—such as intelligent CCTVs, real-time location system (RTLS), and Internet Bluetooth of Things (IBOT)—to check safety in real time even in an environment with poor communications and help workers evacuate swiftly in case of emergency.

#### Features of smart safety management systems

<b>CMS</b>	Enables remote monitoring of dangerous behaviors and unstable temporary facilities
<b>Intelligent CCTVs</b>	Detect fire, smoke, and other abnormal situations and broadcast warning messages
<b>RTLS</b>	Real-time check of workers in tunnels and underground
<b>Webcam</b>	Detects and records motions in confined spaces and high-risk work zones
<b>Neckband camera</b>	Mobile filming and recording
<b>IBOT</b>	Real-time monitoring based on a wireless communications network in the entire underground sites
<b>Four-legged robot</b>	Equipped with a 360-degree camera and IoT sensors



SPOT, a four legged robot

### Chemical Safety Management

GS E&C carries out safe management of chemicals and helps workers handle the substances in a proper way. In compliance with the Occupational Safety and Health Act, we prepare and place material safety data sheets (MSDS<sup>1)</sup> at all business sites that convey, store, and handle chemicals. The chemicals are handled safely in accordance with the chemical handling and storage standards, and we inspect chemical storage facilities once a week to prevent accidents that may occur due to poor chemical management and use.

1) Contains information required for the safe use and management of chemicals

### Revision of Safety and Health Guidelines

GS E&C is working on revising its preexisting safety and health guidelines in response to the Severe Accident Punishment Act which will take effect in 2022. We are currently conducting a thorough review by assigning approximately 40 types of safety work procedures and safety guidelines to each corresponding staffs. We plan to further improve our safety management through the result of this review.

### Response to Safety Accidents

GS E&C has a systematic accident reporting and response process to ensure swift response to any accidents. General accidents must be reported in text messages within 30 minutes after they are detected. Emergency cases, including severe accidents, are required to be reported as soon as they are detected. Any employee who tries to hide the accident or delay reporting is subject to disciplinary action based on the disciplinary action standards. On-site safety managers and accident handling staff of Safety & Health Team respond to accidents systematically by preparing an accident report and conducting an on-site investigation in accordance with the accident handling process.

## Talented Workforce

### Securing Key Talents

#### Talent Fostering System

GS E&C is operating its own talent fostering system consisting of leadership, job competency, and global competency programs. Different curricula are provided to all employees depending on their ranks, whether they are executives, team leaders, or general employees. In 2020, we opened Virtual Studio for non-face-to-face training and established the group training standards depending on social distancing levels. We are putting forth the efforts to develop our employees' job competencies.

#### Talent fostering system

Program	Curriculum	No. of employees
 <b>Leadership</b> Growing as desirable leaders	<b>Executives and team leaders</b> <ul style="list-style-type: none"> <li>Leadership diagnosis and training</li> <li>Encouraging change in leadership behaviors</li> <li>Planned to expand the training for lower-rank employees(TBA)</li> </ul>	697
 <b>Job competency</b> Growing as competent talents	<b>Employees</b> <ul style="list-style-type: none"> <li>Improving employees' practical job competencies</li> <li>Training depending on the job competency level</li> <li>Training for transferred/newly assigned employees</li> <li>New business training</li> <li>Lessons Learned</li> </ul>	26,098
 <b>Global</b> Growing as global talents	<b>Employees and executives</b> <ul style="list-style-type: none"> <li>Improving job competencies for overseas business</li> <li>Language training</li> <li>Training for Korean employees/executives working abroad</li> </ul>	2,630

#### Talent fostering performance (Unit: persons, KRW 100 million, hours)

Category	2018	2019	2020
No. of employees who have completed program (accumulated)	34,237	34,618	29,425
Training expenses	13.4	19.2	14.4
Training hours per person	54.4	44.8	28.9

#### Language Training Program

GS E&C offers English training programs and organizes GST<sup>1)</sup> in order to improve its employees' English proficiency to the global level. With in-house language instructors, we analyze our employees' language proficiency and establish improvement plans. Furthermore, we develop and provide our own language training courses (GIC<sup>2)</sup>, business speaking, etc.) customized to our employees. In 2020, we launched two-month intensive group training for key talents and enhanced our employees' accessibility to language training programs through online platform-based VOCA programs such as English podcast and KakaoTalk as well as offline platforms.

1) GS E&C Speaking Test: English speaking test developed by GS E&C  
2) Global Intensive Course

#### 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 procedure. For the first interview of permanent position applicants, we conduct a blind interview, where the interviewers are not given any information about applicants' background in order to focus on job competency evaluation. We comply with the hiring process even when hiring PJT contract employees considering the industrial characteristics.

#### Retiree Training

To help retirees adopt to society, GS E&C provides unretirement support programs for employees who are 50 years old or older and have to quit their jobs against their will including retirees and contract employees whose employment contract has expired. We offered life and career design training under different themes such as job discovery and mental health management, and our efforts to support the retirees will continue by providing them with counseling and job placement services.

## Evaluation and Remuneration

### Fair and Objective Performance Evaluation

GS E&C operates a performance management system that encourages individual performance while improving employee expertise. Performance is divided into achievements and competencies for evaluation and management. We utilize a variety of evaluations, such as MBO<sup>1)</sup>, multi-faceted evaluation, and relative performance evaluation, to ensure fair assessment. The evaluation grade is determined through an evaluation coordination meeting attended by all executives within each business division and headquarters. The results are verified through HR monitoring for enhancing objectivity.

1) Management by objectives: A performance evaluation system that measures each employee's achievement level according to their goals

### Reasonable Remuneration System

GS E&C operates a performance-based remuneration system to ensure reasonable remuneration depending on organizations and individuals' performance without sexual or racial or other forms of discrimination. Our employees are provided with appropriate remuneration in accordance with the performance-related pay standards. Individual performance is reflected in employee salaries and promotions to keep them motivated. We also give them feedback for their competency development. In addition, we give bonuses each year for organizations and individuals who make an outstanding accomplishment.

## Employee Diversity

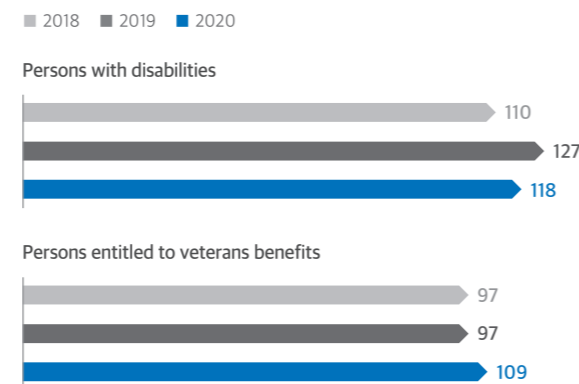
### Assisting Foreign Workers' Settlement

GS E&C is employing 1,434 foreign workers from 33 countries. Foreign workers are divided into Global Permanent (GP), Global Contract (GC), Global Assistant (GA), and Global Technician (GT). In line with the establishment of an integrated HR policy for GPs in 2015, we comply with regulations with regards to appointment, service, prohibition of sexual harassment, and grievance handling, which are directly related to human rights. We apply the same rights and responsibilities as Korean employees, except wages, to foreign workers. We provide performance-related pay each year for GPs and Headquarters GCs and analyze the global market's standard annual salary and treatment on a regular basis to reflect the result in our internal standards.

### Equal Opportunity through Inclusive Hiring

GS E&C gives preference to persons with disabilities and persons entitled to veterans benefits in order to provide them with equal opportunities. Persons with disabilities who have difficulty working at construction sites due to the characteristics of the workplace are generally assigned to safe workplaces, such as on-site offices, or accommodation cleaning jobs. We are currently under review to hire persons with disabilities for office assistant jobs and remote jobs. At present, we are giving extra points to persons entitled to veterans benefits for PJT contract jobs with the goal of hiring 10 more persons entitled to veterans benefits in 2021.

#### Employees with disabilities and persons entitled to veterans benefits (Unit: persons)



### Support for Female Employees

With a small number of female employees due to its industrial characteristics, GS E&C spares no effort to hire female applicants preferentially. With no discrimination factors present against female applicants in our recruitment process, we provide equal opportunities for qualified applicants. As a result of our efforts to hire more female employees, the proportion of newly hired female employees in 2020 increased by 3.8%p year-on-year. Furthermore, to ensure female management staff in the long run, we select and support competent female employees for them to grow as future leaders. We will continuously review and establish a plan to improve the work environment and system and hire more female employees.

#### Female employee ratio (Unit: %)

Classification	2018	2019	2020
Female employees and executives	9.3	9.5	10.3
Female management staff	1.6	1.6	2.6
Female management in profit-creating fields	4.7	6.0	5.5

## Corporate Culture

### Revitalization of Organizational Culture

#### Improving Organizational Competency

GS E&C never stops analyzing and improving its organizational culture so that its employees can display their capabilities as much as possible. We conduct an annual organizational competency survey consisting of 9 items that are essential to management activities: strategy, value and culture, work process, individual/team competencies, HR management, organizational structure, remuneration and recognition, leadership, and performance. We share the result with our top executives and establish and implement plans to improve our organizational competences by reflecting the organizational situation, business strategies, and employees' opinions.

#### Open Communication Culture

GS E&C is operating the Change Agent (CA) system to improve its organizational competency and promote internal communication. As persons leading the change in organizational culture, CAs lead organizational competency improvement activities by division, headquarters, and office, and collect employees' opinions on the organizational culture. We are striving to promote the CA system and improve the communication culture by holding CA workshops and providing communication encouragement expenses.

### Highlight

#### Support for Voluntary Learning

GS E&C offers the "Study with Me (SWM)" program to cultivate a voluntary learning culture and develop employees' problem-solving skills. This program is conducted according to the study schedule and curriculum planned by employees, and the selected study groups are provided with lecture and operation expenses. In 2020, a total of 187 employees in 25 groups participated in the program under the themes of self-study as well as work-related.

In April 2020, we held an in-house hackathon "Hovering" with voluntary participants under the theme of public data utilization for public interests. 36 employees participated at the event and presented their ideas actively.

#### 2020 SWM courses

Classification	Course	No. of participants
Work	Construction precedents, KFTC's decisions, plant/construction industry trend, etc.	58
Financial affairs	Financial statement analysis, accounting, etc.	34
Digital transformation	Python, coding, video production, etc.	29
Language	English speaking, Vietnamese language/culture	28
License	Enterprise disaster manager, electrical engineer, etc.	19
Other	Speech, presentation, calligraphy, etc.	19



Study with Me



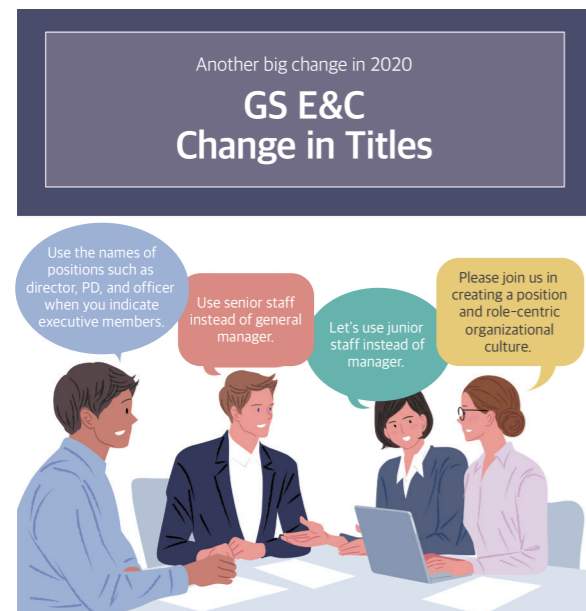
Hackathon



### Strengthening Intra-Organizational Cooperation

GS E&C holds Build-Up Workshop to enhance intra-organizational cooperation. In this workshop, employees establish a foundation for cooperation and resolve issues that obstruct communication. As a workshop participated in a voluntary manner, it provides tailored programs to both newly established organizations and preexisting organizations, aiming to form a sense of community and develop mutual understanding.

GS E&C shares interviews with employees who are assigned to a new job in order to encourage communication between previous responsible staff and employees who are assigned to a new job. In addition, we publish an organizational culture newsletter every month and share our in-house PR materials Haeubo. As such, we are doing our best to create a healthy organizational culture.



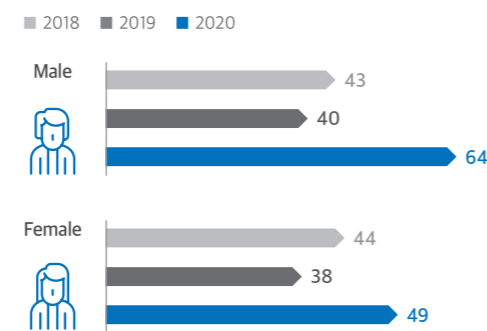
Monthly corporate culture newsletter\_Change in Titles

### Welfare Benefits for Employees

#### Family-Friendly Welfare Benefits

GS E&C is fostering a family-friendly environment through a variety of programs and systems in order to prevent social issues such as women on career breaks and sexual inequality resulting from unbalanced parental leave. We reduce working hours during babyhood and provide congratulatory subsidies for childbirth and infertility leave. We also support the employees' childbirth and childrearing, and employees can use parental leave twice a year. In 2020, the number of employees who have used parental leave greatly increased year-on-year in both male and female employees. In addition, we opened an in-house daycare center in 2010 for the first time in the industry with an aim to help employees keep a work and family balance after childbirth. The daycare center offers customized education for employees' children from 8-month-old kids to preschoolers.

Use of parental leave (Unit: persons)



#### Creating Great Work Environment

To offer a desirable work environment, GS E&C is putting forth the efforts to cultivate an advanced organizational culture such as leaving work on time and casual office wear. In addition, the Stress Zero Program provides counseling and online mental health checkup services to help our employees relieve their work stress and improve their mental health. In 2020, we expanded the program to the immediate family members of employees and opened a non-face-to-face channel. As a result, we gained a total of 1,554 employees who have used our services.

GS E&C has greatly improved its work efficiency after introducing MS Teams for joint paperwork and video conferencing so as to innovate its work processes and establish an efficient work system.

### Working Hours Management System

GS E&C complies with 52-hour workweek and operates a working hours management system to guarantee work and life balance of employees. We designated computer on/off time by business site to encourage employees to leave work on time and prevent unnecessary overtime work. In case of working overtime, employees are required to obtain approval.

### Employee Human Rights

#### Labor-Management Cooperation

GS E&C expanded the eligibility of labor union membership from managers or higher-rank positions to deputy managers who are 45 years old. Our labor union consists of 723 full-time employees (32.7%) at present. We discuss a wage agreement with the labor union every year and a collective agreement regarding working conditions is discussed every other year. In 2020, we held a labor-management discussion, labor-management workshop, and regular labor-management meeting to improve a labor-management culture. Moreover, we guarantee employees' right to work by discussing and notifying significant management issues without delay.

#### Grievance Handling

GS E&C operates Voice of Employee (VOE) to listen to employees' grievances. Once an employee submits his/her grievance, the corresponding administrator answers no later than two weeks, and the response is rated by the inquiry submitter to ensure high quality of service. We also make regular visits to domestic and overseas worksites to directly listen to and handle grievances, and thus improve the employees' work and life conditions.



### Human Rights Training for Employees

GS E&C provides human rights training to improve employees' awareness of human rights and spread a healthy corporate culture. By utilizing ethics educational materials, we deliver information to prevent human rights violations, such as workplace bullying, abuse of power, verbal abuse, assault, sexual assault, and sexual harassment, and prevent human rights issues by informing the employees of the human rights violation reporting process and whistleblower protection programs. We also offer GS E&C human rights policy training for our partners and encourage them to comply with our policy.

#### Preventing Human Rights Risks through Human Rights Assessment

GS E&C conducts human rights assessment on a regular basis in order to prevent human rights violations preemptively. By utilizing the assessment intended for our employees as well as those of our partners, subsidiaries, and joint ventures, we strive to analyze grievances that may be generated at business sites and find more fundamental solutions. In 2020, we conducted the assessment on 12 human rights issues including abuse of power and discrimination in employment targeting 419 employees and the result indicated that there was almost no possibility of the risk occurrence (2.6%). The respondents were also asked to comment their suggestions or expectations for continuous human rights protection and they were mostly focused on spreading culture of mutual respect and systematization of human rights management. While referring to the assessment and the voices of employees and carrying out follow-up activities, we will continue our efforts to protect human rights in our entire business process.

#### Human Rights Risks Analysis

(Unit: points, out of 100)

1 Scale: Never Occurs, 4 Scale: Average, 7 Scale: Often Occurs





# Customer Satisfaction



Customer satisfaction is directly connected to brand power. High brand power and awareness enhance corporate competitiveness. GS E&C provides happy residential experiences through its apartment brand Xi based on its quality competitiveness. Not only do we provide residential space; we also provide a two-way communication platform for customers in order to provide various lifestyles and enhance customer satisfaction. To protect the customer information collected during the apartment contract process, we operate the information leak monitoring system for customer satisfaction.



Increasing customer value



General client satisfaction  
**87.4** points



No.1 in GCSI\*  
For **16** consecutive years  
\*Global Customer Satisfaction Competency Index

## Increasing Customer Value

### Systematic Quality Management

#### Quality Management and Consumer Safety

GS E&C endeavors to provide the highest level of quality and service based on its core values—safety, fair personnel management, and problem solving—and discloses its quality management policy on the website. To secure the reliability of material quality, which is the most important aspect in quality control, we execute quality verification through improvement and approval by conducting preliminary inspections on the plants manufacturing key materials that serve as a foundation for all constructions, such as ready-mixed concrete, PHC piles, and PC members. In addition, by placing the highest importance on customer satisfaction in relation to social issues, we strictly abide by quality standards for finishing materials including radon stone and insulating materials as well as for indoor air quality and noise level control and fire doors installation. We also secured the reliability of quality tests by signing business agreements for preliminary verification with more than 10 specialized quality testing and inspection agencies.

#### Quality Management System

GS E&C develops and uses the best quality management tools by applying its outstanding IT system on the basis of the integrated management system established according to the ISO 9001, an international standard. We perform quality management activities in all projects to meet not only customer requirements, but also the global-standard internal quality criteria. We are also pursuing to establish and continually improve our quality culture in addition to preventing failures.



- 1. Global Standards
- 2. Autonomous execution of quality management works
- 3. Optimum quality management system
- 4. Regular inspection and monitoring of standards
- 5. Exposure to failure, culture of improvement

#### Preliminary Quality Inspection

From construction commencement to after completion, GS E&C inspects the technical status of work processes step-by-step through preliminary quality inspection activities. In addition to a total inspection of the areas that are visible to the eye, we also conduct a functional total inspection on the invisible areas, such as the performance of machinery and fixtures. We perform total quantity inspection 90 days prior to the construction completion in order to prepare for the resident tour. We also conduct a joint site inspection on the common areas to check the quality status of common subsidiary work finishing and matters of expected complaints. To minimize customer inconvenience, the complaints and defects reported during the tour are handled thoroughly. When construction is completed, we share the guidelines and precautions before handing over the facilities to prevent defects and inconvenience to residents that may result from inadequate management. We also visit each household to conduct inspections, thereby reducing risks and increasing customer satisfaction at the same time.

#### Reducing Noise between Floors

As noise between floors is recognized as a serious social issue, requirements for the verification of noise between floors have been gradually strengthened and the policy of conducting noise measurement after construction will be implemented in 2022. To prepare for the new policy, GS E&C established a task force (TF) related to controlling noise between floors. The TF is making efforts to realize stable quality before the implementation of the policy by conducting research on sound insulation between floors, such as verification of new materials and development of new sound insulation structure. Accordingly, we plan to conduct research on the development of various technologies to reduce noise between floors, such as by conducting field tests during construction.



### Cooperation with the Technology Research Institute for Insulation Design

GS E&C requests support and carry out collaboration with the technology institute when technical review is determined to be necessary during design, such as dew condensation prevention or verification of insulation materials. The technology institute provides various support to enable optimal insulation design. For instance, if there is a concern about condensation, the institute conducts a simulation for thermal performance analysis to verify whether the condensation requirements are met. The institute also verifies the performance of new insulators before finally applying them so as to support in various ways to ensure optimal insulation design.

### Securing Fire Door Quality

GS E&C operates a consultative body for fire doors with major contractors to ensure fire safety and quality. The consultative body inspects the fire door factories and verifies fire door quality by creating a manual for each company. By signing a business agreement with the Fire Insurers Laboratories of Korea, a nationally accredited institution, we are securing the reliability of fire door quality by conducting official tests on fire resistance, smoke insulation, insulation, and condensation.



Fire resistance test of fire doors

### Strict Compliance with Radon Stone Standards

As radon has become one of the social issues in Korea, GS E&C conducts tests in accordance with the relevant laws and regulations to secure material quality and ensure customer trust. In addition, test result reports are shared with relevant teams in real time for continuous management based on the "Guideline for the reduction/management of radon in building materials". In December 2019, we requested an accredited testing laboratory to run tests on 31 types of stone that were used for our apartment complex construction. The results showed that there were five stones that failed to pass the tests. Relevant teams were notified of the fact, and we are strictly forbidding the use of stones that failed to comply with the standards.

## Customer and Market Communication

### Creative Platform for Customer Communication using Social Media

GS E&C is taking a lead in differentiated customer communication by making use of social media. We are uploading a variety of content tailored to customer needs via eight social media channels including YouTube, KakaoTalk, Facebook, and Instagram. In 2020, our official YouTube channel "Xi TV" received the Silver Play Button by gaining more than 100,000 subscribers for the first time in the construction industry, with approximately 340,000 subscribers as of June 2021. The videos uploaded to the channel tackled consumers' questions in different fields, such as tax laws, apartment house subscription notes, and interior tips, and shared differentiated content, such as an entertainment-type talk show. Moreover, due to restrictions in making visits in person with the spread of COVID-19, the channel broadcast show houses live for the first time in the industry. As such, we plan to hold uninterrupted communication with our customers in a creative way.



Xi TV, GS E&C's YouTube channel, receives the Silver Play Button

## Customer Satisfaction Management

### Customer Service through Efficient Complaint Management

GS E&C provides an easy complaint submission interface on the Xi website and GS E&C website in order to collect and handle customer complaints efficiently. You can easily submit your opinions or complaints in different categories such as Construction, Design, Lotting-Out, and After-Sales Service through one of the websites. The submitted opinions and complaints are efficiently collected and managed through the Housing Customer Relationship Management (CRM) System so that we can respond to your inquiries as soon as possible. When prospective residents visit their houses for inspection, they can submit defect complaints and request repairs through the Xi My House Visit App. We show in real time, through the application, how defects are handled before the completion of construction. We check customer satisfaction with our after-sales service through Mobile Happy Call after defects are handled and residents move in. If some customers are not satisfied with our service, we try to improve our service further. We will proactively manage and respond to customer complaints so as to enhance customer trust and work efficiency.

### Advancing Customer Services using the Xi AI Platform

GS E&C is the first in the industry to build an AI platform in introducing advanced facilities such as the home network system and community system. The Xi AI platform is an integrated data platform that collects, manages, and utilizes data collected from Xi complexes, smart devices, and projects implemented by GS E&C. Using the Xi AI platform, residents can conveniently use tailored services, such as "SCOPE Home" that can respond to malfunctions and abnormal situations in real time and take actions, resident-exclusive "Space App" that can remotely control IoT devices and heating and ventilation systems after moving in, and "Xian Vie" that enables residents to reserve community facilities and use concierge services. The platform is expanding its range of available services by cooperating with various IoT manufacturers such as Kakao, LG Electronics, and Philips Hue, and has also strengthened level of information security through IoT device and database encryption and authentication system. To provide better services to customers, we are dedicated to improving level of service of the Xi platform comprised of big data and AI.

## Corporate Client Satisfaction Monitoring

GS E&C strives to provide high-quality services to its corporate clients at home and abroad. We conduct a satisfaction survey each year to accurately identify and manage satisfaction of our corporate clients. The survey is designed to identify matters to improve and meet customer needs by analyzing the satisfaction with 12 items in three areas: project management, project workforce, and communication. The total satisfaction score in 2020 was 87.4 points. It was found that, compared to the previous year, while more respondents were satisfied with project management and communication, the point for project workforce decreased relatively. Accordingly, we plan to make improvements by introducing a method of securing the expertise of project implementation workforce. We will be an ever-growing company by analyzing customer feedback and putting forth improvement efforts in all sectors.

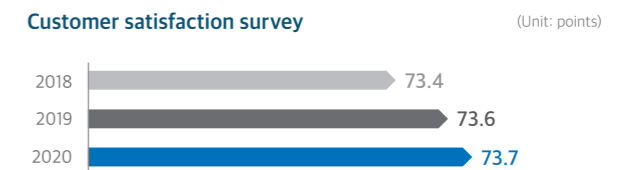
Corporate client satisfaction survey (Unit: points, out of 100)

Category	2018	2019	2020
Project management	87.6	85.1	87.4
Project workforce	87.9	89.4	86.9
Communication	85.8	87.6	88.5
Total satisfaction	87.1	87.3	87.4

\* Survey target: Corporate clients that ordered domestic and overseas projects implemented in the year (42 in 2018, 43 in 2019, and 49 in 2020)

## Ranked No. 1 in Global Customer Satisfaction Index (GCSI) for 16 Consecutive Years

"Xi", the apartment brand of GS E&C, recorded a score of 73.7 points, which increased from the previous year, and thus ranked No. 1 in the 2020 GCSI (Global Customer Satisfaction Competency Index) for 16 years in a row. In 2020, we used more diverse channels for more active customer satisfaction management, such as by conducting an over-the-phone satisfaction survey targeting customers who have been living in their new apartment houses for over six months.



\* Source: GCSI (Global Customer Satisfaction Competency Index) result



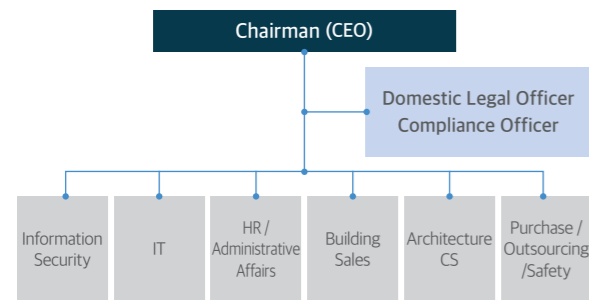
## Information Security

### Information Security System

GS E&C is operating the Information Security and Personal Information Protection Committee to establish and implement policies for governance-level information security. Consisting of the relevant executives led by the information protection officer (CEO) as the chairman, the committee handles the establishment and implementation of a company-wide information security policy. In principle, the committee convenes two times a year, once every quarter. If necessary, an extraordinary meeting is convened or the committee meeting is substituted with written correspondences.

The information protection policy stipulates information classification and management according to the information system security level, inspection on security vulnerabilities in information system, and risk analysis.

### Information Security and Personal Information Protection Committee



### Roles and responsibilities of information security divisions

<b>Information Security Team</b>	<ul style="list-style-type: none"> <li>Establishes information protection policy and guidelines</li> <li>Develops and operates wired and wireless security systems</li> <li>Supports personal information and IT-related education</li> <li>Monitors violation of information protection policy by employees</li> </ul>
<b>Legal Affairs Team</b>	<ul style="list-style-type: none"> <li>Verifies compliance, such as with the Personal Information Protection Act</li> </ul>
<b>Security Officer by Division</b>	<ul style="list-style-type: none"> <li>Handles information protection management in each division/headquarters/office</li> </ul>
<b>Team Security Officer</b>	<ul style="list-style-type: none"> <li>Responsible for executing security activities within the team</li> </ul>

### Customer Information Protection through Field Monitoring

GS E&C safely manages customers' personal information by establishing the personal information handling system. According to the characteristics of construction business, a large amount of customers' personal information is handled at the sales offices. All personal information handled at sales offices are encrypted. They are also protected according to the personal information handling system, such as through the VPN Internet system and security software installation. In addition, when a sales office is opened, the employees are provided with education on personal information protection. At the same time, the Information Security and Personal Information Protection Committee checks the implementation of information security at the fields through inspection. Owing to these efforts, no matters were pointed out during the status inspection on personal information management, which was conducted by the Ministry of the Interior and Safety, and no personal information was lost.

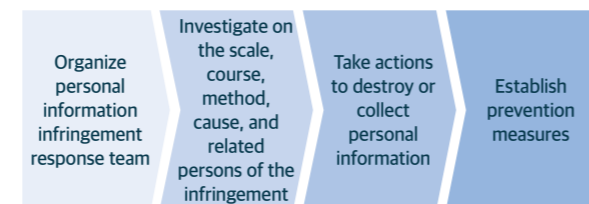


Education on personal information protection at Gangneung Xi Fine Venue sales office

### Response to Personal Information Security Accidents

GS E&C is building information security accident response guidelines in order to swiftly respond to security accidents. When the occurrence of a security accident is recognized or suspected, it is reported immediately to the personal information protection officer, and the reported case is handled according to the information infringement response procedures. In addition, the infringement case is notified to the victim and, if necessary, the cause is analyzed and evidence is collected through cooperation with external experts. We are also establishing preventative measures to prevent personal information security accidents.

### Security accident response process



### Strengthening Full-time Security System through "Security Practice Day"

GS E&C designated the third Friday of every month as "Security Practice Day" to encourage employees' practice of security in daily activities. The Information Security Team informs the Security Practice Day through in-house broadcasting and each department conducts self-inspection. The employees conduct inspections according to the "9 habits of security practice" and the information security guidelines posted on the company noticeboards, such as compulsory use of screen saver, computer password change, and deletion of employees' personal information. At the same time, the security officer in each team inspects the communal areas. On the Security Practice Day, we provide a system-wide support to automatically identify and improve on vulnerabilities in the employees' personal computers with a single click of the mouse using "Protect My PC" program.



Employees' computer security inspection using "Protect My PC"

### Bolstering Employees' Information Protection Competency through Information Security Education

GS E&C provides education on information security in order to bolster employees' information security competency and enhance their awareness. The information security officer of each team completes the education at the beginning of year and spreads it to the team members. For new and career employees, it is mandatory to complete the education upon joining the company. In particular, GS E&C shares the accident cases involving phishing or impersonation of public agencies and the police so as to prevent the occurrence of information security issues. We collect the information protection pledge from all employees to encourage them to recognize the importance of information protection and give them a sense of responsibility for information protection.

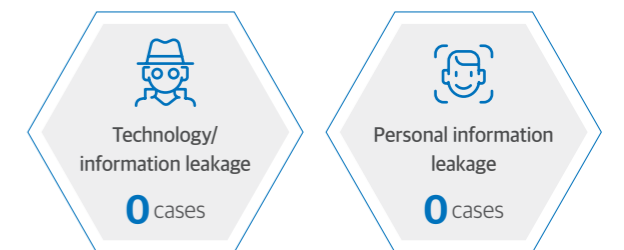
### Preemptive Improvement on Vulnerabilities through Security Inspection

GS E&C is improving the level of information security by preemptively identifying security vulnerabilities through security inspections and audits. Security inspections are divided into scheduled security inspections, which are to inspect on the company-wide information protection status targeting the executives and headquarters, and responsibility-based security inspections, which are autonomous inspections conducted at the domestic and overseas project sites, sales offices, and branches through cooperation with security officers of each division and team. In 2021, we plan to identify and improve on security vulnerabilities by conducting penetration tests on the systems for which services are being developed or have been opened, such as web applications and mobile apps.

### Protection of Information Assets

GS E&C is operating an information system according to the information asset security guidelines for thorough protection of information assets, such as management strategies and information on product and operation development. We fundamentally block unnecessary access to key information and control information leakage through management of the access privilege for key information and monitoring of the access records(logs). In addition, information leakage is thoroughly monitored under the information leakage monitoring system.

### Information Security Performance 2020





# Win-Win Growth with Partners



Win-win growth with partners is becoming increasingly important due to the characteristic of the construction industry, i.e., requires cooperation with a variety of stakeholders in all business processes encompassing material procurement, construction, and operation. GS E&C reduces partners' risk with its partner evaluation system and operates various partner support programs such as joint technology development and co-entry into overseas markets for win-win growth.



Win-win growth

Participants in education on site-directors and field workers  
**313** partners

Shared Growth Deposit  
**30** billion

## Supply Chain CSR

### Sustainability Management System for Partners

GS E&C is establishing a sustainability management system for its partners to realize economic, environmental, and social values together. We secure the fairness of the partner evaluation, which is conducted every quarter, by transparently opening the evaluation results to the partners unlike other companies that carries out the evaluation confidentially. Serving such transparent and systematic partner management system as the basis of our supply chain management, such as partner registration, selection, evaluation, and nurturing, we are enhancing the sustainability of partners by continuously encouraging the social responsibilities of GS E&C and our partners.

### CSR risk management for partners

Category	Key indicators
General management and finance	<ul style="list-style-type: none"> <li>Financial stability (financial liquidity, credit rating, cash flow, etc.)</li> <li>Violation of ethics management</li> </ul>
Environmental management	<ul style="list-style-type: none"> <li>Environmental accidents</li> </ul>
Field safety management	<ul style="list-style-type: none"> <li>Industrial accident rate</li> <li>Safety management certification</li> <li>Severe accidents</li> </ul>

### Rewarding Incentives to Outstanding Partners

GS E&C carries out evaluation to select outstanding partners and encourage them to voluntarily establish a sustainability management system. Partners are evaluated on a quarterly basis regarding overall business activities such as the present condition of management, quality, environment, safety, construction and management. Outstanding partners are selected every quarter and given benefits, such as priority in bidding. While making use of the partner incentive system, we are striving to manage the economic, environmental, and social risks of partners and spread a sustainability culture.

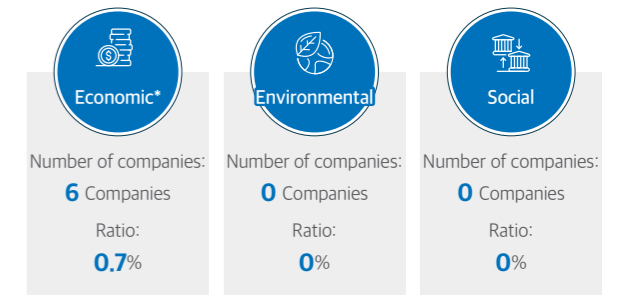
### Fair Bidding

GS E&C selects partners based on the basic principle of "fairness," "objectivity," and "transparency." Partner companies are registered in the automatic selection system and scored for each indicator according to the standard. Then, the higher-scoring companies are given an opportunity to participate in the bidding process. The system contributes to fostering a fair competitive environment.

### Partner Risk Assessment

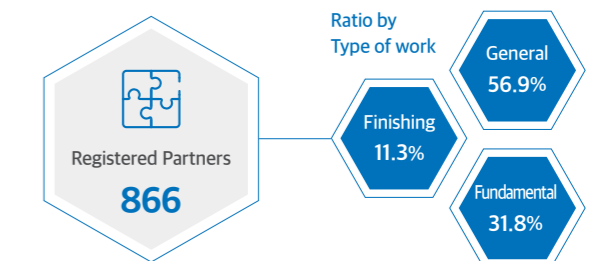
GS E&C operates a sustainable supply chain by managing the economic, environmental, and social risks of its partners. Partners are monitored and evaluated on a regular basis and disqualified if no improvements are made even after they are warned upon discovering that internal requirements are not met. We will reduce the ratio of high-risk partners to 0% through continuous and systematic management of our partners.

### High-risk partners in 2020



\* including financial

### Registered Partners as of 2020



※ Fundamental : Civil Engineering and Construction (General), Framework, Steel Frame, Electrical(General, Section), Equipment, Mechanics/Plumbing, Interior Carpenter, Stonemason  
 ※ Finishing : Tiles, Wallpaper, Woodwork(Doors and Windows), Painting, Waterproofing  
 ※ General : All else



## Shared Growth with Partners

### Shared Growth System

GS E&C is making efforts to adopt fair subcontracting transaction practices between conglomerates and small and medium-sized enterprises (SMEs) and lay the foundation for shared growth. In particular, we are implementing a shared growth system with a focus on Great Partnership Package. Great Partnership Package is designed to settle down a shared growth culture that enhances project implementation capabilities and secures price competitiveness and to build trust by improving financial soundness and conducting horizontal communication. We are also striving for continuous shared growth based on a partner model that meets the standards of the government's shared growth policy.

### Great Partnership Package



Compliance and Fair Trade

- Use Standard Contract Form
- Implement 4 major tasks
- Compliance Monitoring
- Practice fair bidding



Financial and Managerial Support

- Direct/Indirect financial support (Management support, Shared Growth Fund)
- Improvement of payment terms to Sub-contractors
- Shared growth programs



Enhancing Competitiveness

- Joint development of new technologies
- Joint entry to overseas market
- Incentivizing outstanding partners
- Pre-con activities
- Assisting employee education and hiring



Promoting Equal Communication

- Xi CEO Forum
- Xi manager education
- Activities promoting communication (Subcon Board and other meetings)
- GS Partner and Online whistleblowing system



#### Highlight

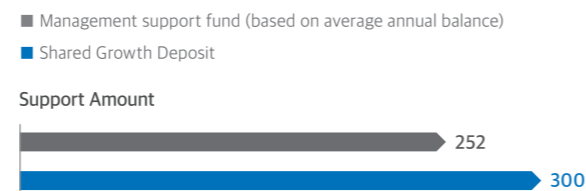
### Special Measure to Combat COVID-19 Together

In 2020, GS E&C gave active support to its partners to help them overcome difficulties caused by the COVID-19 pandemic. Partners were provided with separate emergency fund, such as loan maturity extension and new financial support. We also adjusted the unit price to improve the payment terms and supported partners in maintaining safe and healthy workplaces by conducting quarantine activities such as providing quarantine goods.

### Financial Support System for Partner's Liquidity

With an aim to support its partners for their stable management and smooth cash flow, GS E&C is offering a variety of support activities, including financial support and improvement of payment terms. Our management support fund system provides direct funds to aid our partners in improving their cash flow in times of difficulties and the Shared Growth Fund allows partners to borrow funds at low interest rates. We also signed an agreement with banks to provide more financial support to our partners by operating programs such as the network loan scheme and shared growth programs.

#### Major financial support to partners in 2020 (Unit: KRW 100 million)



#### Payment terms improvement in 2020

Category	Payment criteria
Ratio of cash payment	94.5%
Ratio of cash equivalent payment	100%
Payment due date	On the 10th of the following month after closing

### Improving Partner's Technological Prowess through Technical Support

GS E&C supports technology development of partners using various methods such as the performance sharing system, joint new technology development, and joint patent registration to help them achieve sustainable growth based on their technological prowess. We are also striving to place new orders by adopting the patents and new technologies of our partners, thereby demonstrating and commercializing their technological prowess.

#### Major technical support to partners in 2020

(Unit: times, KRW million)

Category	Support provided	Amount
Performance sharing system	19	557
Royalty for joint new technology development	5	157
Joint development of new technologies	8	444
Joint patent registration	7	8

### Partners that Leap Forward as a Global E&C Company

GS E&C pioneers overseas markets together with its partners by entering overseas markets and winning overseas projects. To make these possible, we hold a briefing session about joint entry into overseas markets, operate an integrated overseas country information system, and implement a pre-bid system.

### Partner Construction Support System

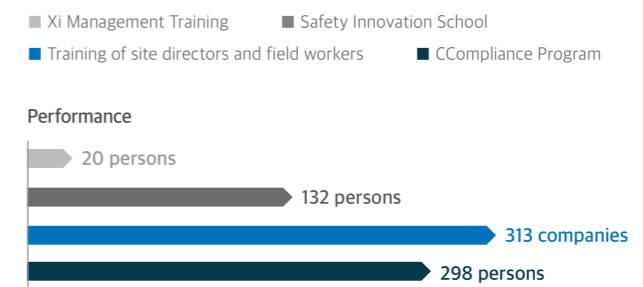
GS E&C is strengthening its cooperative relationships with partners by operating a variety of systems to support the partners' construction projects. While continuously promoting PCM activities by stage, we hold TPMS<sup>1)</sup> meetings, inspect safety in the field, and support the necessary technologies to ensure that the construction process is systematically implemented. In addition, to alleviate the burden caused by lack of equipment, we support our partners with construction equipment such as tower cranes and hoists in each field. For partners with lower price competitiveness than large enterprises, we perform assisted purchasing of key raw materials and supply them to partners so as to reduce the risk caused by price fluctuations.

1) TPMS: Total project management system

### Developing Partners' Workforce Capabilities based on Educational Support in Various Fields

GS E&C offers workforce education and training in the fields of management, safety, and ethics that are consistent with the sustainability management system of its partners. Xi Management Training is provided to the partner CEOs to further improve their management capabilities, while partner employees are provided with safety, career, and ethics education, such as job training for site directors and field workers, Safety Innovation School, and Compliance Program. Furthermore, we are also supporting our partners in participating in job fairs to help them hire talented personnel.

#### Educational support for partners in 2020



### Communication & Consultation Channel

GS E&C operates a communication and consultation channel to carry out uninterrupted business activities and collect and reflect their difficulties and expectations. The Xi CEO Forum for executives and partner CEOs is held on a regular basis, and partner's difficulties and suggestions are collected through the "Subcon Board" to reflect them in our shared growth programs. We also engage in active communication and reflect partners' proposals and requests by operating "GS Partner," an online bulletin board for shared growth, and Online Company Reporting & Ethics Misconduct Channel.

#### Performance of active communication with partners in 2020

(Unit: times)

Category	Performance
Rewarding partners and meeting with CEOs	20
Number of briefing sessions/meetings on the outsourcing system	5



# Contributing to Local Development



The more a company grows, the more it affects society. As a result, the social expectation and demand for companies are increasing, and corporate social responsibility is becoming increasingly important. GS E&C establishes community communication and consultation channels such as meetings with residents and reflects community needs. We also contribute to local communities through social contribution activities based on our business characteristics.

## Strategic Social Contribution Management System

GS E&C aims to practice true sharing and become a partner of the local community by carrying out social contribution activities that reflect the characteristics of the construction industry under the core value to "respect, communicate, and grow together." Our social contribution fields are classified into three: social welfare, education and culture, and environment and safety. We have been contributing to community development, starting with the establishment of the Xi Share Love Volunteer Group in 2006.

To actively respond to COVID-19 and comply with government instructions on social distancing, GS E&C mainly conducted non-face-to-face volunteering activities. To this end, we increased our contribution to and direct investment in local communities. In 2021, We are also planning to operate our major social contribution programs in a non-face-to-face manner, such as Playground of Dreams and Hopes, After-school Classroom, and Year-end Kimchi Support activities.



Strategic social contribution management



Social welfare program beneficiaries  
**6,217**



Education/Cultural program beneficiaries  
**10,368**

Social contribution based on industry expertise



Investment in social contribution  
**KRW 6,230** million



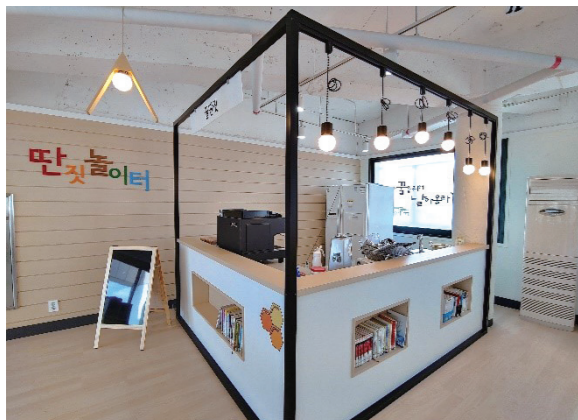
Employees' participation in social contribution  
**468** hours



## Social contribution based on industry expertise

### Protecting Children's Safety

GS E&C is carrying out the "Playground of Dreams and Hopes" project to provide a safe educational environment for children. The project supports children to grow physically and emotionally healthy by installing a playground that ensures a safe space for children. As a new play culture space based on a new concept, Playground of Dreams and Hopes includes an ecological playground, a cafe, and an auditorium, breaking away from the conventional playground. Four playgrounds were installed in 2020, summing up to a total of 34 playgrounds. In particular, the playground was named by residents through a public contest to create a play cultural space participated by local residents.



"Room for Playground" was named by residents through a public contest

### One Company, One Military Campaign

In August 2018, GS E&C entered into the One Company, One Military agreement with the 1st Artillery Brigade of the Republic of Korea Army in Goyang-si, Gyeonggi-do with a goal to strengthen bonds between the company and military camps through one-on-one sisterhood relationship and create synergy for economy and national security. In 2020, we set a new model of civil-military cooperation and contributed to improving physical strength and welfare of servicemembers by supporting the establishment of a sports facility for the 1st Artillery Brigade.

### After-school Classroom Project

GS E&C is implementing the "After-school Classroom" project that improves the learning facility and environment of the low-income groups and provides learning materials. We supported two welfare facilities in 2020 so that children can learn in a pleasant and safe environment and completed the construction of the 20th classroom (cumulative). Moreover, in winter, in consideration of the weather characteristics, we selected seven facilities, including the local children's center and welfare center, and provided them with heating facilities and clothing in order to improve their educational environment.



16th branch of the 'After-School Classroom'

### GS Fun Computer School

GS E&C is contributing to developing local communities near its overseas business sites by carrying out its social responsibility as a global construction company. "GS FUN Computer School" provides quality education including computer lessons for students living near our overseas business sites. In 2020, 60 employees took part in opening 3 computer schools near our business site in Nhà Bè, Ho Chi Minh City, Vietnam.



GS FUN Computer School in Vietnam

### Soft and Warm Hope Box for Girls from Family in Crisis

GS E&C is promoting the "Soft and Warm Hope Box" project for local community welfare. The project is designed to hand out female hygiene products, such as sanitary pads, for female students who are experiencing financial difficulties. In 2020, we provided female hygiene products that can be used for one year to 880 female students from families in crisis. Going forward, we are expecting a healthy growth and balanced welfare improvement of female students by helping those who are in the blind spots of welfare.



"Soft and Warm Hope Box" delivery ceremony

### Kimchi Sharing with Low-income Families

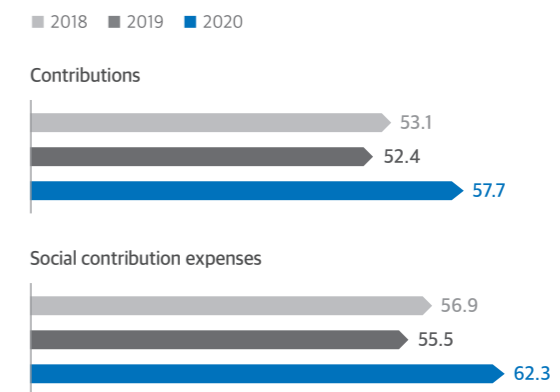
Since 2009, GS E&C has been sharing kimchi with low-income families and welfare facilities. In 2010, the scope of participants in GS E&C's kimchi sharing event, which is for the employees to make and deliver kimchi in person, was expanded to the employees' families, adding significance to the event. In 2020, the employees and their families could not participate in the event due to COVID-19. However, GS E&C purchased kimchi and shared it with a larger number of families than in the previous years.

### Cooperating organizations and NGOs of key social contribution activities

Cooperating organization	Social contribution activities
Child Fund Korea	Study Room of Dreams and Hopes, Playground of Dreams and Hopes, After-school Classroom, Year-end Kimchi Support
Save the Children Korea	Scholarships and support for learning expenses for outstanding students
Happy People	Facility Support for Schools in Vietnam
Good Neighbors	Female hygiene product support for low-income groups

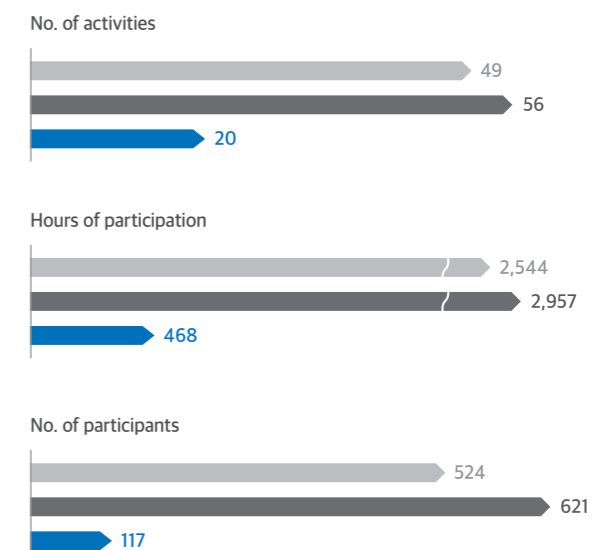
### Social contributions and expenses

(Unit: KRW 100 million)



### Employees' participation in social contribution

(Unit: Times, Hours, No. of persons)





## Coexistence with Local Community

GS E&C is operating community consultation channels such as meetings with residents. We hold a meeting with residents to help them understand the overall construction processes and try to communicate with them. In 2020, a meeting was held between the resident representatives and the director of the Gaepo Residence Xi construction site to resolve noise issues. After listening to residents' opinions and demand, we took proper measures for them. We install soundproof walls, reduce dust, and protect pedestrians at construction sites in order to minimize the construction impact on local communities. We are making efforts to make our construction sites safer for



Meeting with local residents

### Interview

#### First Student Story of "Study Room of Dreams & Hopes"



First launched in 2011, the "Study Room of Dreams & Hopes" is one of the most representative social contribution activities of GS E&C conducted based on the characteristics of the construction industry. Through this program, we create a study-friendly environment by decorating children's rooms neatly and providing study equipment. In addition, we provide scholarships so that children can realize their dreams. To spread our beneficiaries' opinion about our social value creation activities, we interviewed the first person who received the benefit of Study Room of Dreams & Hopes, who is currently working as a middle school teacher in Gyeonggi-do Province.

**Q** What is the most memorable thing for you as the first person to have received the benefit of GS E&C's Study Room of Dreams & Hopes Project?

**A** I remember making various paper models using design handouts with my sister in the study room. GS E&C provided various kinds of study equipment such as electronics and printers as well as a study room. I had a great time with my sister making various models in the study room. My family loved watching what my sister and I made. It remains a heart-warming memory even after a long time has passed.

**Q** How did Study Room of Dreams & Hopes help you, growing up?

**A** Even though our family had financial difficulties, it gave me a sense of stability that I had a great study room. It encouraged me to grow and achieve my dream. The fact that I had a study room where I could study whenever I wanted allowed me to have passion for academic achievement. It helped me concentrate on school and gave me confidence in my life.

**Q** What do you expect from GS E&C's social contribution activities?

**A** I believe that truly sustainable social contribution means making society more beautiful by supporting growing youth. As the Study Room of Dreams & Hopes affected my childhood positively, I believe that GS E&C's social contribution activities can make the world more wonderful and beautiful by providing full support for the youth in need.

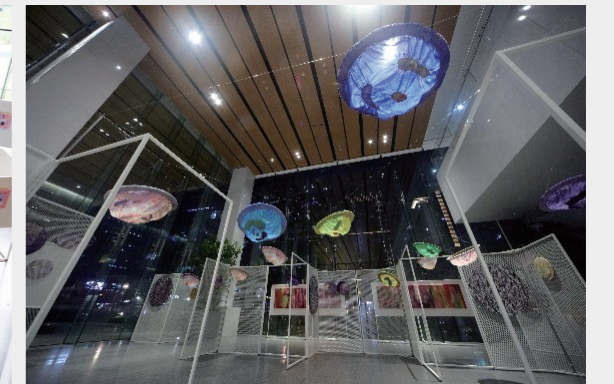
### Highlight

#### Social Values in Gran Seoul

## Gallery 시선 視線



View of Gallery Siseon from the second floor



Exhibition at Gallery Siseon

Since November 2018, GS E&C has been operating Gallery Siseon at the first floor lobby of Gran Seoul Head Office in Jongno-gu. We conduct social contribution activities here by supporting new artists. GS E&C provides a free exhibition space and various kinds of support for artists through a contest. We have been sharing new artists' artistic senses and imaginations with our employees and visitors at the Urban Open Gallery Siseon.

Gallery Siseon is a 198m<sup>2</sup> gallery reborn with GS E&C's excellent space design. L-shaped partitions are installed in the gallery so that artists can utilize the space and hold an exhibition as they want. Its exterior walls are all glass, which is a special feature differentiated from other galleries. Pedestrians can enjoy works of art in the middle of a concrete jungle. In addition, the gallery provides different viewpoints depending on the weather and time.

Artists should be selected by our qualified consultants and judges to hold an exhibition at Gallery Siseon. We are doing our best to bring out the potential of new artists. We hold an annual contest for new artists under 39 years old. The entire examination process is conducted blindly for fair judgment. As of June 2021, Gallery Siseon has held 31 exhibitions featuring 75 artists. It aims to publish the third-anniversary commemoration booklet in November. We will take the initiative in promoting culture and art, gradually expanding our gallery.



#### Music Concert "Stay"

In the last week of June 2021, GS E&C held a music concert titled "Stay" on the first floor and first basement level of Grand Seoul as part of its social contribution activities. Through the Music Concert "Stay," we provided performance opportunities for musicians who do not have many opportunities to work due to the COVID-19 pandemic. Our employees and visitors could take comfort from enjoying music.





# VALUE THROUGH TRANSPARENT MANAGEMENT



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# Governance

## Governance Structure

GS E&C is operating a governance system based on transparency, soundness and safety with an aim to improve the corporate value in the long run. Centering on the BOD, the highest decision-making body, we are improving the expertise and efficiency of the BOD's decision-making process by operating subcommittees under the BOD. The ESG Committee was newly established in April 2021 to carry out ESG management in full scale. Subcommittees are organized with outside directors as key members. The Audit Committee and the Outside Director Candidate Recommendation Committee are operated within the BOD and the ESG Committee and the Committee on Internal Transactions are operated as outside committees of the BOD. Each committee comprises of outside directors as the majority of the members to ensure independence. The ESG Committee consists of five directors, including all outside directors, and the Audit Committee consists of outside directors only.

## Composition and Diversity of the BOD

The GS E&C BOD consists of seven members, including two inside directors, four outside directors, and one non-executive director. The roles of the BOD chairman and the CEO are separated. To keep the independence of the BOD in accordance with Article 542, Paragraph 8 of the Commercial Act, the ratio of outside directors is 57.1% maintaining majority. Directors are appointed at the general shareholders' meeting to secure specialty and diversity as well as independence. Candidates are selected by the BOD and the Outside Director Candidate Recommendation Committee and confirmed as an agenda to be submitted to the general shareholders' meeting. Information of the finally confirmed candidate, such as the major career and the relationship with the largest shareholder, is provided in advance to guarantee the fair outside director appointment process. The candidate is finally appointed based on expertise and experience in each field, such as accounting and finance, law, management and finance, and construction industry. Appointed outside directors are not allowed to hold more than two outside 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 in advance. At the 2021 general meeting of shareholders, GS E&C appointed Hee-Jin Cho, a representative lawyer of the Law Firm Dambak, as the first female director of GS E&C. Through the appointment, we expect to increase the BOD diversity, respond to the amendment of the "Financial Investment Services and Capital Markets Act" in advance, which requires an appointment of at least one female registered director by July 2022, and be able to secure legal advice from the best female legal experts in Korea for various business sectors.

## BOD Members

(As of the end of March 2021)

	Name	Gender	Date of Appointment	Term of Office	Major Career Titles
Inside Directors	Chang-soo Huh	Male	March 2002	March 2023	Chairman of GS E&C
	Byeong-yong Lim	Male	March 2013	March 2022	Vice Chairman and CEO of GS E&C
Non-executive Director	Jin-soo Huh	Male	March 2020	March 2023	Chairman of BOD of GS Caltex and GS Energy
Outside Directors	Kyung-sik Kim	Male	March 2019	March 2022	Director of Construction Engineer Policy Institute of Korea
	Jin-bae Kim	Male	March 2019	March 2022	Professor at Korea University Business School
	Hee-Jin Cho	Female	March 2021	March 2024	Representative lawyer of the Law Firm Dambak
	Hee-Gook Lee	Male	March 2021	March 2024	[Former] President of LG Electronics (CTO)

\* Average BOD tenure: 6.43 years (According to the Commercial Act, members of the BOD shall be appointed once and shall not serve more than three years, and outside directors shall not be reappointed for more than two consecutive terms in a company.)

## BOD Functions and Operation

BOD meetings are divided into regular and temporary meetings, where the BOD passes resolutions with the attendance of the majority of fixed seats and approval by the majority of the attending directors. Regular meetings are held seven times a year, while special meetings are held whenever there is an agenda to resolve. BOD members contribute to mid- to long-term value creation by accounting for ESG factors in their decision-making process. Furthermore, through the subcommittees, the BOD supervises the company's major business affairs and provides management advice, thereby fulfilling its responsibilities. The Management Committee, which is operated alongside the BOD, handles sustainability management-related issues through a conference system with the highest decision-making authority of the company's divisions, headquarters and offices.

## Subcommittees

(As of April 2021)

Subcommittees under the BOD	Audit Committee	Manages and supervises accounting and major business affairs
	Outside Director Candidate Recommendation Committee	Recommends outside director candidates at the general shareholders' meeting
Subcommittees outside of the BOD	ESG Committee	Establishes and decides the ESG management direction
	Committee on Internal Transactions	Reviews and screens internal transactions and recommends corrective measures

## Reinforcing BOD Efficiency and Expertise

GS E&C plans and announces the annual schedule of the BOD at the end of the previous year to increase the attendance rate of board members. The meeting convocation and issues on the agenda are notified one to two weeks in advance to give members enough time to review the agenda. A separate briefing session is held when necessary, and we are supporting the efficient operation of the BOD through frequent provision of the company's major pending issues. In addition, we are giving the BOD members an opportunity to visit domestic and international worksites to improve their understanding of the company's businesses. In 2020, the BOD visited MFC and Y2K sites in Yeosu. Furthermore, we are offering training programs to continuously bolster the expertise of the BOD. In 2020, a total of 18 internal and external training programs were held, which included the internal accounting management system and integrated audit plan sharing.

## BOD Performance

(Unit: meetings, cases, %)

	2018	2019	2020
BOD meetings	8	9	9
Agenda deliberated by BOD	15	19	15
Average attendance rate	91	92	97



Site visit by outside directors (Yeosu MFC)

## Highlight

### Establishment of the ESG Committee for Full-Scale ESG Management

GS E&C has accelerated ESG management by setting the ESG strategy direction to leap forward as a leading ESG company in Korea and expanding and reorganizing the existing sustainability Management Committee into the ESG Committee in April 2021. To further enhance the status of the ESG Committee, which is composed of five directors including four outside directors, we plan to promote the committee as a committee under the BOD at the 2022 general shareholders' meeting. ESG Committee will be a key control tower that identifies and discusses various company issues, such as environmental, social, and governance, and establishes sustainability management strategies and directions.





### BOD Performance Evaluation and Remuneration

In accordance with Article 22 of the BOD Operating Principles, GS E&C conducts self-evaluation of the BOD and its committees every year in order to ensure more active and efficient operations. The evaluation is conducted on four areas consisting of the role of the BOD, responsibilities and obligations, BOD composition, and independence. The limit of remuneration for outside directors is determined at the general shareholders' meeting every year in accordance with Article 388 of the Commercial Act, and the remuneration is paid when approved by the BOD separately. In addition, the remuneration status of all directors and auditors and the amount of remuneration paid to executives who receive more than KRW 500 million are disclosed in the GS E&C business report. GS E&C transparently reports the difference in remuneration between the CEO and employees as well. In 2020, the CEO received his remuneration that is about 26 times the average annual salary of employees.

#### BOD self-evaluation results

(Unit: points, out of 5)

■ 2018 ■ 2019 ■ 2020

#### Self-evaluation score



### Maintained Grade "Excellent" 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 the field of the environmental and social performance as well as governance, which helps in identifying the company's sustainability management level. Since 2019, GS E&C has received grade "A" in Governance, maintaining excellent ESG evaluation results.

#### ESG evaluation results

(Unit: rating)

	2018	2019	2020
Comprehensive	B+	A	A
Governance	B+	A	A
Social	B+	A	B+
Environmental	A	B+	A

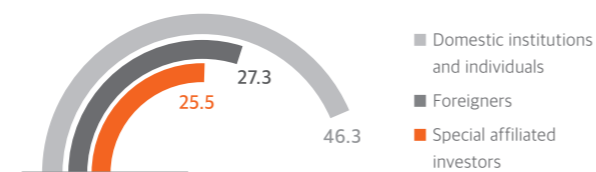
(Evaluation Agency: Korea Corporate Governance Service)

### GS E&C Shareholders

The total number of shares issued by GS E&C as of December 2020 stands at 80,708,203 common shares and 80,015,608 of them come with voting rights (692,595 treasury shares excluded). All of the shares issued by GS E&C are common shares. We have introduced the single voting right system to apply the principle of one voting right per share. Minority shareholders with less than 1% of the total issued shares per shareholder own 66.10% of the total shares. As for majority shareholders, special affiliated investors and investors with ownership of 5% or more, the details are disclosed through the business report. In 2020, total of 96,019 million dollars was paid out as cash dividends.

#### Shareholding ratio

(Unit: %)



\* As of 2020

### Efforts to Guarantee Shareholder Activities

As for the general shareholders' meeting through which shareholders perform activities based on transparent management information, the convocation is announced through the electronic disclosure system at least two weeks (four weeks for practical business) in advance. Shareholders exercise their voting rights by participating in the meetings in person or through proxy solicitation. At the 52nd general shareholders' meeting in 2021, GS E&C introduced an electronic voting system to enhance the convenience of shareholders exercising their voting rights. In accordance with Article 363-2 of the Commercial Act (Shareholder's Rights to Make Proposals), we place no restrictions on the proposals made by shareholders to encourage them to propose an agenda at the general shareholders' meeting. In line with such efforts, we will continue to inform the procedure of shareholder proposals and strive to establish an internal process of processing an agenda, thereby increasing the convenience of shareholder proposals.

**Introduced an electronic voting system** for the general shareholders' meeting

**150 meetings with institutional investors**

# Ethics & Compliance

### Ethics Management System

GS E&C operates an ethics management system by taking "Code, Compliance, and Consensus" as its key direction. Having prepared a foundation with the Ethics Charter, Code of Ethics and Ethical Guidelines, we are implementing strict inspection and monitoring, and thus striving to improve the ethical awareness of employees. Ethical standards and policies are posted on our website\*, including Code of Ethics, Human Rights Policy, Principles of Anti-Corruption, Fair Trade Principles for Consumers, and Fair Trade Principles for Competitors.

\* GS E&C website > Sustainability > Ethics Management

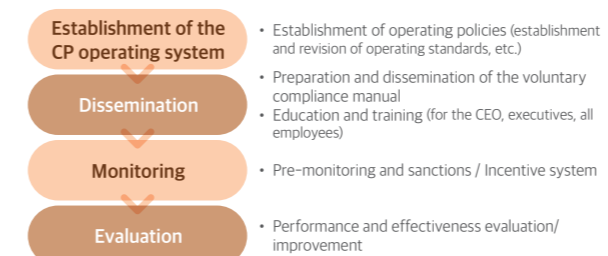
#### GS E&C Ethics Management System

Goal	A company trusted by customers and society through transparent and fair management practices		
Directions	Code	Compliance	Consensus
	Establishment of Code of Ethics system (Ethics Charter, Code of Ethics, ethical guidelines)	Supervising organization, system establishment, monitoring and inspection	Education and promotion to raise ethical awareness
Activities	Continuous ethics management policy and system improvement	Continuous ethics management policy and system improvement	<ul style="list-style-type: none"> <li>Ethics education and promotion</li> <li>Establishment of new corporate culture of stiffening punishments for unethical behavior</li> </ul>

### Establishment of the CP Team for Voluntary Compliance with Fair Trade

In April 2021, GS E&C newly established the CP Team to comply with the regulations and laws related to fair trade. In May, it was announced via committee that a CP system was to be introduced and a manager of 'Voluntary compliance with Fair Trade' was appointed. Moreover, an operating policy and system were also established. The CP team now plans to publish a voluntary compliance manual and provide training so that employees can fully understand and follow the relevant regulations.

#### R&R of the CP Team



### Ethics Committee

GS E&C operates the Ethics Committee to introduce the ethics management system into every decision-making process. The CFO acts as the chairperson of the committee and the executives in charge of project planning and supporting divisions and departments perform as steering committee members. The committee deliberates and votes on ethical policy-related issues and reviews ethics management promotion activities and monitoring results. Due to the outbreak of COVID-19, the committee was not held in the first half of 2020, and the second half was replaced with written reports. We are striving to foster an ethics corporate culture by rearranging the ethics management system, monitoring and inspecting unethical behaviors, and implementing ethics education and promotion on a regular basis despite difficulties caused by the pandemic.

### Reporting Channels and Response to Ethical Violations

GS E&C encourages reporting of cases of ethical violations by offering a range of reporting channels including the Online Company Reporting & Ethics Misconduct Channel as well as phone and fax lines and operating the informant protection policy. In particular, if a partner employee reports an ethical violation related to a GS E&C employee, the informant is either rewarded or the informant's company is selected as an excellent partner. In addition, if a disadvantage to the informant occurs or is expected, various response measures are taken according to the Code of Ethics to protect the informant, such as position change or aggravated punishment for retaliation. The Compliance Office conducts an investigation immediately upon receipt of the report. If an ethical violation is found to be true, the employee involved and related employees are disciplined according to the personnel regulations, and the partner will be subject to sanctions according to the internal deliberation standards. In 2020, among the 70 reports received in total, 24 were found to be true and some disciplinary actions were taken depending on the seriousness of the action.

#### Reported and investigated cases of ethical violations

(Unit: cases)

Category	2018	2019	2020
Factual	24	26	24
False	31	37	46
Reports	55	63	70

#### Incidents of individual ethical violations and actions taken

(Unit: cases)

Category	2018	2019	2020
Dismissal	9	16	15
Recommended resignation	1	0	2
Suspension	10	12	10
Salary deduction	8	1	6
Total	28	29	33

\* Including joint responsibility of senior managers



### Preventing Ethics Management Risks through “Patrol Inspection” and “Issue Diagnosis”

GS E&C conducts “Patrol Inspection”<sup>1)</sup> and “Issue Diagnosis”<sup>2)</sup> activities to prevent ethics management risks. By inspecting business procedures, and compliance as well as individual ethical violations, corrective actions were taken immediately if any violations were found. Matters requiring improvement were shared with the related teams at the headquarters to find appropriate measures. We are quickly responding to the identified issues and carry out cooperation with the relevant teams at the field and the headquarters. In 2020, we conducted patrol inspection and issue diagnosis 24 times and 13 times, respectively.

- 1) An activity that focuses on preventing ethical violation factors by checking whether the project in question complies with the business procedure and identifying improvement measures.
- 2) An activity of increasing business efficiency by identifying the process to be improved, such as unreasonable work practices and inefficient work.

### Ethics Survey to Ensure Improved Ethical Standard

GS E&C collects the opinions of partners through an ethics management survey to maintain transparent and fair business relationships with the partners and practice ethics management based on respect and cooperation based on the win-win principle. Through the survey, we were able to prepare improvement plans by evaluating 23 items, including the status of ethics management, ethics education, and the reporting system. Our efforts to strengthen the company’s ethical standards will continue in the future.

### Ethics Education for Employees

GS E&C utilizes various channels to provide ethics education and increase the ethical awareness of employees. In 2020, our employees were offered online ethics education under the themes of conflict-of-interest management, work ethics, ethical decision-making, and ethical leadership. In addition to education, all employees submit their signatures at the beginning of every year to show their intention of joining ethics management activities and their determination to practice ethics management. Their participation rate marked 100% each year. We also publish an ethics management newsletter to share the status of investigations on ethical violations and ethical violation cases and draw employees’ interest and participation in ethics management through quizzes to enhance their understanding. English newsletters are also available for foreign workers.

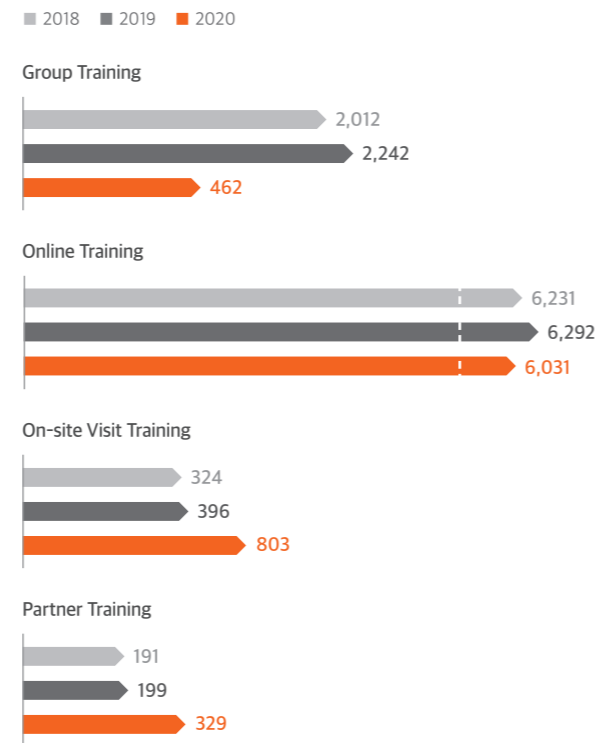
### Ethics Education for Partners

GS E&C visits partners’ worksites to provide them with ethics education. We are sharing the ethical policies of GS E&C and inducing their participation to achieve shared growth. Educational contents are designed to prevent possible ethics management risks, including the ethical standard system of GS E&C, ethical violation cases, and the ethical violation reporting channel. Partners are required to submit the Corporate Integrity Pledge when signing a transaction contract with us to prevent unfair trade practices. The commitment to the establishment of sound transaction practices with subcontractors is also part of the Code of Ethics and the related regulations. In addition, we are also operating an Online Company Reporting & Ethics Misconduct Channel via the website to receive reports on unfair demands and irregularities committed by employees. We strictly protect the informants and investigate all reports received and swiftly respond to reports that are found to be factual.

### Ethics education curriculum

Online Training	Required for all employees, once a year
Group Training	New employees and major job positions/ departments
On-site Visit Training	Employees and partners

### Participation in ethics education (Unit: persons)



# Risk Management

### Company-wide Risk Management

GS E&C manages risks centered on the company-wide risk management (RM) Committee established under the Project Management Department. The RM Committee identifies risks related to business environment and business operation. The head executive of the company-wide business support group and the executive in charge of the Compliance Office report the analysis results to the CEO on a regular basis. Significant risks, however, are immediately reported to the CEO and the BOD to make prompt decisions regarding the risk investigation and action plans.

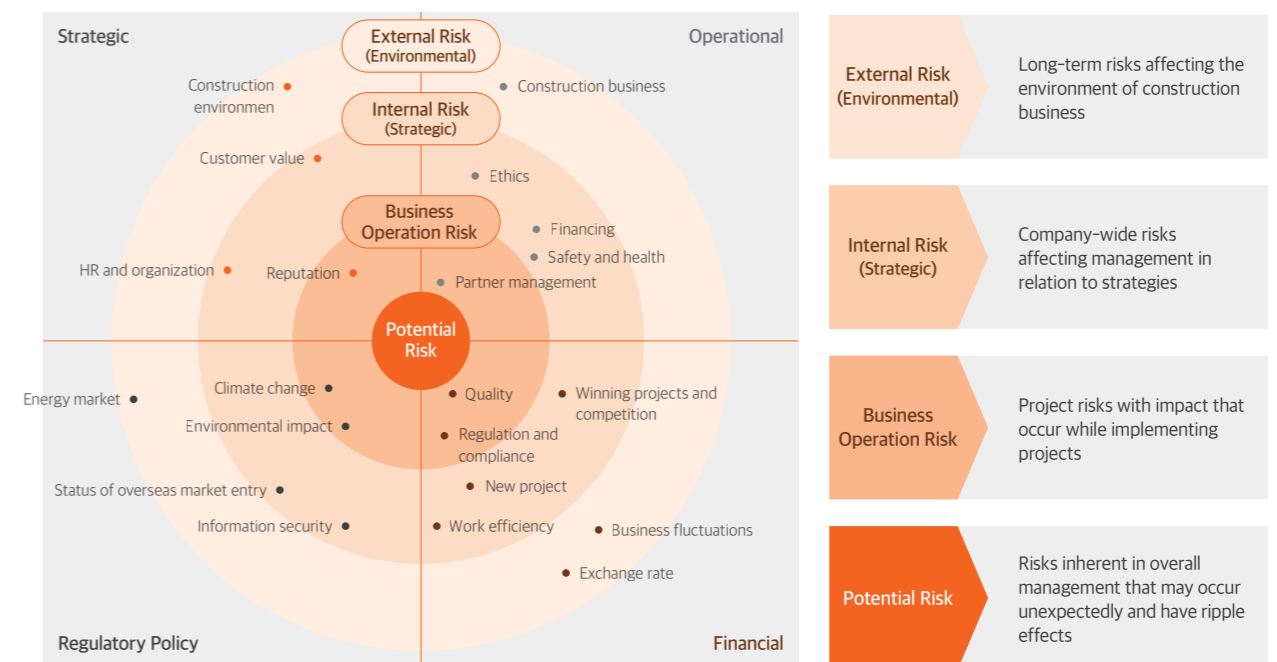
To assess business feasibilities of various projects, GS E&C conducts financial evaluation under supervision of the company-wide Business Review Committee. In addition, non-financial risk assessment is carried out at each stage of a project in an effort to manage risks associated with the project. We also operate the SEQ (safety, environment, quality) Operating Committee and the Exchange Risk Management Committee. Each committee focuses on managing specific risks intensively by establishing the related enforcement guidelines, identifying the risks, and reporting them to the BOD.

### Efficient Risk Management System

GS E&C organized and operates a collaborative network for risk management by field to strengthen company-wide risk management. The RM conference held regularly along with each business stages deals with financial and non-financial risks regarding business performance, process cost management, bond management, financial risk, safety management, warning signs of insolvency, litigation, housing customer service, subsidiaries, and other key indicators. GS E&C identifies the correlation between individual risks and detects the causes of risk occurrence in advance to preemptively respond to isolated risks that can affect the company significantly.

Due to the recent rise in the importance of investment projects GS E&C newly created a corporate-wide Investment Review Committee. As such, GS E&C is preemptively inspecting investment risks and maintaining an efficient risk management system that is tailored to its business sector. With outside directors as its members, the committee is the highest decision-making body that considers both financial and non-financial risk factors when making investment decisions.

### Classification and definition of risk





### Inspection and Improvement of Internal Accounting Management System

GS E&C inspects the design and operation status of the internal financial management system to secure its reliability and prevent errors or wrongdoings. The management of GS E&C, including the CEO and internal accounting manager, has the responsibility for the design and operation of the internal accounting management system, whereas the Audit Committee is responsible for management and supervision. In 2020, design evaluation was conducted on 492 control items and no design flaws were found. The operation of the internal accounting management system was evaluated three times, but only one simple flaw was found and actions were taken accordingly. To prepare for the expansion of the system into a consolidation basis from 2023, GS E&C is currently establishing a consolidated internal accounting management system.

### Long-term Risk Management

To achieve sustainable growth, GS E&C manages risks that can affect the company in the long term as well as the risks of individual projects. We are analyzing long-term risks caused by environmental changes at home and abroad and checks the potential influence of those risks on GS E&C to ensure preemptive response.

Long-term Risk	Impact on GS E&C	Response Measures
<b>Energy paradigm shift</b> As foreign countries are implementing carbon-neutral and energy transition policies, demand for renewable energy continues to increase. In 2017, the Korean government announced the "Renewable Energy 2030" plan to increase power generation from total renewable resources to 20% by 2030. This has resulted to the increase in renewable energy demand, while the demand for thermal power plants, which are currently the main source of energy such as coal, is relatively decreasing.	The decreased demand for thermal power generation, which has resulted from the energy paradigm shift, affects GS E&C's energy business in winning new contracts and management performance. This shift can pose a risk to the employees in the existing thermal power plant business sector. Therefore, GS E&C should also secure competitiveness in the renewable energy market.	<ul style="list-style-type: none"> <li>Promoting new and renewable energy development business</li> </ul>
<b>Strengthening environmental policies</b> Several factors of environmental pollution exist in the entire construction process, such as GHG, waste, dust, and noise generated from construction sites as well as energy used by buildings. To minimize such environmental impacts, various government regulations, such as carbon tax, waste charge system, and regulations for dust and noise levels at construction sites, have been strengthened.	Negligence or failure to properly treat waste, wastewater, fine dust, GHG emissions, and other elements causing environmental pollution at construction sites directly leads to financial losses. In the long run, if a company is not prepared for strengthened environmental regulations from a long-term perspective, the company may be disadvantageous in bidding, and thus can affect winning projects.	<ul style="list-style-type: none"> <li>Establish and implement Mid to long-term Strategy for Carbon Neutrality</li> <li>On-site Fugitive Dust and Fine Dust Reduction Measure</li> <li>Strengthening monitoring measures for water resource and waste</li> </ul>
<b>Changes in customer needs in line with the Fourth Industrial Revolution</b> The data-based Fourth Industrial Revolution brought about major changes to business areas and processes across all industries. Smart construction, which converges traditional construction method with advanced technologies, is emphasized in the construction industry, and global competition is increasing on how to apply technologies that can increase customer convenience.	GS E&C may lose market competitiveness if it cannot provide differentiated products and services by understanding the trend of customer demands in housing business, which displays the highest ratio in the company's sales. In the long run, GS E&C will suffer damage to the brand power, which can result in greater management losses.	<ul style="list-style-type: none"> <li>Xi AI platform</li> <li>Establishment of a smart safety management system based on the Fourth Industrial Revolution technologies</li> </ul>

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# ESG Issue Paper

## Stakeholder Engagement

GS E&C defines stakeholders as all entity or individual that are expected to affect or be affected by our operational activities such as customers, shareholders/investors, employees, partners, government and local community. We utilize diverse communication channels such as annual stakeholder surveys and ensure that their opinions on our sustainability management are heard and fully reflected on our business activities.

### Stakeholder Engagement



## Stakeholder Opinions

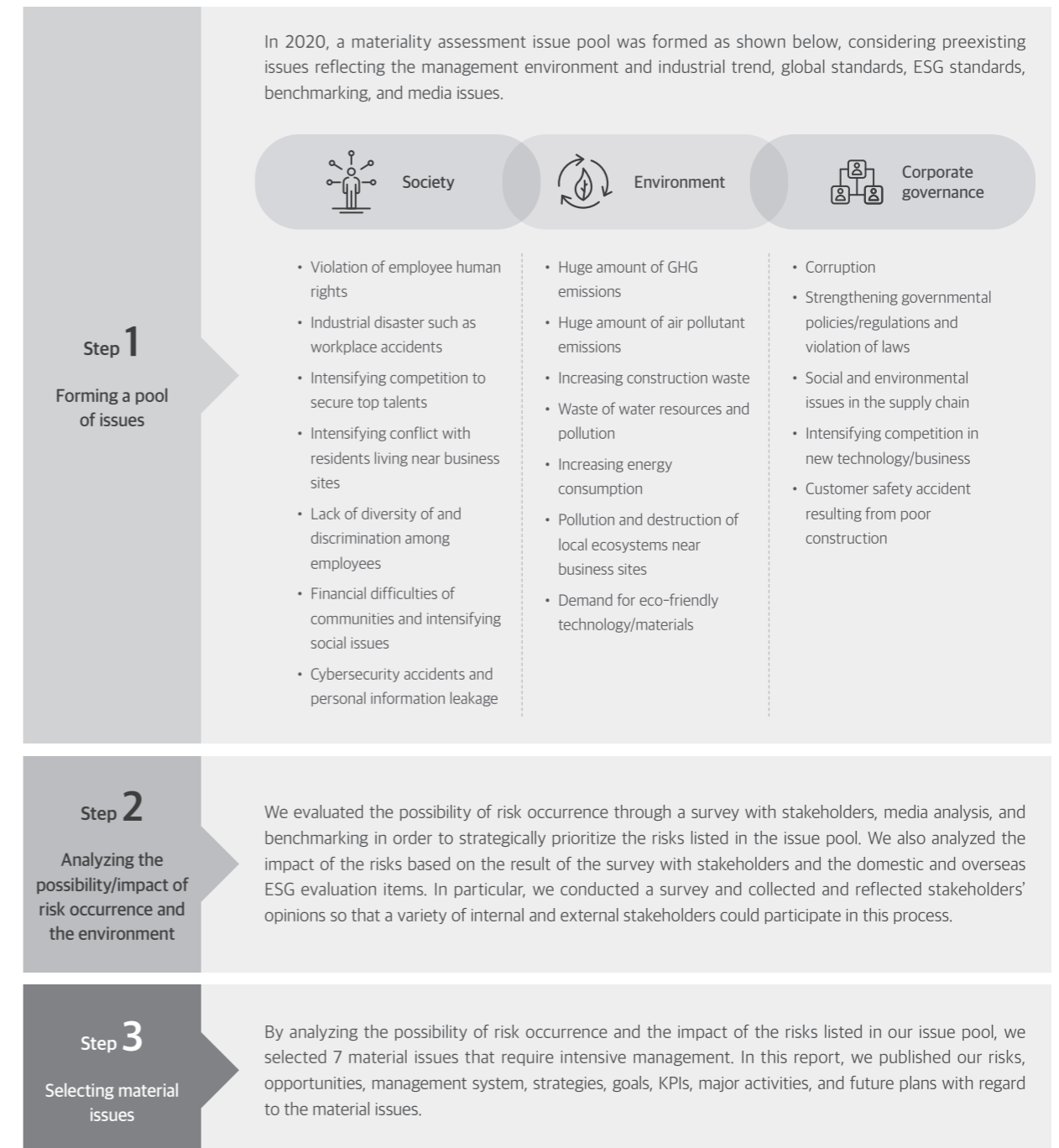
Q. What are your expectations for GS E&C sustainability management?



## Materiality Assessment

To become a global top tier company creating sustainable values, it is necessary to strategically prioritize and intensively manage a variety of ESG issues related to corporate business activities. GS E&C selects essential material issues for business activities each year by comprehensively analyzing the possibility and impact of ESG risk factors. The Integrated Report 2021 contains the activities and performances of and the strategies against issues that may affect GS E&C. In addition, the management background of material issues is reported in association with our business approach and performance.

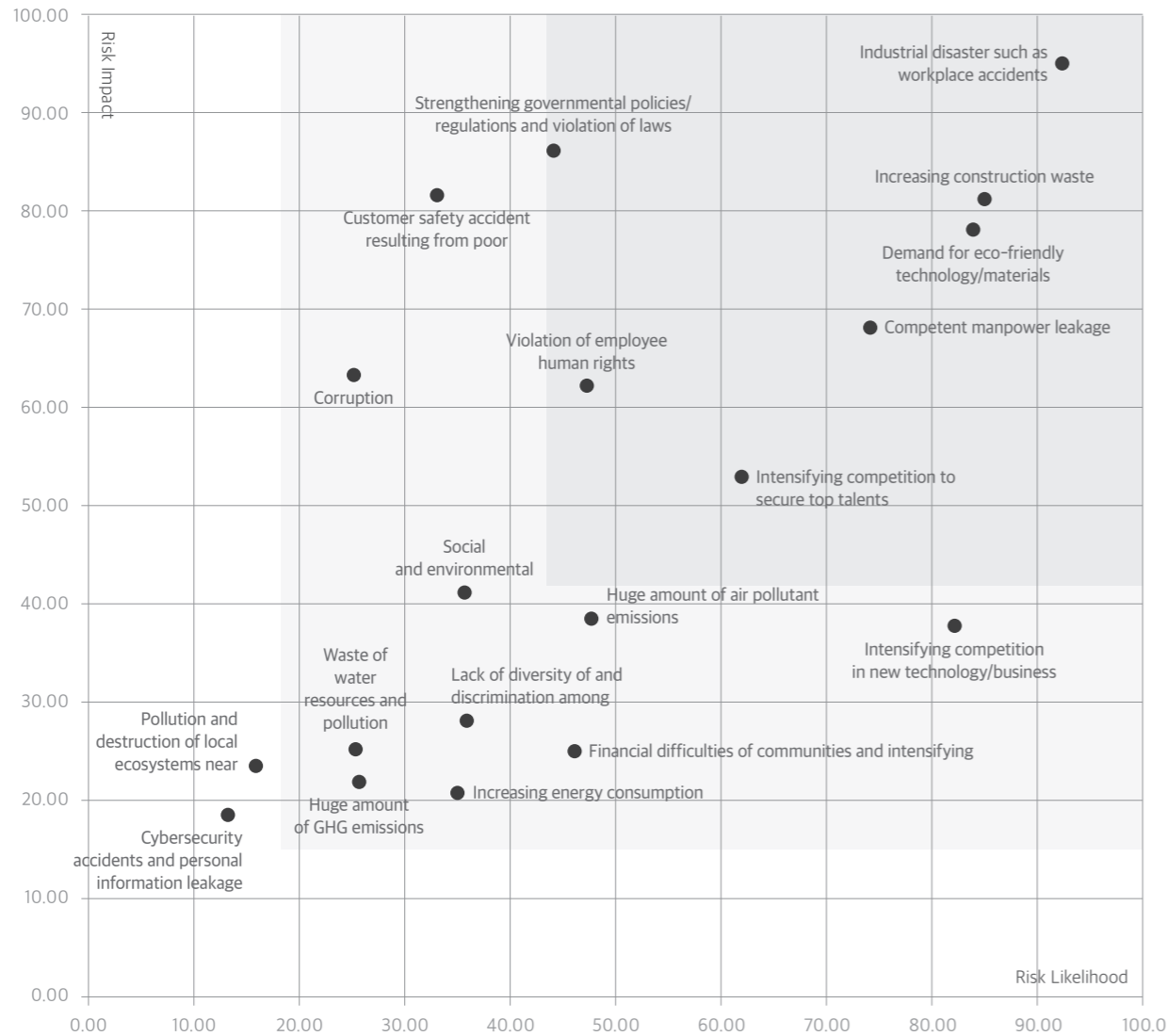
### Materiality Assessment Process





## Materiality Assessment Result

### Materiality Assessment Matrix



### 7 material issues

Rank	Material issues	Countermeasure (Pg)
1	Industrial disaster such as workplace accidents	41-44
2	Increasing construction waste	31-33
3	Demand for eco-friendly technology/materials	30, 37
4	Intensifying competition to secure top talents	45-49
5	Strengthening governmental policies/regulations and violation of laws	27, 71-72
6	Intensifying conflict with residents living near business sites	64
7	Violation of employee human rights	49

## Performance Data

### Financial Value

FY 2020: January 1, 2020 through December 31, 2020

FY 2019: January 1, 2019 through December 31, 2019

#### Scope of data

A Headquarters / B 144 domestic sites / C 1 technology research center  
 D 10 overseas branches / E 52 overseas business sites  
 F 17 overseas subsidiaries / G 866 partners

Category	Unit	FY 2020	FY 2019
<b>Consolidated statements of income</b>			
Sales		101,229	104,166
Cost of sales		85,878	90,187
Gross profit		15,351	13,979
Selling and administrative expenses		7,847	6,306
Operating profit		7,504	7,673
Other operating income	KRW 100 million	2,444	2,642
Other operating expenses	KRW 100 million	4,578	3,893
Investment gain and loss		(61)	(29)
Financial income		2,103	2,604
Financial costs		2,228	2,259
Profit before income tax		5,184	6,737
Income tax expenses		1,888	2,263
Net income		3,297	4,475
<b>Consolidated statements of financial position</b>			
Current assets		72,519	73,289
Non-current assets		65,188	58,423
Total assets		137,707	131,712
Current liabilities		57,289	58,009
Non-current liabilities	KRW 100 million	37,297	32,273
Total liabilities	KRW 100 million	94,586	90,282
Issued capital		4,035	4,005
Capital surplus		8,157	8,023
Retained earning and others		30,929	29,402
Total equity		43,121	41,430

\*The financial statements cover GS E&C and its 32 subsidiaries including ezville

### Industrial Value

Category	Unit	2018	2019	2020	Scope of data
Order newly received abroad	%	22.2	29.8	19.4	A~F
New overseas markets	No. of nations	1	1	1	

### Intellectual Value

Category	Unit	2018	2019	2020	Scope of data
R&D expenses	KRW 100 million	527	483	339	A, C
R&D investment rate	%	0.40	0.46	0.33	A, C
Onsite technology application	No. of sites	87	92	98	B, E
Technologies developed	No. of cases	33	28	24	A, C



Environmental Value<sup>1)</sup>

Category	Unit	2018	2019	2020	Scope of data	
Amount of construction materials used	Ready-mixed concrete	m <sup>3</sup>	4,154,240	4,154,637	3,780,058	A~C
	Cement	ton	89,789	100,175	98,582	
	Aggregates	m <sup>3</sup>	187,926	702,486	1,124,373	
	Asphalt	ton	89,789	60,263	92,600	
	Sand	m <sup>3</sup>	25,670	101,814	64,448	
	Steel	ton	346,283	377,168	306,304	
	Plaster board	ton	53,199	40,061	37,557	
Improvement rate of raw materials consumption by unit	%	24.95	15.13	11.07		
Amount of recycled aggregates used	m <sup>3</sup>	24,707	58,820	135,541		
Amount of water used	Total	m <sup>3</sup>	2,687,953	2,758,690	2,762,034	A~F
	Service water	m <sup>3</sup>	1,935,270	1,955,358	2,080,404	
	Underground water	m <sup>3</sup>	426,384	456,741	344,114	
	River water	m <sup>3</sup>	326,299	346,591	337,516	
	Density of building water <sup>2)</sup>	m <sup>3</sup> /m <sup>2</sup>	2.67	2.92	2.04	
Amount of water reused	Total	ton	16,149	173,798	159,639	
	Total		4,715	4,020	3,439	
Amount of energy used	LNG (city gas, natural gas)		95	172	101	A~F
	Kerosene		124	59	64	
	Diesel	TJ	2,653	2,153	1,756	
	Gasoline		80	44	32	
	Electric power		1,743	1,569	1,466	
	Others		20	23	19	
	Density of building energy <sup>3)</sup>	MWh/m <sup>2</sup>	0.13	0.13	0.12	
Amount of waste generated	Total	ton	664,663	450,870	792,460	A~C
	Recycling		649,890	436,765	789,997	
Waste treatment	Landfill	ton	1,113	2,791	1,696	A~C
	Incineration		13,660	11,314	767	
GHG emissions	Total	tCO <sub>2</sub> -e	291,233	244,959	207,747	A~F
	Scope 1 (Direct emissions)		71,547	58,994	49,466	
	Scope 2 (Indirect emissions)		84,631	76,226	71,211	
	Scope 3 (Other indirect emissions)		135,055	109,739	87,071	
	Intensity of GHG emissions from building <sup>4)</sup>	tCO <sub>2</sub> -e/m <sup>2</sup>	0.08	0.08	0.08	
	Amount of GHG emissions by KRW <sup>5)</sup>	tCO <sub>2</sub> -e/KRW 100 million	2.24	2.38	2.14	
	GHG emission reduction (Scope 1, 2)	Planned emissions (allocated by the government)	tCO <sub>2</sub> -e	110,639	111,932	
Actual emissions			107,016	108,713	108,682	
Reduction			3,623	3,219	7,993	
Harmful chemical discharge	Waste oil, waste paint, etc.	ton	32	57	127	A~B
BOD discharge	Amount of discharge	m <sup>3</sup>	0.6	0.2	0.2	A (강촌, 제주 엘리시안)
	Discharge concentration	ppm	2.3	0.7	1.0	
	Legal criteria	ppm	10.0	10.0	10.0	
SS discharge	Amount of discharge	m <sup>3</sup>	0.5	0.3	0.4	A (강촌, 제주 엘리시안)
	Discharge concentration	ppm	1.8	1.1	1.8	
	Legal criteria	ppm	10.0	10.0	10.0	
Green purchases	Total		952.9	576.0	837.60	A~C
	HB Certified		81.18	123.02	129.16	
	Highly energy-efficient machinery	KRW 100 million	130.1	149.0	8.54	
	Energy Consumption Efficiency Grade 1 or 2		132.57	154.23	236.70	
	Eco-Label		592.60	139.67	459.95	
	Others		16.45	10.11	3.25	
	High-efficiency buildings	%	47	67	67	
Legal environmental regulations	Corporate violations subject to fine	No. of cases	0	0	0	A~C
	Corporate fine	KRW 1,000	0	0	0	
Environmental education	Eco environment course completion	(Accumulated) No. of persons	247	738	776	

1) Data covers 100% domestic and overseas sites and buildings.  
 2) Density of building water = Sum of annual water consumption / Total floor area (11 buildings owned including HQ)  
 3) Density of building energy = Sum of annual electricity use / Total floor area (11 buildings owned including HQ)  
 4) Density of GHG emissions from buildings = Sum of annual GHG emissions from buildings owned / Total floor area (11 buildings owned including HQ)  
 5) Amount of GHG emissions by KRW = 207,747tCO<sub>2</sub>e(Total GHG emission)/9,696.9billion( Sales domestic and abroad, other sales not included)

Integrated Environmental Management Performance

Category	Description	Scope of data
GHG emissions	2020 goal	Planned emissions (allocated by the government)
	2020 achievement	
Reuse of water	2020 goal	A~F
	2020 achievement	
Waste recycling rate	2020 goal	A~C
	2020 achievement	
Green purchase rate	2020 goal	A~C
	2020 achievement	
Investment in green products(Environment Management Cost)	2020 goal	A~C
	2020 achievement	
Compliance with environmental laws	2020 goal	A~C
	2020 achievement	
Compliance with environmental laws	2020 goal	A~C
	2020 achievement	
Compliance with environmental laws	2020 goal	A~C
	2020 achievement	
Compliance with environmental laws	2020 goal	A~C
	2020 achievement	
Compliance with environmental laws	2020 goal	A~C
	2020 achievement	

Human Value

Category	Unit	2018	2019	2020	Scope of data	
Composition of employees	Total No. of Employees	No. of persons	6,822	6,672	6,350	A~F
	Male employees	No. of persons	6,187	6,035	5,698	
	Female employees	No. of persons	635	637	652	
	Percentage of female employees	%	9.3	9.5	10.3	
	Percentage of regular employees	%	73	72	73	
Employee diversity	Percentage of contract employees	%	27	28	27	A~F
	Percentage of female management staff	%	1.6	1.6	2.6	
	Percentage of female management staff in profit-creating fields	%	4.7	6.0	5.5	
	No. of employees with disabilities	No. of persons	110	127	118	
	Percentage of employees with disabilities	%	1.6	1.5	1.9	
Equal wage (female to malaratio)	Persons entitled to veterans' benefits	No. of persons	97	97	109	A~F
	Foreigners	No. of persons	52	48	29	
	Discharged commissioned officers	No. of persons	211	298	275	
	Executive (base wage)		283,060,453	302,475,231	317,462,250	
	Management staff (base wage, male)	KRW	83,544,143	84,165,237	87,206,736	
	Management staff (base wage, female)		69,932,887	71,726,184	79,643,418	
	Management (base wage, female to male)	%	0.84	0.85	0.91	
	Management staff (base wage+performance-related pay, male)	KRW	103,901,302	102,412,183	116,168,220	
	Management staff (base wage+performance-related pay, female)		75,771,073	77,055,481	95,796,348	
	Management staff (base wage+performance-related pay, female to male)	%	0.73	0.75	0.82	
Employee retention rate	Non-management staff (male)	KRW	60,878,218	61,165,982	67,510,139	A~F
	Non-management staff (female)		50,978,004	49,363,793	58,498,410	
	Non-management staff (female to male)	%	0.84	0.81	0.87	
	Retirement rate	%	3	3	3	
	Voluntary turnover rate		2.4	2.6	2.0	
	College students' job preference ranking	Rank	3	1	1	



Category		Unit	2018	2019	2020	Scope of data
HR development	Employee training expenses	KRW 100 million	13.4	19.2	14.4	
	Training hours per employee	Hours	54.4	44.8	28.9	
	Employee performance evaluation rate		94.6	97.0	98.0	
	Employees' engagement	%	58.0	59.6	57.0	
	Organization capacity evaluation response rate		85.3	88.0	90.0	
	Participants in stress zero program		-	3,987	1,554	
	Participants in leadership training	No. of persons	1,123	1,260	697	
	Participants in job competence training		29,908	30,298	26,098	
	Participants in global talent cultivation training		3,206	3,060	2,630	
Labor union	Percentage of labor union membership	%	43.7	36.5	32.7	
	No. of labor union members	No. of persons	910	814	723	
Maternity/ Parental leave	No. of employees eligible for parental leave	Male	1,759	1,682	1,635	A~F
		Female	146	141	142	
	No. of employees who used parental leave	Male	43	40	64	
		Female	44	38	49	
	No. of employees who returned after parent leave	Male	0	11	11	
		Female	9	22	14	
	No. of employees who worked for 12 months after parental leave	Male	2	0	10	
		Female	7	9	22	
	Return rate after parental leave	Male	-	25.5	27.5	
		Female	28.1	50.0	36.8	
Retention rate after return	Male	100	-	67		
	Female	87.5	100	100		
Total Domestic Overseas	Total		10	29	37	
	Domestic	No. of cases	7	23	35	
	Overseas		3	6	2	
Safety Innovation School	(Accumulated) No. of employees who have completed Safety Innovation School	No. of persons	5,263	5,905	1,341	A~G
	Safety Innovation School's training visits	No. of times	155	149	61	
Executives' safety and health management activities	CEO's visit to site	No. of times	10	10	10	B
	CSO's visit to site		262	270	110	
Critical injuries of partners	Total deaths	No. of persons	3	5	3	G
	Occupational accident		2	1	2	
	Construction/Technology accident		1	4	1	
Industrial disaster	Employee LTIFR	-	0.06	0	0.09	A~G
	Partner LTIFR	-	1.31	2.11	3.29	
	Employee OIFR	-	3.94	3.54	2.21	

Training hours per employee by sex and job grade in 2020

Category	Unit	Sex		Job Grade		Scope of data
		Male	Female	Senior Staff	Junior Staff	
Online training	Hours	14.9	12.6	16.2	12.9	A~F
In-group training		14.8	9.1	9.4	20	
Total		29.8	21.8	25.6	32.9	

Employee performance evaluation rate by sex and job grade in 2020<sup>1)</sup>

Category	Unit	Male	Female	Senior Staff	Junior Staff	Professional service	General service	Scope of data
Permanent worker	%	98.9	86.8	99.1	95.8			A~F
Contract worker		86.5	88.9			87.0	87.0	

1) Includes employees not subjected to performance evaluation(employees on leaves, newly employed, etc.), evaluation on employees that are subjected to performance evaluation are completed(100%)

Foreign employees

Nationality	Indian	Filipino	Nepalese	Bangladeshi	Egyptian	Vietnamese	Others	Total	Scope of data
No. of persons	186	176	30	416	27	190	409	1,434	A~F

Social Relationship Capital

Category		Unit	2018	2019	2020	Scope of data
Partners	No. of suppliers	No. of companies	991	834	866	G
	No. of major suppliers		327	345	366	
	Sales ratio of major suppliers	%	66.8	62.8	69.3	
	Partner ratio with financial risk		N/A	1.76	0.7	
	Partner ratio with environmental risk	%	N/A	0.00	0.00	
	Partner ratio with social risk		N/A	0.00	0.00	
Financial support for partners	Management support fund	KRW 100 million	313	266	252	
	Mutual pension	KRW 100 million	300	195	194	
	Cash payment	%	95	92.6	94.5	
	Retention rate of cash payment	%	100	100	100	
Technical support for partners	Payment due date	Days	10	10	10	
	New technology joint development expenses	KRW 100 million	5.1	3.2	4	
	Patent and new technology registration	No. of cases	6	9	7	
PRECON activities for cost reduction	20		15	19		
Support for partners' training	Xi CEO forum participants		30	60	20	
	Partners' employees who completed Safety Innovation School	No. of persons	205	225	132	
	Partners' site directors and working-level staff who completed training		242	209	313	
Support for partners' communication	Partners' CEOs who participated in the forum	No. of persons	100	100	20	
	Outsourcing policy briefings held	No. of times	8	4	5	
	Internal review committee meetings held		26	17	19	
Client satisfaction	Project management	Points, out of 100	87.6	85.1	87.4	
	Project workforce		87.9	89.4	86.9	
	Communication		85.8	87.6	88.5	
Social contribution	General satisfaction		87.1	87.3	87.4	
	Cash donation for social contribution	KRW 100 million	53.1	52.4	57.7	
	No. of employees who have participated in social contribution activities	No. of persons	524	621	117	
Types of social contribution	(Total) Investment in social contribution activities	KRW 100 million	56.9	55.5	62.3	
	Charitable donation	%	31.3	34.3	51	
	Investment in community	%	62.2	58.9	46	
No. of social contribution beneficiaries	Commercial initiative	%	6.5	6.8	3	
	No. of welfare beneficiaries	No. of persons	3,948	7,653	6,217	
	No. of education beneficiaries	No. of persons	259	3,446	3,352	
Media exposure	No. of cultural support beneficiaries	No. of persons	27,629	28,110	10,368	
	No. of times		62	62	61	
	Complaints submitted by housing customers	No. of cases	4,304	5,845	6,029	
No. of complaints received through the VOC system	1,103		908	4,204		
Customer satisfaction	Xi brand GCSI score	Points	73.4	73.6	73.7	
	Percentage of respondents who answered positively	%	87.1	87.3	82.3	
	Scope of data: (Percentage compared to sales, number of customers, etc.)		100.0	100.0	100.0	



Economy/Management

Category		Unit	2018	2019	2020	Scope of data
General status	Total assets	KRW 100 million	120,333	131,712	137,707	
	Credit Rating	-	A-	A0	A	
	No. of business sites	No. of business sites	197	190	196	
	Order received	KRW 100 million	109,218	10,725	124,113	
Consolidated sales by business sector	Architecture & Housing		71,376	60,146	58,038	
	Plant		48,044	31,485	27,545	
	Infrastructure	KRW 100 million	11,163	8,799	8,842	
	New business		-	2,936	6,111	
Consolidated orders by business sector	Architecture & Housing		76,035	51,249	88,813	
	Plant		23,829	50,025	7,453	
	Infrastructure	KRW 100 million	13,323	6,022	14,140	
	New business		-	-	14,081	
Order received abroad by business sector	Architecture & Housing		7,402	3,528	3,568	
	Plant		8,476	26,415	1,003	
	Infrastructure	KRW 100 million	8,351	45	5,428	
	New business		-	-	14,081	
Sales by market	Others		24,229	29,988	24,080	
	Republic of Korea		76,412	73,325	80,230	
	Middle East		35,009	14,281	6,425	
	China & Southeast Asia	KRW 100 million	14,154	9,598	6,478	
Overseas business sites	Others		5,819	6,962	8,096	
	Overseas branches	-	10 branches in 9 countries	10 branches in 10 countries	10 branches in 10 countries	A~F
Overseas subsidiaries	Overseas subsidiaries	-	14 subsidiaries in 10 countries	14 subsidiaries in 11 countries	17 subsidiaries in 12 countries	
	BOD meetings held	No. of meetings	8	9	9	
BOD operation	No. of items discussed	No. of cases	15	19	15	
	Participation in BOD meeting	%	91	92	97	
No. of persons	No. of female executives	No. of persons	0	0	0	
	Inside directors	No. of persons	2	2	2	
	Outside directors	No. of persons	4	4	4	
	Directors not engaged in regular activities	No. of persons	1	1	1	
	Total	No. of persons	7	7	7	
Whether holding a non-executive director position and an outside director position at the same time	Directors for which the number of other positions is limited to less than 4	No. of persons	4	4	4	
	Outside directors who have experience in construction	No. of persons	3	3	3	
Number of other positions restricted for directors	Number of other positions restricted for directors	No. of business sites	2	2	2	
	BOD performance evaluation	BOD self-evaluation result	Points, out of 5	4.7	4.7	4.8
Average incumbency in BOD	Average incumbency in BOD	years	6.43	6.43	6.43	
BOD remuneration	Remuneration	Base pay and sundry allowances for CEO	KRW	921,280,000	2,300,358,330	2,092,708,240
	Remuneration for employees except CEO	Average annual salary	No. of cases	78,146,058	109,392,594	80,949,545
	CEO's remuneration	CEO's remuneration to average employee annual salary	times	11.8	21.0	25.9

Category		Unit	2018	2019	2020	Scope of data
Individual violations	Total No. of violations		28	29	33	
	Dismissal		9	16	15	
	Demotion	No. of cases	1	0	2	
	Suspension		10	12	10	
Ethics management (including direct/next upper rank position's joint responsibility)	Pay cut		8	1	6	
	Reported case investigated		24	26	24	
	True	No. of cases	31	37	46	
	False		55	63	70	A~F
Ethics education	Report		324	396	803	
	Onsite education	No. of persons	191	199	329	
	Education for partners		2,012	2,242	462	
	In-Group Training		6,231	6,292	6,031	
Ethics education	Online training		7.6	7.0	20.6	
	Partners' participation	%	0.7	0.8	0.8	
	Executives' participation		94.3	99.3	98.9	
	Employees' participation					

Funding for Major Associations

Category	Unit	Support amount	Membership purpose
Construction Association of Korea		574.7	To amend the domestic construction regulations
Federation of Korean Industries		400.0	To amend domestic construction laws
International Contractors' Association of Korea	KRW 1 million	381.5	To amend overseas construction regulations
Korea Business Council for Sustainable Development		90.0	To study sustainable development policies
Korea Chamber of Commerce and Industry		102.6	To amend domestic construction laws
Financial support for other major associations		2,422	Korea International Trade Association and other tax-exempt institutions (e.g., Think Tank)

\*As of 2020

Voluntary Sustainable Management Initiatives





# GRI Content Index

## General Disclosures (GRI 102: General Disclosures 2016)

Subjects	Index	Disclosure	Reporting Page	ISO 26000	Assurance	UN SDGs
Organizational profile	102-1	Name of organization	14p		●	
	102-2	Activities, brands, products, and services	14-23p		●	
	102-3	Location of headquarters	About this Report		●	
	102-4	Location of operations	14-15p		●	
	102-5	Ownership and legal form	70p		●	
	102-6	Markets served	14-15p		●	
	102-7	Scale of the organization	79p	6.3.10/ 6.4.1-6.4.2/ 6.4.3/6.4.4/ 6.4.5/6.8.5/ 7.8	●	
	102-8	Information on employees and other workers	Performance Data		●	
	102-9	Supply chain	57-58p		●	
	102-10	Significant changes to the organization and its supply chain	No significant change		●	
	102-11	Precautionary principle or approach	73-74p		●	
	102-12	External initiatives	85p		●	17
	102-13	Membership of associations	93p		●	17
Strategy	102-14	Statement from senior decision-maker	4-5p	4.7/6.2/7.4.2	●	
Ethics and integrity	102-16	Values, principles, standards, and norms of behavior	71p	4.4/6.6.3	●	16
Governance	102-18	Governance structure	68-69p	6.2/ 7.4.3/7.7.5	●	
	102-40	List of stakeholder groups	76p		●	
	102-41	Collective bargaining agreements	Performance Data		●	
	102-42	Identifying and selecting stakeholders	76p	5.3	●	
	102-43	Approach to stakeholder engagement	76-78p		●	
Stakeholder engagement	102-44	Key topics and concerns raised	76-78p		●	
	102-45	Entities included in the consolidated financial statements	3-7p of Business Report		●	
	102-46	Defining report content and topic Boundaries	About this Report, 77p		●	
	102-47	List of material topics	78p	5.2/7.3.2/ 7.3.3/7.3.4	●	
	102-48	Restatements of information	n/a		●	
	102-49	Changes in reporting	n/a		●	
	102-50	Reporting period	About this Report		●	
	102-51	Date of most recent report	About this Report		●	
	102-52	Reporting cycle	About this Report		●	
	102-53	Contact point for questions regarding the report	About this Report		●	
Reporting practice	102-54	Claims of reporting in accordance with GRI Standards	About this Report	7.5.3/7.6.2	●	
	102-55	GRI Content Index	86-87p		●	
	102-56	External assurance	About this report, 90-91p		●	

## Topic Specific Disclosures

Subject	Index	Disclosure	Reporting Page	Assurance	ISO 26000	UN SDGs
<b>Topic 1: Industrial disaster such as workplace accidents</b>						
GRI 103: Management Approach 2018	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	40p	●	6.4.6/ 6.8.8	8
	103-3	Evaluation of the management approach				
Occupational Health and Safety	403-1	Occupational health and safety management system	41p	●		
	403-5	Worker training on occupational health and safety	42-43p	●		
	403-9	Work-related injuries	Performance Data	●		
<b>Topic 2: Increasing construction waste</b>						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	26p	●	6.5.3	15
	103-3	Evaluation of the management approach				
폐수 및 폐기물	306-2	Waste by type and disposal method	Performance Data	●		
<b>Topic 3: Demand for eco-friendly technology/materials</b>						
GRI 103: Management Approach 2016/2018	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	26p	●	6.5.4/6.5.5	9
	103-3	Evaluation of the management approach				
Materials	301-1	Materials used by weight or volume	Performance Data	●		13
Energy	302-1	Energy consumption within the organization	Performance Data	●		13
Water and Effluents	303-5	Water consumption	Performance Data	●		14
Emissions	305-1	Direct (Scope 1) GHG emissions	Performance Data	●		
	305-2	Energy indirect (Scope 2) GHG emissions	Performance Data	●		
	305-3	Other indirect (Scope 3) GHG emissions	Performance Data	●		
	305-4	GHG emissions intensity	Performance Data	●		
<b>Topic 4: Intensifying competition to secure top talents</b>						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	40p	●	6.3.7/6.3.1/ 6.4.3/6.4.4/ 6.4.7/6.8.5	8
	103-3	Evaluation of the management approach				
Training and Education	404-1	Average hours of training per year per employee	Performance Data	●		
	404-2	Programs for upgrading employee skills and transition assistance programs	45-46p	●		
	404-3	Percentage of employees receiving regular performance and career development reviews	Performance Data	●		
Diversity and Equal Opportunity	405-2	Ratio of basic salary and remuneration of women to men	Performance Data	●		
<b>Topic 5: Strengthening governmental policies/regulations and violation of laws</b>						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	26p, 71p	●	4.6	16
	103-3	Evaluation of the management approach				
Anti-corruption	205-2	Communication and training about anti-corruption policies and procedures	Performance Data	●		
Environmental Compliance	307-1	Non-compliance with environmental laws and regulations	Performance Data	●		
<b>Topic 6: Intensifying conflict with residents living near business sites</b>						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	60p	●	6.3.9/ 6.5.1-6.5.2/ 6.5.3/6.8	11
	103-3	Evaluation of the management approach				
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	61-65p	●		
<b>Topic 7: Violation of employee human rights</b>						
GRI 103: Management Approach 2016	103-1	Explanation of the material topic and its Boundary				
	103-2	The management approach and its components	40p	●	6.3.3/6.3.5/ 6.6.6	10
	103-3	Evaluation of the management approach				
Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	49p	●		
<b>Supplementary assurance index</b>						
Economic Performance	201-1	Direct economic value generated and distributed	70p, Performance Data	●	6.8.1-6.8.2/ 6.8.3/6.8.7	



# TCFD

With the rising importance of companies' role and responsibility in responding to climate change, G20 Financial Stability Board established TCFD recommendations for climate-related financial disclosure. To fulfill our responsibility for addressing climate change, GS E&C implemented TCFD guidelines and disclosed its climate change-related goals and data as below.

TCFD Recommendations	Response measures	CDP
<b>Governance</b>	Describe the board's oversight of climate-related risks and opportunities.	27p, 34p of Integrated Report 2021 C1.1
	Describe management's role in assessing and managing climate-related risks and opportunities.	34p of Integrated Report 2021 C1.2
<b>Strategy</b>	Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	34p of Integrated Report 2021 C2.1, C2.2, C2.3, C2.4, C3.1
	Describe the impact of climate related risks and opportunities on the organization's businesses, strategy, and financial planning.	34p of Integrated Report 2021 C2.3, C2.4
	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	34p of Integrated Report 2021 C3.1
<b>Risk Management</b>	Describe the organization's processes for identifying and assessing climate-related risks.	35p of Integrated Report 2021 C1.2, C2.2
	Describe the organization's processes for managing climate-related risks.	35p of Integrated Report 2021 C2.2
	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	35p of Integrated Report 2021 C2.2
<b>Metrics and Targets</b>	Disclose the metrics used by the organization to assess climate related risks and opportunities in line with its strategy and risk management process.	36p of Integrated Report 2021 C4.1
	Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	36p of Integrated Report 2021 C6.1, C6.3, C6.5
	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	27p, 36p of Integrated Report 2021 C4.1

# UNGC Advanced Level



This is our **Communication on Progress** in implementing the Ten Principles of the **United Nations Global Compact** and supporting broader UN goals. We welcome feedback on its contents.

Division	Principle	Reporting Page	GRI Standards
<b>Governance</b>	1 This integrated report (IR) describes the discussions at the level of the CEO and the BOD regarding the strategic aspects of the implementation of the UNGC.	4-5p	102-14
	2 This IR explains the company's decision-making processes and corporate governance to achieve its sustainability.	69p	102-18,21
	3 This IR describes the engagement of all of the company's major stakeholders.	74p	102-43
<b>UN Goals and Issues</b>	4 This IR describes activities designed to support comprehensive goals and issue of the United Nations.	4-5p	102-12
<b>Human Rights</b>	5 This IR describes the company's strong commitment, strategies and policies in the area of human rights	49p, 71p	103-1
	6 This IR describes an effective management system designed to integrate its human rights principles.	71p	103-2
	7 This IR describes effective monitoring and evaluation mechanisms about human rights principles.	49p, 71p	412-2
	8 This IR applies standardized performance indices (including GRI) about human rights.	87p	405-1
<b>Labor</b>	9 This IR describes the company's strong commitment, strategies and policies in the area of labor.	40p	103-1
	10 This IR describes an effective management system designed to integrate its labor principles.	41p, 45p	103-2
	11 This IR describes effective monitoring and evaluation mechanisms about labor principles.	41-44p, 46p	103-3
<b>Environment</b>	12 This IR applies standardized performance indices (including GRI) about labor.	87p	402-1, 403-2 405-1
	13 This IR describes the company's strong commitment, strategies and policies in the area of environmental management.	26p	103-1
	14 This IR describes an effective management system designed to integrate its environmental principles.	27p	103-2
	15 This IR describes effective monitoring and evaluation mechanisms about environmental management.	27p	103-3
<b>Anti-Corruption</b>	16 This IR applies standardized performance indices about environmental management.	87p	302-1 306-2 307-1
	17 This IR describes the company's strong commitment, strategies and policies in the area of anti-corruption efforts.	71p	103-1
<b>Strategies, Governance and Engagement</b>	18 This IR describes an effective management system designed to integrate its anti-corruption principles.	71p	103-2
	19 This IR describes effective monitoring and evaluation mechanisms in the area of anti-corruption efforts.	71-72p	205-2
	20 This IR applies standardized performance indices about anti-corruption efforts.	87p	205-2
<b>Assurance and Transparency</b>	21 This IR explains about the implementation of Global Compact Principles within the company's value chain.	4-5p	-
	22 This IR offers information on the corporate profile and operational environments.	14-23p	102-1~10
	23 This IR includes a high level of transparency and disclosure.	About this report	102-50~56



# Third-Party Assurance Statement



To: The Stakeholders of GS E&C Corp.

## Introduction and objectives of work

BSI Group Korea (hereinafter "the Assurer") was asked to verify GS E&C's '2021 Integrated report' (hereinafter "the Report"). This assurance statement applies only to the relevant information contained in the scope of the assurance.

GS E&C is solely responsible for all information and assertion contained in the report. The responsibility of the assurer is to provide independent assurance statement with expert opinions to GS E&C's executives by applying the verification methodology and to provide this information to all stakeholders of GS E&C.

## Assurance Standards and Levels

This assurance was based on the AA1000AS v3 (2020) Assurance Standard and confirmed that the report is prepared in accordance with the Core Option of GRI Standards. The assurance level was based on the Type 1 that confirmed compliance with the four principles of AA1000 AP (2018) in accordance with the AA1000 AS and the Type 2 assurance that verified the quality and reliability of the information disclosed in the report.

Type 2 was verified for 301-1 Materials used by weight or volume, 302-1 Energy consumption within the organization, 303-5 Water consumption, 305-1 Direct (Scope 1) GHG emissions, 305-2 Energy indirect (Scope 2) GHG emissions, 305-3 Other indirect (Scope 3) GHG emissions, 305-4 GHG emissions intensity, 306-2 Waste by type and disposal method, 307-1 Non-compliance with environmental laws and regulations, 403-9 Work-related injuries, 405-2 Ratio of basic salary and remuneration of women to men among GRI Topic-specific Standards for domestic operations.

## Scope of Assurance

The scope of assurance applied to this report is as follows:

- Based on the period from January 1st to December 31st, 2020 included in the report
- Appropriateness and consistency of processes and systems for data collection, analysis and review
- Major assertion included in the report such as sustainability management policies, strategies, objectives, business and performance
- Information related to material issues determined as a result of materiality assessment

- The following items were not included in this assurance
  - Financial information, TCFD and UNGC advanced level excluded in the report appendix
  - Other related additional information such as the website presented in the report

## Methodology

As part of its independent assurance, the assurer has used the methodology developed to collect relevant evidence to comply with the verification criteria and to reduce errors in the reporting, and has performed the following activities:

- To determine verification priorities, review of materiality issue analysis process and verification of the results;
- System review for sustainability strategy process and implementation;
- Review the evidence to support the material issues through interviews with senior managers with responsibility for them;
- Verification of data generation, collection and reporting for each performance index

## Assurance Opinion

On the basis of our methodology and the activities described above, it is our opinion that

- The information and data included in GS E&C's report are accurate and reliable and the assurer cannot point out any substantial aspects of material with mistake or misstatement.
- The report was prepared according to the Core option of the GRI Standards

The assurance opinion on the four principles presented by the AA1000 AP (2018) is as follows

### AA1000 AP (2018)

#### Inclusivity: Stakeholder Engagement and Opinion

GS E&C has a stakeholder engagement process in which key stakeholders such as executives and employees, shareholders and investors, customers, suppliers, local communities and government participate. It was confirmed that key stakeholders' expectations and various opinions are collected and the drawn agenda is reflected in decision-making on sustainability management.

### Materiality: Identification and reporting of material sustainability topics

GS E&C conducted international standard analysis, industry issue analysis, advanced company benchmarking, media research, and stakeholder survey to derive economic, social, and environmental material reporting issues related to sustainability management, and determined priorities by measuring influence on risk Impact and risk Likelihood, and reported a total of 7 material sustainability management topics.

### Responsiveness: Responding to material sustainability topics and related impacts

GS E&C established and implemented plans for each topic to appropriately respond to identified material topics in a way that reflects stakeholders' expectations, and detailed response activities and performance on material topics were disclosed in the Sustainability Commitment in the report.

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

GS E&C implemented the process to identify and evaluate the impact on organizations and stakeholders related to material topics, and from a sustainability perspective, the impacts determined on material topics were disclosed in the report.

## Key areas for ongoing development

To the extent that the results of the verification are not affected, the following comments were made.

- It is recommended to establish a system to collect and manage performance data for each area of economy, society, and environment on a regular basis to manage performance against targets on a regular basis, and to integrate it with the internal audit process for data reliability management.
- GS E&C has selected 7 major issues according to the materiality assessment process and is making efforts to faithfully include them in the report. In addition, we recommend that future reports provide wider information in relation to health and safety management activities identified as material issues.
- In each area of the report, relatively positive aspects are explained and efforts to further develop are expressed. At the same time, it will help to improve the balance of reporting if

issues with poor performance are identified and specific plans for resolving them are specified.

## Statement of independence and competence

The assurer is an independent professional services company that specializes in Quality, Health, Safety, Social and Environmental management with almost 120 years history in providing independent assurance services. No member of the assurance team has a business relationship with GS E&C. We have conducted this verification independently, and there has been no conflict of interest. All assurers who participated in the assurance have qualifications as AA1000AS assurer, have a lot of assurance experience, and understand the BSI Group's assurance standard methodology.

## Evaluation against GRI 'In Accordance' Criteria

The assurer confirmed that this report was prepared in accordance with the GRI Standards Core Option and the disclosures related to the following Universal Standards and Topic-specific Standards Indicators based on the data provided by GS E&C.

### [Universal Standards]

Organizational Profile (102-1~13), Strategy (102-14), Ethics and Integrity (102-16), Governance (102-18), Stakeholder Engagement (102-40 to 44), Reporting practice (102-45 to 56), Management Approach (103-1 to 3)

### [Topic-specific Standards]

- Economic: 201-1, 205-2
- Environmental: 301-1, 302-1, 303-5, 305-1~4, 306-2, 307-1
- Social: 403-1, 403-5, 403-9, 404-1~3, 405-2, 412-1, 413-1

29 June 2021  
BSI Group Korea, Managing Director

K. S. Song





# GHG Verification



## GHG Verification Summary

GS E&C Corporation | 33, Jong-ro, Jongro-gu, Seoul, Korea

### 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 2020 ("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 2020 ("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 2020
- Organizational boundary for reporting:

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	131 sites : in dept. of Architecture, Infra, Plant business division	Desk Review, Site visit, Activity data verification
Overseas construction sites	14 sites : in dept. of Architecture, Infra, Plant business division	Desk Review, Activity data verification

### Verification Approach

The verification has been conducted by KSA from 25th Feb. through 21st Apr. 2021 and performed in accordance with the verification principles and tasks outlined in ISO 14064-3:2006, IPCC Guideline : 1996/2006, Greenhouse Gas and Energy Management Scheme Guideline : 2020-3. 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 2020 were confirmed as below;

(Unit : ton CO<sub>2</sub>-e)

Organizational Boundary	Direct emissions (Scope 1)	Indirect emissions (Scope 2)	Other indirect emissions (Scope 3)	Total emissions
Domestic	38,422	70,260	60,161	168,843
Overseas	11,044	950	26,910	38,904
<b>Total emissions</b>	<b>49,466</b>	<b>71,210</b>	<b>87,071</b>	<b>207,747</b>

※ 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 tCO<sub>2</sub>  
 ※ Total emissions = scope 1 + scope 2 + scope 3

Apr 23, 2021

EAN STANDARDS ASSOCIATION



# Membership & Awards

## Membership Status

Division	Name of Association
Plant	Korea Plant Engineering Association, CII (Construction Industry Institute), International Contractors Association of Korea, Korea Institute of Plant Engineering & Construction, Korea Plant Industries Association, Korea PDS, AACE International, Gasification Technology Council, IRCA (International Register of Certificated Auditors), Korea Gas Union, Korean Society for Fluid Machinery, Korean Society of Water and Wastewater, Korean Society of Environmental Engineers, The Membrane Society of Korea, Korean Society on Water Quality, Korean Society of Water Science and Technology, Korean Society of Combustion, Korean Society of Thermal Environmental Engineers, Korean Organic Resource Recycling Association, Korean Society of Waste Management, Society of Odor Research and Engineering, Korea Associate Council of Incineration Technology, Korean Institute of Electrical and Electronic Material Engineers, Korea Association of Waste to Energy Technology, Korea Water and Wastewater Works Association, Korean Institute of Chemical Engineers, Korean Society of Atmospheric Environment, Korean Society of Soil and Groundwater Environment, Korea Municipal Waste Engineering Association, Korea Electric Association, KEPIC, Korea Institute of Project Management Technology, Korea Wind Energy Industry Association, Korea District Heating & Cooling Association, Korea Atomic Industrial Forum, Korea Nuclear Society, Korea Nuclear Association for International Cooperation, Korea Railway Signal Engineering Association, KRETA, Korea Information & Communication Contractors Association, Korea Software Industry Association, Korea Urban Railway Association
Infrastructure	Korean Society of Transportation, Korea Urban Railway Association, Korea Water Resources Association, Korean National Committee on Large Dams, Korean Geosynthetic Society, Korea 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 Engineering, Korean Geotechnical Society, Korean Society for Rock Mechanics, Korean Tunneling and Underground Space Association, Korea Concrete Institute, Korean Society of Steel Construction, Korea Society of Disaster & Security, The Construction Management Association of Korea
Architecture · Housing	Korean Institute of Illuminating and Electrical Installation Engineers, Korea Institute of Construction Engineering and Management, Korea Institute of Building Construction, The Society of Air-conditioning and Refrigerating Engineers of Korea, Korea Green Building Council, Korean Association of Air Conditioning Refrigerating and Sanitary Engineers, Korea Society of Geothermal Energy Engineers, Korea Council of Tall Building and Urban Habitat, Korea Air Cleaning Association, Korea Institute of Ecological Architecture and Environment, Korean Association for Energy Service Companies Korean Institute of BIM, Korea Institute of Architectural Sustainable Environment and Building Systems, Korean Institute of Landscape Architecture, Korea Housing Association, Korea Remodeling Association, Architectural Institute of Korea
Advanced Technology	Korea Engineering & Consulting Association, Korea Industrial Technology Association, The Korea Construction New-Technology Association, Building SMART Korea, Korean Geo-environmental Society, Korean Society of Hazard Mitigation, Korean Society for Noise and Vibration Engineering, Earthquake Engineering Society of Korea, Korean Society of Ecology and Infrastructure Engineering, Korea Wind Energy Association, Computational Structural Engineering Institute of Korea
Others	Korea Business Council for Sustainable Development, Korea Federation of Construction Contractors, UN Global Compact Network Korea, The Federation of Korean Industries, Korea Chamber of Commerce and Industry, Korea IR Service, Korea Listed Company Association, Seoul Patent Attorney Association, American Bar Association, Competition Federation, KOSHA18001 Society, Construction Safety Manager Committee, Construction Safety Manager Association, Korea Society for Construction Quality, Korea Construction Quality Association, The Society for Environmental Construction, Construction Association of Korea, Korea Construction Engineers Association, Korea Specialty Contractors 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 & Economy Research Institute of Korea



Awards Won in 2020

No.	Date	Name of awards	Name of prize	Host
1	March 25	2020 Overseas Construction Awards	Best Plant	Money Today
2	May 26	2020 Housing Service Awards	Best Design	Money Today
3	May 28	2020 Apartment Brand Awards	Best Brand	The Asia Business Daily
4	June 12	2020 Korea Apartment Awards	Best Brand	Korea Business News
5	June 28	2020 Best Apartment Awards	Grand Prize	Maeil Business News Korea
6	June 26	2020 Wellbeing Apartment Awards	Eco-Friendly Prize	Hankyung Business
7	July 7	Housing Culture Awards in the First Half of 2020	Best Brand	The Korea Economic Daily (Hankyung)
8	July 17	24th Best Apartment Contest	Grand Prize in Large-Sized General Apartments	Maeil Business News Korea
9	August 20	2020 Best Housing	Grand Prize	Money Today
10	September 24	15th Asia Construction Awards	Grand Prize in Win-Win Growth	The Asia Business Daily
11	September 29	BCA Awards 2020, GGBC	Star Champion	Singapore BCA
12	October 22	2020 Asia Today Green Construction Awards	Grand Prize in IoT	Asia Today
13	October 21	2020 Eco-Friendly Construction Industry Awards	Grand Prize in Smart Apartment	JoongAng Ilbo
14	October 26	2020 Aju Business Daily Construction Awards	Grand Prize in Technology Innovation	Aju Business Daily
15	November 18	2020 Smart Construction Awards	Grand Prize in Social Contribution	etoday
16	November 30	2020 Housing/Urban Environment Awards	Best Brand	Mediapen
17	November 30	2020 Green Housing Awards	Award from the Minister of Land, Infrastructure and Transport	Hankook Ilbo
18	December 1	2nd Social Contribution Awards	-	The Financial News
19	December 2	11th Korea Green Construction Awards	Grand Prize in Green Construction	Seoul Shinmun
20	December 4	Housing Culture Awards in the Second Half of 2020	Apartment	The Korea Economic Daily (Hankyung)
21	December 4	The Korea Herald, Best Housing 2020	Best Brand	The Korea Herald
22	December 9	16th Korea Civil Engineering Award	Overseas Civil Engineering Facility	Maeil Business News Korea
23	December 10	Korea Construction Awards 2020	Best Civil Engineering Work	The Dong-A Ilbo
24	December 11	2020 Korea Color Studies Awards	Prize from the President of the Korea Institute of Design Promotion	Korea Society of Color Studies
25	December 17	2020 e Daehan Economy Construction & Real Estate Awards	Civil Engineering Prize	e Daehan Economy



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