



EXPLORING NEW FRONTIERS

GS E&C Integrated Report 2019

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GRAN SEOUL, 33 Jong-ro, Jongno-gu, Seoul 03159
Tel. +82-2-2154-1574
www.gsenc.com



GS E&C, Value Created by Taking on New Challenges

Exploring New Frontiers

With the business philosophy, "Dreaming about Tomorrow with Clients, Creating New Value for Them," GS E&C is creating value that can be shared amongst our stakeholders and society.

About this Report

This is the ninth integrated report published by GS E&C.

GS E&C is rooted in the belief that value for our society and environment should be pursued in conjunction with stable and robust financial outcomes through business activities. Our responsibilities as a global engineering and construction (E&C) company and commitment to sustainability management are carried out through our company-wide VISION 2020 GOAL, "Sustainable Global Company."

GS E&C publishes an integrated report each year to transparently disclose both financial and non-financial information to all stakeholders. This report covers the performance of the head office and 190 business sites in Korea and abroad as well as the major parts of the supply chain. The reporting period is from January 1 to December 31, 2019. However, for long-term projects, partial performance, and action plans for 2020 as well as the previous performance have been included as needed to ensure continuity of the projects.

We have based the financial performance information of this report on K-IFRS (Korean version of the International Financial Reporting Standards). In an effort to enhance the integrity of this report, non-financial information has been jointly reported with our data for the Dow Jones Sustainability Index (DJSI). The reporting standards are based on the GRI (Global Reporting Initiative) Standards Guidelines Core Option and the modifications made from the time of the previous report are separately explained.

For any questions about this report, please contact the Planning & Analysis Team.



GRAN SEOUL, 33, Jong-ro, Jongno-gu, Seoul 03159
Tel. 02-2154-5122
E-mail. jaan@gsenc.com
www.gsenc.com

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CEO Message



June 2020
GS E&C
CEO

Byeong-yong Lim

임병용

〰

Dear Stakeholders,

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

〰

Having celebrated the 50th anniversary last year, GS E&C is making the utmost efforts to lead another 50 years of sustainability not only with our competitive power, but also through innovation and change. We have solidified our position in the domestic and international construction market based on the experience and competency in all business areas we have built over the years. In addition, we have embarked upon a strategic shift to foster future growth engines by discovering new business areas ahead of market trends.

In 2019, especially, GS E&C successfully entered the domestic and international photovoltaic energy market to keep pace with the trend of the renewable energy era. Based on this accomplishment, we are promoting a range of decentralized energy projects. At the same time, GS E&C is performing as a leader in the smart home market by completing the independent housing AI platform development in preparation for the digital era. We produced remarkable achievements in the volatile housing market with our top-tier technological power and the strength of our apartment brand, Xi.

GS E&C is committed to responsible management by creating not only financial, but also environmental and social value. In response to the acceleration of global climate change, we renewed our greenhouse gas emission reduction goal of 31.86% by 2050 in line with the national and global trend. To reduce environmental impact generated in construction sites, GS E&C is also performing environmental value creation activities, which include minimizing particulate matter generation, improving the waste recycling rate and developing eco-friendly technologies.

GS E&C is pursuing collaboration and fair management practices for all members of society including our stakeholders. In 2019, the entire management led the way in promoting safety as a core value. All our employees and partners dedicated joint efforts to creating a culture of safety and safe environment at worksites. In addition, we focused on bolstering employees' capabilities creatively and swiftly respond to the changes in the construction market. We established a flexible work environment through new attempts including the autonomous training program and changes in the way we address one another. GS E&C will strive further to create our own culture.

GS E&C's sustainability management performance is demonstrated to our stakeholders through economic, environmental, and social value creation. We are also being globally recognized by inclusion in the Dow Jones Sustainability Asia Pacific Index for ten years in a row. I would like to ask for your continued support and encouragement so that GS E&C can continue advancing as a sustainable company without resting on our achievements thus far.

Thank you.

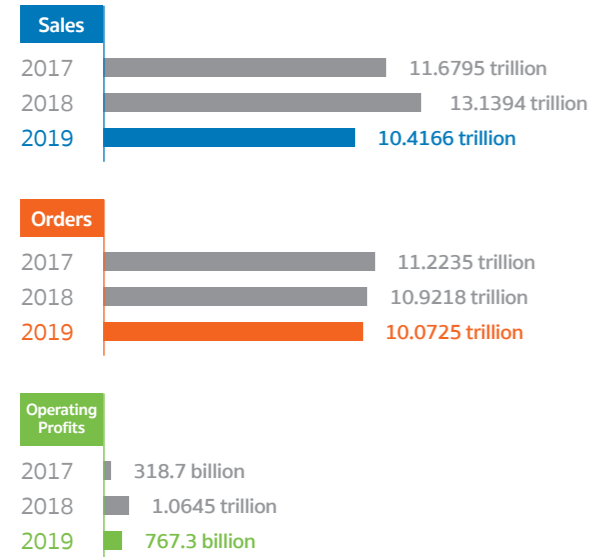
Business Overview

Established under the name "Lucky Development Co., Ltd." on December 19, 1969, GS E&C changed its title to the current name in March 2005. We prioritize the value of our customers in all of our business sectors including plants, power, environment, infrastructure, architecture, and housing and are continuously striving to be the best partner and the best company. GS E&C will be reborn as a Global Top Tier and the leader of the construction industry that creates new value for the sustainable world.

General Status (Consolidated basis as of December 2019)

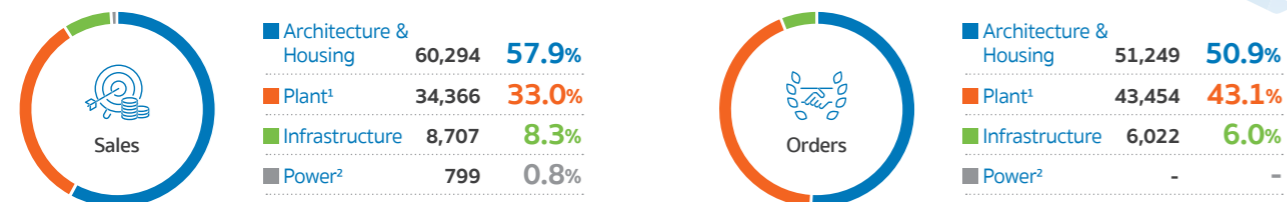
Company Name	GS E&C
Establishment Date	December 19, 1969
Total Assets (KRW)	13.1712 trillion
Credit Rating	A0
Business Sites	190
Employees	6,672 persons

* No. of business sites not inclusive of those of design and engineering segments



Consolidated Sales & Orders by Business Sector in 2019

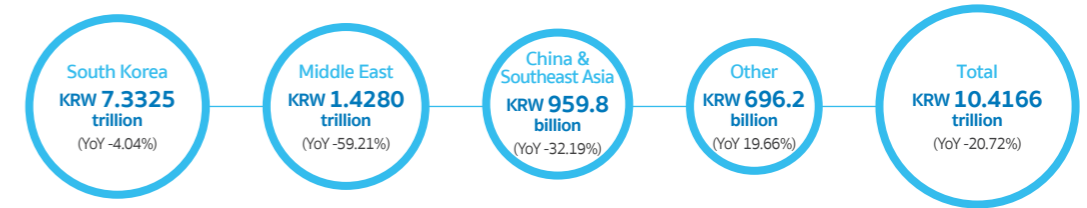
(Unit: KRW 100 million)



¹ Plant sector sales include distributed energy sector sales ² Other: Resort business, etc.

2019 Sales by Major Market

*YoY: Year on year



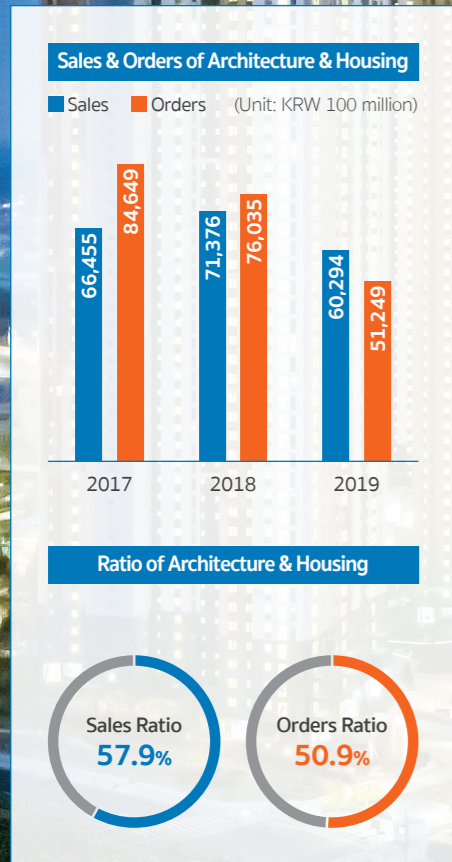
24 Overseas Subsidiaries & Branches (as of March 2020)

- Overseas Branches** (10 branches across 10 countries): Algeria, Bahrain, China, Indonesia, Italy, Kazakhstan, UAE, Saudi Arabia, Singapore, Vietnam
- Overseas Subsidiaries** (14 subsidiaries across 11 countries): Australia, China, India (2), Indonesia, Philippines, Poland (2), Saudi Arabia (2), Spain, UAE, U.K. Vietnam

Architecture & Housing

Areas of Business

Residential facilities, business facilities, education/research/hospital facilities, culture/leisure/sports/clean room/production facilities, logistics/remodeling, domestic and overseas development projects



Overview

GS E&C constructs all types of buildings ranging from residential and commercial buildings to production facilities. With the new industrial paradigm of eco-friendliness and energy savings, the scope of housing has expanded to cover not only residential, but also business and lifestyle spaces. With extensive experience and technological power, GS E&C records top-level sales and revenues in Korea's architecture and housing sector and also responds actively to overseas demand. GS E&C is equipped with capabilities to implement high-rise and complex projects and overseas projects with technical support from the engineering organization.

Looking Ahead

Architecture and the housing market is highly influenced by domestic and international economic conditions and government policies. In the architecture industry, the scale of orders from public and private sectors has slightly decreased due to economic uncertainties and stagnation. However, with our expertise and technological power, GS E&C expects continued growth in the office and plant facility (clean rooms, GMP facilities¹) fields. The housing industry is also significantly affected by the government's real estate regulatory policies. GS E&C's housing sector, however, produces stable profitability based on the high market liquidity and purchasing power of actual users in addition to the trend of low interest rates. The housing supply expansion policy, which the government has announced recently, is expected to serve as a positive factor in terms of our new business opportunities. Other government policies to promote market restructuring centered on the actual users will also provide positive effects to our business by enabling us to secure customers stably.

¹ Good Manufacturing Practice Facility: A health functional food manufacturing plant awarded with Good Manufacturing Practice (GMP) certification, a work management and hygiene control standard for manufacturing of products with excellent quality guaranteed



- P.06 Gran City Xi (1st, 2nd)**
Project Period: 2016.10~2020.10
Order: KRW 1,574.9 billion
- P.07 1. Brighton (Yeuido MBC)**
Project Period: 2019.07~2023. 04
Order: KRW 465.8 billion
- 2. LG Science Park West (DP2, stage 2)**
Project Period: 2019.12~ 2024.12
Order: KRW 250 billion estimated



Xi, Korea's top premium apartment brand

"Xi," which stands for "eXtra Intelligent," implies extraordinary intellect and symbolizes the finest apartment as a choice for those who are always one step ahead.

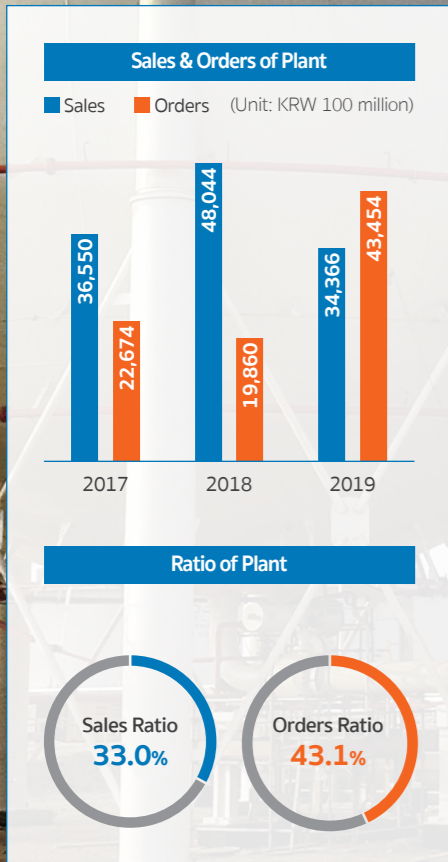
Going beyond the concept of mere housing, Xi is a value-oriented space of high elegance that integrates value and sensitivity. New spatial concepts are applied to the creation of a new set of values attained through the merging of aesthetics, culture, and high technology. GS E&C provides a luxurious lifestyle and a high-level cultural experience with attentive and courteous services that show residents the respect and high-quality residential culture they deserve.



Plant

Areas of Business

Oil, gas, petrochemical plants and environmental projects



Overview

Plant construction is a complex business that combines the basic and detailed design of oil, gas, petrochemical and environmental (waste treatment and water treatment) facilities, with the procurement of materials and the final completion of construction as well as all the services encompassing feasibility studies, maintenance and repairs. The scale of orders is determined by the plant construction plans of countries holding crude oil and gas and is affected by Korea's financial policies and investment/construction regulations. GS E&C secures competitiveness in the plant business field based on various domestic and international construction experience and accumulated technology.

Looking Ahead

Despite the continued stagnation of economic growth, investment in plant facilities will be maintained at a steady flow according to the energy and industrial facility expansion plans of oil-producing countries in the Middle East and emerging markets in Asia. While the demand for petrochemical development is being maintained in the major markets of Asia, the Americas and the Middle East, investment is expected to increase in the Southeast Asian region.

GS E&C, by focusing marketing capabilities, is striving to discover and win contracts for development projects at the same time as proposing new projects accompanied with investment and financial support beyond the level of simple EPC¹ projects. At the same time, we plan to expand our portfolio by developing new plant business areas for risk diversification. GS E&C will increase market share by promoting collaboration with companies holding source technologies and outstanding competitive power.

¹EPC: A project to comprehensively provide engineering, procurement and construction services



- P.08** Rabigh II CP 3/4 (Saudi Arabia)
Project Period: 2012.06~2017.07
Order: USD 1.377 billion
- P.09** 1. Guangzhou D-Project Industrial Wastewater GP3 (China)
Project Period: 2017.07 ~ 2020.04
Order: USD 320 million
- 2. UHV (Thailand)
Project Period: 2012.10~2017.01
Order: USD 640 million



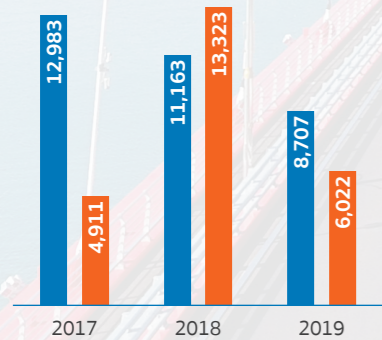
Infrastructure

Areas of Business

Transportation infrastructure, such as roads, rapid-transit railways, urban railways, ports, airports, underground roadways, highways and bridges, water infrastructure (dams), renewable energy (photovoltaic and wind power generation), contract and PPP projects

Sales & Orders of Infrastructure

■ Sales ■ Orders (Unit: KRW 100 million)



Ratio of Infrastructure



Overview

Our infrastructure business aims to create new spaces in our natural environment for the public interest. GS E&C builds facilities that serve as a foundation for other businesses. Compared to other industries, our infrastructure business produces larger forward and backward effects, such as in terms of production, employment and added value creation. Therefore, it is utilized as a means for business adjustment. In 2019, Vam Cong bridge (Vietnam) and T203 (Singapore) constructed by GS E&C were opened. GS E&C is currently undertaking other large-scale overseas infrastructure projects as well as road and underground roadway construction projects in Korea. With extensive experience in the construction of infrastructure, such as roads, bridges and railways, GS E&C has built competitive power for large-scale infrastructure construction and operations using private capital.

- P.10 Gohyun - Hadong IC 2 National Highway**
Project Period: 2009.10.19 ~ 2018.09.08
Order: KRW 196.5 billion
- P.11 1. Friendship Bridge (Myanmar)**
Project Period: 2019. 04 ~ 2022. 06
Order: KRW 174.2 billion
- 2. HCMC MRT Line 1 CP 2 (Vietnam)**
Project Period: 2012. 07 ~ 2019. 12
Order: KRW 402.8 billion



Looking Ahead

In Korea's infrastructure market, orders from local governments are expected to increase in accordance with the government's balanced national development strategy and preliminary feasibility study exemption policy in addition to large-scale private-funded SOC¹ projects in line with the increased SOC¹ budget and shift to the private-funded project activation policy. The scale of the global construction market is also expected to expand in line with the implementation of economic policies to increase transportation infrastructure construction and trade in developing countries and based on the demand for infrastructure to replace old transportation infrastructure in advanced countries of Europe, North America and the Pacific region and to promote energy efficiency improvement (International Contractors Association of Korea, 2020).

GS E&C's infrastructure sector is participating in ODA (Official Development Assistance) and EDCF (Economic Development Cooperation Fund) projects in developing countries such as Myanmar, Bangladesh and the Philippines, in addition to Singapore and Vietnam, which have been our key overseas markets. We will also promote a range of D&B² and PPP³ projects for large-scale transportation infrastructure expansion in Australia to resolve the issue of traffic congestion in city areas and replace old infrastructure. In addition, GS E&C is planning to expand our business area to financial arrangement targeting Tanzania in order to ensure accelerated connection among African countries and supplement their insufficient financial resources in comparison to the demand for infrastructure that is increasing in line with the country's economic growth factor in terms of our new business opportunities. Other government policies to promote market restructuring centered on the actual users will also provide positive effects to our business by enabling us to secure customers stably.

¹ SOC (Social Overhead Capital): This is public capital raised through administrative and government enterprise investments. In Korea, SOC projects are being expanded centered on the GTX (Great Train Express), underground roadways, urban railways, etc.

² Design&Build: This is a project delivery system in which design and construction services are contracted by a single entity.

³ Private Public Partnership: This is a project to provide and operate public services through partnership between the government and private enterprises.

Distributed Energy

Areas of Business

Thermal/nuclear/renewable energy, power transmission



Overview

The decentralized energy sector comprises of the power generation business, which aims at supplying electricity generated through the construction of power generation facilities, key national infrastructure, to electricity service providers, and the power transmission business, which is to play the role of connecting power generated at power plants to electricity consumers. GS E&C is also promoting business expansion by active development and investments in renewable energy, which draws attention as a response to the issue of global climate change.

Looking Ahead

The overseas power generation market is displaying a trend of increased orders for renewable energy projects, such as of photovoltaic and wind power generation plants. In Korea, an increase in orders for LNG and renewable energy projects is also expected as a result of the government's nuclear decommissioning policy and continuous decrease of coal-fired power generation. With the paradigm shift from traditional power generation using fossil fuels to decentralized power generation using renewable energy taking place rapidly, we expect that opportunities for renewable energy projects will increase.

As for the power transmission market, the increased power demand in emerging and developing countries in the Middle East, Asia and Africa will lead to continuous orders. In addition, we expect an increase in the number of interconnection projects¹ for power network connection between countries. In Korea, the IT-applied power trade and virtual power plant markets are forecast to grow in line with an increase in decentralized power demand. Keeping pace with the trend, GS E&C's decentralized energy sector has secured competency for renewable energy project development. Based on our project development expertise and regional networks established thus far, we are promoting to discover prospective projects in the emerging markets of Asia and Africa as well as in Korea.

¹ Interconnection projects: Projects related to establishment of networks that facilitate information and signal delivery.

P.12 Anyang Combined Cycle Power Plant Unit 1 & 2 (Anyang, Korea)
Project Period: 2015.09~2021.12
Order: KRW 599.6 billion

- P.13**
1. Dangjin Biomass Power Plant Unit 2 (Dangjin, Korea)
Project Period: 2018.03~2021.01
Order: KRW 251.2 billion
 2. 400kV Patuakhali~Gopalganj Transmission Line Project (Bangladesh)
Project Period: 2017.05~2020.06
Order: KRW 221.9 billion
 3. Zakarpattia Photovoltaic Power Generation Project (Ukraine)
Project Period: 2020.03~2039.12
Order: KRW 58.2 billion

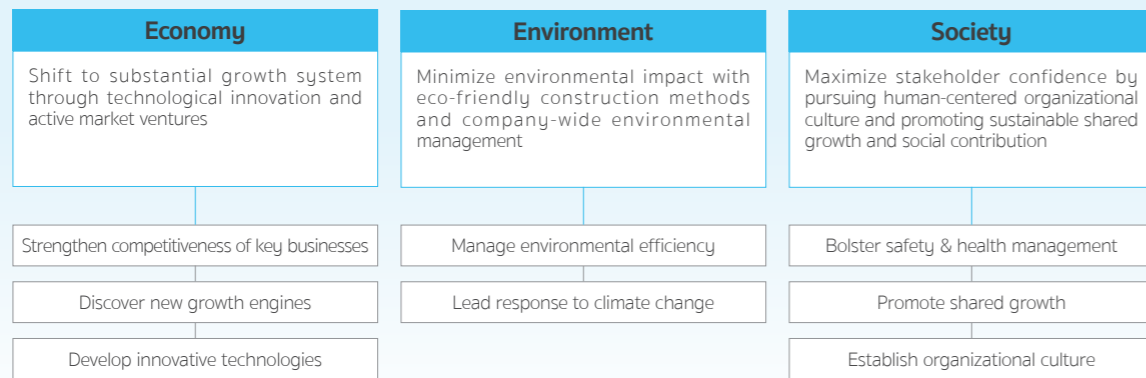
Sustainability Strategy & Milestones

GS E&C's management philosophy is founded on the strong commitment to achieve sustainable development through social responsibility. GS E&C has established a company-wide sustainability management strategy to provide the best value to not only customers, but all of our stakeholders. The strategy is pursued by our subsidiaries and partners as well as the top management and dedicated organizations. Under the corporate vision to become a "Sustainable Global Company," GS E&C manages the economic, environmental and social value categories created by our entire business process in accordance with our strategy system. GS E&C will continue the effort to achieve our sustainable development and that of society as a whole by actively communicating with a wide range of stakeholders including our business partners and members of society.

Strategy

Vision • Sustainable Global Company

Mission • To pursue growth by creating sustainable value with stakeholders



Sustainability Players



¹ Dow Jones Sustainability Index: Global sustainability performance evaluation indices operated by S&P Global
² Carbon Disclosure Project: Global index evaluating environmental reporting and risk management, such as response to environmental issues and greenhouse gas emissions, climate change, water and forests management

Milestones

**1 Feb. 2019
Green Technology**
Development of Korea's first ventilation-type air purification system (Xi S&D joint research)

**2 Jun. 2019
Innovative Safety**
Achieved zero accidents in over 20 million man-hours at Singapore's T301

**3 Aug. 2019
Financial Performance**
Won Saudi PRC 2020 contract (KRW 167.5 billion)

**4 Sep. 2019
Sustainability Management**
Included to DJSI Asia Pacific for 10th consecutive year

**5 Nov. 2019
Smart Technology**
Established the "Xi AI Platform"

**6 Dec. 2019
Green Energy**
Launched solar power plant business in India

**7 Jan. 2020
New Frontiers**
Launched battery recycling business in Pohang

¹ Dow Jones Sustainability Index: Global sustainability performance evaluation indices operated by S&P Global
² Carbon Disclosure Project: Global index evaluating environmental reporting and risk management, such as response to environmental issues and greenhouse gas emissions, climate change, water and forests management

Sustainable Value Creation

Input

- Capital: KRW 3.2397 trillion
- R&D costs: KRW 48.3 billion
- Investment in training: KRW 1.74 billion
- Safety Innovation School participants: 5,905 persons
- Safety Traffic Signal inspection and assessment: 399 times
- Raw materials purchase: KRW 1.9638 trillion
- Amount of energy used: 4,020 TJ
- Amount of water used: 2,758,690m³
- Management support fund for partners: KRW 26.6 billion
- Application for house preview
- Operating "Xi TV," a customer communication channel
- Investment in social contribution activities: KRW 5.24 billion

Building capacity with innovative technologies and key personnel

Financial Growth

- Sales: KRW 10.4166 trillion
- Operating profits: KRW 767.3 billion
- Basic earnings per share: KRW 5.6 billion

Reliable completion and customer-centered service

Talent & Corporate Culture Enhancement

- Employee commitment: 60.4 points
- Started "Study with ME" program

R&D Innovation

- Technological development: 28 cases
- Obtained 8 new patents, preparing for commercialization
- Completed "Xi AI platform" establishment

Safe and eco-friendly construction sites



Green Construction

- Reduction of greenhouse gas emissions by 8,550 tCO₂-e
- Waste recycling rate: 97%
- Wastewater recycling rate: 27.6%

Customer Satisfaction

- Xi resident customer satisfaction: 73.6 points
- Ordering customer satisfaction: 87.3%
- Korea SNS Awards 2019 (Grand Prize in Construction Category)

Securing competitive power through partnerships



Competitive Advantage

- Orders: KRW 10.072 trillion
- Entered overseas renewable energy market (photovoltaic power generation project in Ukraine)

Trusted Partnership

- Highest level in shared growth assessment
- Collaboration Evaluation Score 99.5 (out of 100)

Safety First

- 1 industrial safety-related accident
- 4 construction/technical safety-related accidents

Contributing to sustainable social development



Education Empowerment

- Benefit recipients: 7,653 persons
- Dreams and Hopes Study Room No. 290 (cumulative)
- Playground of Dreams and Hopes No. 30 (cumulative)

UN SDGs Commitment

- Started "GS Fun Computer Class" (near Nha Be, Vietnam)

GS E&C's Six Values

- Financial Value
- Industrial Value
- Intellectual Value
- Environmental Value
- Human Value
- Social Value



Our Fundamentals

Substantial Fundamentals of GS E&C

Celebrating GS E&C's 50th anniversary, GS E&C will lead company and society together in a new half-century, with strong governance system and Jeong-Do Management.

- 20 Governance
- 22 Ethics & Compliance
- 24 Risk Management

Governance

Governance System

Governance System for Responsible Decision-making

GS E&C established a governance system based on transparency, soundness and safety and is operating the system with the aim to improve the corporate value in the long run. GS E&C's governance was established centered on the BOD, the highest decision-making body. By operating subcommittees under the BOD, we are improving the expertise and efficiency of the BOD's decision-making process.

Subcommittees are organized with outside directors as key members. The Audit Committee and Outside Director Candidate Recommendation Committee are operated within the BOD and the Sustainability Management Committee and the Committee on Internal Transactions are operated as external organizations of the BOD. Each committee comprises of outside directors as the majority of the members to ensure independence. All members of the Audit Committee and the Sustainability Management Committee are outside directors.

¹ Article 542-8 of the Commercial Act

BOD Operations

Ensuring BOD Independence and Diversity

GS E&C has a total of seven board members, which consist of two inside directors, four outside directors and one non-executive director. The roles of the chairman of the BOD and CEO of GS E&C are currently separated. To ensure independence of the BOD, the ratio of outside directors is kept at 57.1%, which meets the condition for a majority of board directors to be outside directors¹. The Outside Director Candidate Recommendation Committee carefully reviews the candidate pooling and recommends candidates at the general shareholders' meeting in order to ensure not only independence, but also expertise and diversity of the BOD. To elect executives who meet the criteria specified in the Commercial Act and are also capable to improve the company's value and protect shareholders' rights and interests, the candidates' qualifications are strictly reviewed. Even the candidates' sex, ethnicity and nationality are taken into consideration in an effort to enhance the diversity of the BOD members. For the final candidates, information about their major career titles and relationships with the majority shareholder is provided in advance to ensure a fair election process. Outside directors are elected based on their expertise and professional experience in accounting, finance, law, business management and the construction industry. To better facilitate outside directors to concentrate on their duties, restrictions are set in place for them to concurrently hold more than two jobs including the position as an outside director of GS E&C.

BOD Members (As of December 2019)

	Name	Major Career Titles	Committees		External Organizations	
			Audit Committee	Outside Director Candidate Recommendation Committee	Sustainability Management Committee	Committee on Internal Transactions
Internal Directors	Chang-Soo Huh	Chairman of GS E&C		•		
	Byeong-Yong Lim	CEO & President of GS E&C (Vice Chairman)				•
Other Director	Tae-Soo Huh	CEO of GS Home Shopping				
Outside Directors	Jai-Hoon Han	Former CEO of LS Industrial Systems	•		•	•
	Sang-Myung Choung	Former 35th Public Prosecutor General	•	•	•	
	Kyung-Sik Kim	Former Vice Minister for Land, Transport & Infrastructure		•	•	•
	Jin-Bae Kim	Professor at Korea University Business School (present)	•		•	

※Average BOD Tenure: 5.3 years

BOD Performance

BOD Activities

BOD meetings are divided into regular and temporary meetings. Regular meetings are held seven times a year, while temporary meetings are held as needed. Resolutions are passed with the attendance of the majority of fixed seats and approval by the majority of the attending directors. BOD members strive to contribute to mid- to long-term value creation by accounting for ESG (environmental, social, governance) factors in their decision-making process. Furthermore, through the operation of 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.

Strengthening Efficient BOD Operations and Expertise

Annual BOD schedules are established and announced at the beginning of each year to increase the attendance rate of board members. In addition, at the end of each meeting, the schedule of the subsequent meeting is shared among the members. The meeting convocation and issues on the agenda are notified one - two weeks in advance, which is significantly earlier than the minimum of 12 hours specified in Article 10 of the BOD Operating Regulations, to provide the directors with a sufficient amount of time for preparation. The agenda materials for the BOD and subcommittee meetings are provided for review in advance and additional briefings are also held as necessary. In addition, information on major issues of the company is provided as frequently as necessary in order to support the efficient operation of the BOD. BOD members, in particular, visit domestic and international worksites in person to improve their understanding of the company's businesses. In 2019, the BOD visited a new project site in Vietnam. Furthermore, to continuously bolster the expertise of the BOD, educational programs including lectures by external organizations, are organized. In 2019, a total of 20 training sessions were held, which included special education on the Act on External Audit of Stock Companies and the internal accounting management system operation plan targeting Audit Committee members as well as internal training. In assistance of the BOD, an executive office of professionals can be assembled and operated as needed as well.

BOD Operations & Performance (Unit: Meetings, cases, %)

	2017	2018	2019
BOD Meetings	11	8	9
Agenda Deliberated by BOD	21	15	19
Average Attendance Rate	91	91	92

Increase in Governance Evaluation Rating

Since 2011, GS E&C has been receiving ESG evaluations by the Korea Corporate Governance Service. The ESG index evaluates a company's environmental and social performance as well as governance, excluding financial performance, which helps in identifying the company's sustainability management level. In 2019, GS E&C's evaluation results improved across the categories of comprehensive evaluation (A), governance (A), social (A) and environmental (B+).

Governance Evaluation Results (Unit: Rating)

	2017	2018	2019
Comprehensive	A	B+	A
Governance	B+	B+	A
Social	A	B+	A
Environmental	A	A	B+

Evaluation Agency: Korea Corporate Governance Service

BOD Performance Evaluation and Remuneration

GS E&C conducts an evaluation on the BOD and its committees in order to ensure more active BOD operations.¹ The evaluation is conducted annually as an internal self-evaluation on four areas consisting of the role of the BOD, responsibilities and obligations, BOD composition and independence. The maximum remuneration for outside directors is determined annually at the shareholders' meeting. Together with the remuneration status of all directors and auditors, the remuneration amount of executives exceeding KRW 500 million per individual is disclosed through the quarterly, half-yearly and annual business reports. In 2019, the average annual salary of employees was 4.76% of the annual CEO compensation. As such, the difference in remuneration between the CEO and executives/employees is also disclosed transparently.

¹ Article 22 of the BOD Operating Regulations

² Article 388 of the Commercial Act and Articles of Association

BOD Self-Evaluation Results (Unit: Points, out of 5)

	2017	2018	2019
Self-evaluation Score	4.4	4.7	4.7

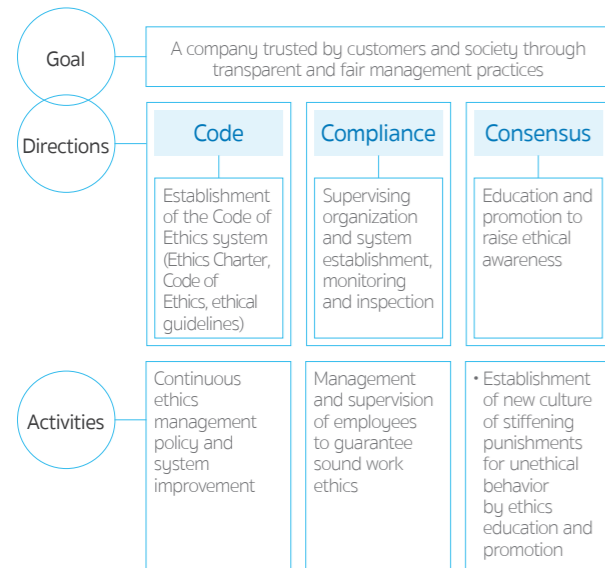
Ethics & Compliance

Ethics Management System and Operation

Practice-oriented Ethics Management System

GS E&C established the ethics management system under the three directions of 'Code, Compliance and Consensus'. 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.

GS E&C Ethics Management System



Ethics Management Centered on Ethics Committee

The Ethics Committee is an organization that assists the CEO in the making of ethical decisions. 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 inspects ethics management promotion activities and monitoring results. In 2019, the Ethics Committee meeting was held twice in the first and second half of the year. In particular, the committee focused on discussing the plans for effective ethics education and improvement of execution based on the results of the ethics management survey conducted in the first half of the year. The committee is making efforts to establish an ethics management culture by improving the ethics management system on a regular basis, monitoring and inspecting cases of ethical violations and providing ethics education and promotion programs in addition to implementing response plans.

Ethics Management Promotion

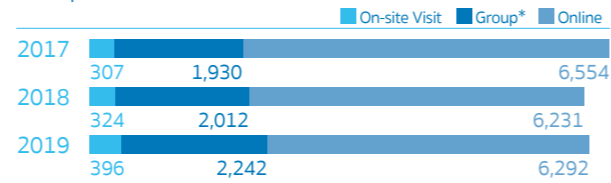
Establishing Ethics Management Culture from Individual Level

GS E&C strives to establish an ethical culture to help employees familiarize themselves with individual roles and responsibilities and learn how to respond appropriately to possible ethical dilemmas they may face. To increase employees' awareness of ethics management and encourage their autonomous participation, we collect ethics pledges from employees each year. In 2019, all employees showed their commitment to participate in ethics management by submitting digital signatures on the ethics pledge. Ethics education targeting employees is provided through various channels. On-site visit training, in particular, is provided to both GS E&C employees and those of partners working in the respective sites to prevent cases of ethical violations within our supply chain.

Ethics Education Curriculum

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

Participation in Ethics Education (Unit: Persons)



*Corrected group training participants of 2017 - 2018 in the 2018 Integrated Report

Strengthening Ethics Management of Partners

GS E&C prevents unfair business practices of partners through the ethics management system. The commitment to the establishment of sound transaction practices with subcontractors is part of the Code of Ethics and the related regulations. Partners are also required to submit the Corporate Integrity Pledge when signing a transaction contract with us. In addition, GS E&C operates an Online Company Reporting & Ethics Misconduct Channel via the website to receive reports on unfair demands and irregularities committed by employees. The informants are not tracked down for their protection, and thus it cannot be identified if a report is from a partner company. However, we investigate all reports received and swiftly respond to reports that are found to be factual.

Online Ethics Education for Partners (Unit: Persons)

	2017	2018	2019
Partner Education Attendance	70	191	199

*For on-site visit training, partners of the respective sites are included in the target of training

Work Ethics Monitoring and Handling of Violations

Preemptive Diagnosis of Elements to Pose as Risk to Ethics Management

GS E&C conducts "Patrol Inspection" and "Issue Diagnosis" to prevent ethics management violations and threats. Patrol inspection focuses on preventing cases of ethical violations by checking if a project is being implemented according to the work process and discovering improvement points and issue diagnosis aimed at identifying processes that require improvement, such as in terms of inefficiency and unreasonable practices, and thus improving operating efficiency. For the identified issues, correction and improvement measures are swiftly applied through cooperation between the respective site and relevant departments in the head office. In 2019, 35 cases of patrol inspection and 13 cases of issue diagnosis were conducted.

Ethics Management Survey to Ensure Improved Ethical Standard

In order to diagnose the effectiveness and implementation level of ethics management promotion and execution, GS E&C conducted an ethics management survey over a period of six months from February to July 2019. The survey, which consisted of approximately 30 questions about the status of ethics management, ethics education and the reporting system, was conducted in conjunction with ethics education targeting employees and partners, and thus recorded a high participation rate (5,574 employees of GS E&C (recording response rate of 88%) and 182 employees of partners participated in the survey). The survey results indicated slight deviations in the responses for ethics management awareness and recognition level among job positions. However, by and large, the occurrence of cases of ethical violations was found to decrease. In addition, there was a difference in the preferred ethics education methods between job positions and workplaces. Therefore, we plan to examine effective education methods for each target. Moreover, the survey enabled us to identify impediments in ethics management practice, such as in terms of the reporting system and informant protection. GS E&C will prepare improvement plants and enhance the standard of our ethical practices in the future.

Ethical Violation Case Reporting Channel

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. If the informants are expected to suffer or are suffering disadvantages, GS E&C takes measures to change their assignments or impose

additional punishments for the act of retaliation according to the Code of Ethics. Once a report is received, the Compliance Office immediately initiates an investigation and the relevant employees must cooperate fully with the investigation. In 2019, 63 reported cases were investigated and 26 of them were found to be factual. For these cases, disciplinary actions were taken according to the seriousness of the case.

Results of Reporting and Investigation on Cases of Ethical Violations (Unit: Cases)

	2017	2018	2019
Factual	7	24	26
False	24	31	37
Reported	31	55	63

Response to Unethical Conduct Based on Strict Criteria

GS E&C enforces disciplinary actions against unethical behaviors of employees and partners that are found to be factual through an investigation according to the relevant regulations. Disciplinary actions are taken for unethical conduct in accordance with HR policies and regulations. In the case of unethical conduct of a partner, disciplinary actions are taken in accordance with the internal review standards. If a partner reports unethical conduct of GS E&C employees, the partner is rewarded for the report and designated as an exemplary partner company to boost the effectiveness of the reporting system.

Results of Individual Ethical Violation Case Handling (Unit: Cases)

	2017	2018	2019
Dismissal	10	9	16
Recommended Resignation	5	1	0
Suspension	7	10	12
Salary Deduction	14	8	1
Total	36	28	29

* Including joint responsibility of senior managers

Risk Management

Company-wide Risk Management

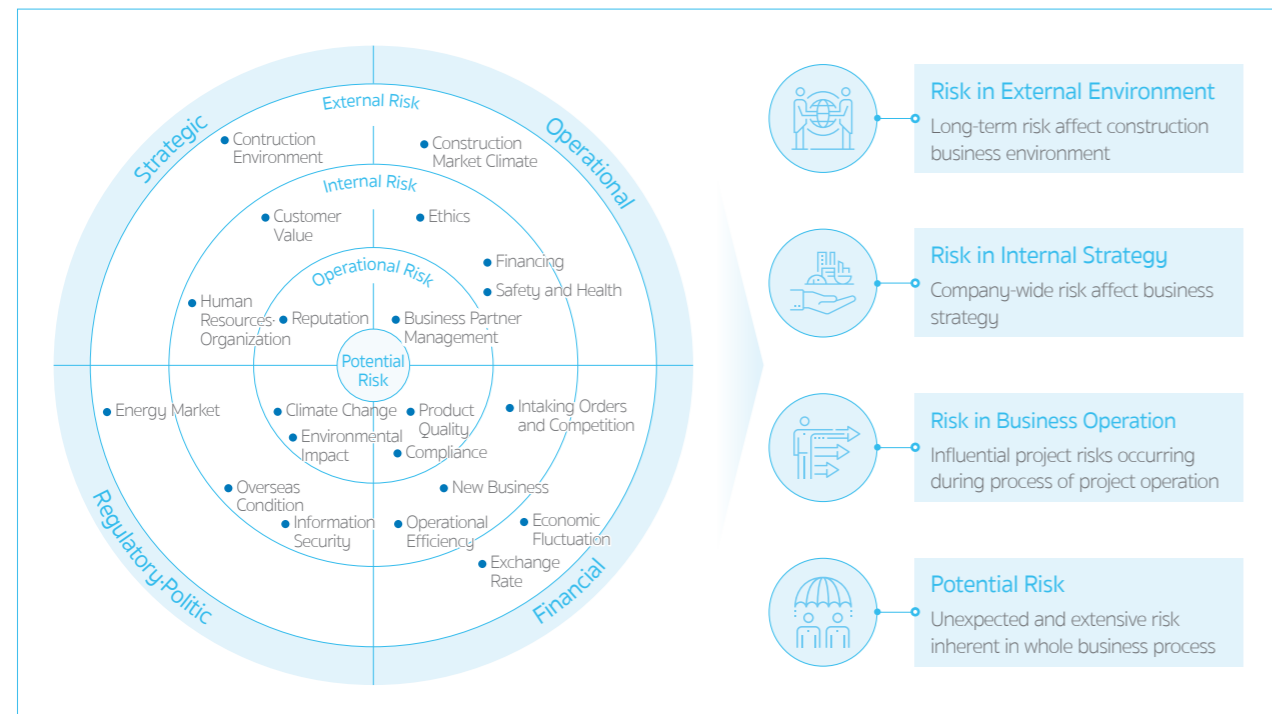
Operating RM Committee to Systematic Risk Management

GS E&C manages risks centered on the company-wide risk management (RM) Committee established under the Project Management Department. The RM Committee identifies corporate risks by dividing them into risks associated with the business environment and those with business operation. The analysis results are reported to the CEO on a regular basis through the head executive of the company-wide business support group and the executive in charge of the Compliance Office. Significant risks, however, are reported to the CEO and the BOD immediately in order to make prompt decisions regarding the risk investigation and action plans. According to the characteristics of the construction business to perform various projects, financial evaluation is conducted under supervision of the Business Review Committee, both company-wide and by business division, in order to assess business feasibilities of each project. 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. GS E&C also operates the SEQ (safety, environment, quality) Operating Committee and Exchange Risk Management Committee. Each committee focuses on and systematically manages specific risks by establishing the related enforcement guidelines, identifying the risks and reporting them to the BOD.

Risk Management by Company-wide Collaboration

In order to strengthen risk management activities, GS E&C holds RM conferences, a network of risk management collaborations by sector, and Integrated Risk Management System (IRMS). The RM conference, held on a weekly, monthly and quarterly basis, are operated across five major fields and utilized to share risk issues and seek optimal solutions through preemptive risk management. The IRMS is a company-wide network for integrated management of risks by sector. This network enables to identify the correlation among individual risks, detect the causes of risk occurrence in advance, and thus preemptively respond to the isolated risks that can exert extensive impact on the company. 51 factors related to financial and non-financial risks affecting the company's business were classified into 10 sectors - business performance, process cost management, bond management, financial indicators, financial risk, safety management, bad signs management, litigation, housing customer service, subsidiaries and major indicators. GS E&C improves the efficiency and effectiveness of the risk management system by identifying and analyzing the status of risk on a monthly and quarterly basis.

Definition of Risk



Internal Accounting Management System

With the amendment of the Act on External Audit of Stock Companies enacted in November 2018, verification procedures have toughened as the certification of the internal accounting control system now requires an "audit" level inspection, which is more rigorous than the "review" level in the past. Accordingly, GS E&C is executing internal accounting management operations by establishing internal accounting management system operating regulations, appointing the CEO as the internal accounting management officer and placing the Internal Accounting Control Team under the Compliance Office. Within the Internal Accounting Control Team, control procedures and management documents are created according to the work process, organization and accounting standards, and its management undergoes regular audits in terms of risk assessment, focusing on financial information, company-level control and the code of ethics. (Additional functions, operations and activities in 2019 of Internal Accounting Control Team requested) Through the internal accounting management system establishment, GS E&C is strengthening the responsibilities of the CEO and the Audit Committee while further refining the risk management system.

Company-wide Risk Management through Response to ESG Evaluation

Advanced global enterprises are responding to the DJSI (Dow Jones Sustainability Index) assessment each year in order to achieve effective sustainability management and in line with the trend of increased ESG investments as of late. GS E&C approaches response to the DJSI assessment in the level of risk management. Accordingly, all departments inspect non-financial elements of the company management. The assessment results in 2019 indicated considerable improvement in customer management, corporate code of ethics and HR management through efforts to expand customer satisfaction management, strengthen compliance with the code of ethics and effective human resources fostering and investment. However, environmental impact of the increased volume of waste discharge and energy consumption, which resulted from the increased project volume, has been identified as an issue to be resolved. Based on the results, the persons in charge of the DJSI assessment response derived improvement tasks and promoted risk management system improvement.

Long-term Risk Analysis and Response

To achieve sustainable growth, not only the risks of individual projects, but also potential risks that can affect the construction business management environment in the long term must be actively managed. GS E&C is identifying and preemptively responding to new potential risks that can affect our management environment in the long term in addition to the risks identified in the course of our corporate management and project promotion.

	Long-term Risk	Impact on GS E&C	Response Action
Energy Market	The global renewable energy demand is increasing continuously as countries around the world are adopting energy conversion policies. In 2017, the Korean government announced the "Renewable Energy 3020" plan to increase power generation from renewable resources to 20% by 2030. On the other hand, the demand for petrochemical and coal-fired power plants is expected to decrease.	The recent shift in the energy market paradigm has already affected demand for thermal power generation. As a result, the demand in relevant plant and energy businesses has decreased as well, affecting GS E&C's energy business in winning new contracts and can limit our competitive power in the new energy market. Consequently, this shift negatively impacts our financial performance and, at the same time, poses a risk to employees in the existing thermal power plant business sector could possibly be laid off as a result of labor force reduction.	<ul style="list-style-type: none"> Entry into photovoltaic power generation market (promoted photovoltaic power plant project in India in Dec. 2019)
Minimizing Environmental Impact at Worksites	The construction industry is responsible for a considerable portion of the national environmental pollution with wastes, dust and noise generated from construction sites as well as energy used by buildings. To minimize the environmental impact of buildings, government regulations, such as the waste charge system and regulations for dust and noise levels at construction sites, have been strengthened.	Failure to properly control waste, wastewater and fine dust, elements causing environmental pollution at construction sites, directly leads to financial losses. In the long run, the strengthened regulations can also be disadvantageous in bidding, and thus can affect winning projects.	<ul style="list-style-type: none"> Fine dust management and reduction activities Commencement of modular business
Changes in Market and Customer Needs in Line with the Fourth Industrial Revolution	The data-based Fourth Industrial Revolution brought about changes to business management and processes across the industry. Under the circumstances, competition is intensifying in the global construction industry as companies are striving to create differentiated value for customers and increase efficiency to the greatest extent possible.	GS E&C's housing business, which displays the highest ratio in the company's sales, fails to provide differentiated products and services, it will not be able to maintain a competitive edge in the existing housing market. 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"> Development of future-oriented housin management system Xi AI platform (jointly developed with Xi S&D) Development of Xi App, a smartphone application

Our Values Created

Values Created by GS E&C

GS E&C creates value for stakeholders through continuing challenges and growth to make strong life place, safe employees, happy customers and clean environment.

- 28 Materiality Assessment & Issues
- 30 Management Approach
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- 36 Industrial Value
- 40 Intellectual Value
- 44 Environmental Value
- 50 Human Value
- 58 Social Value

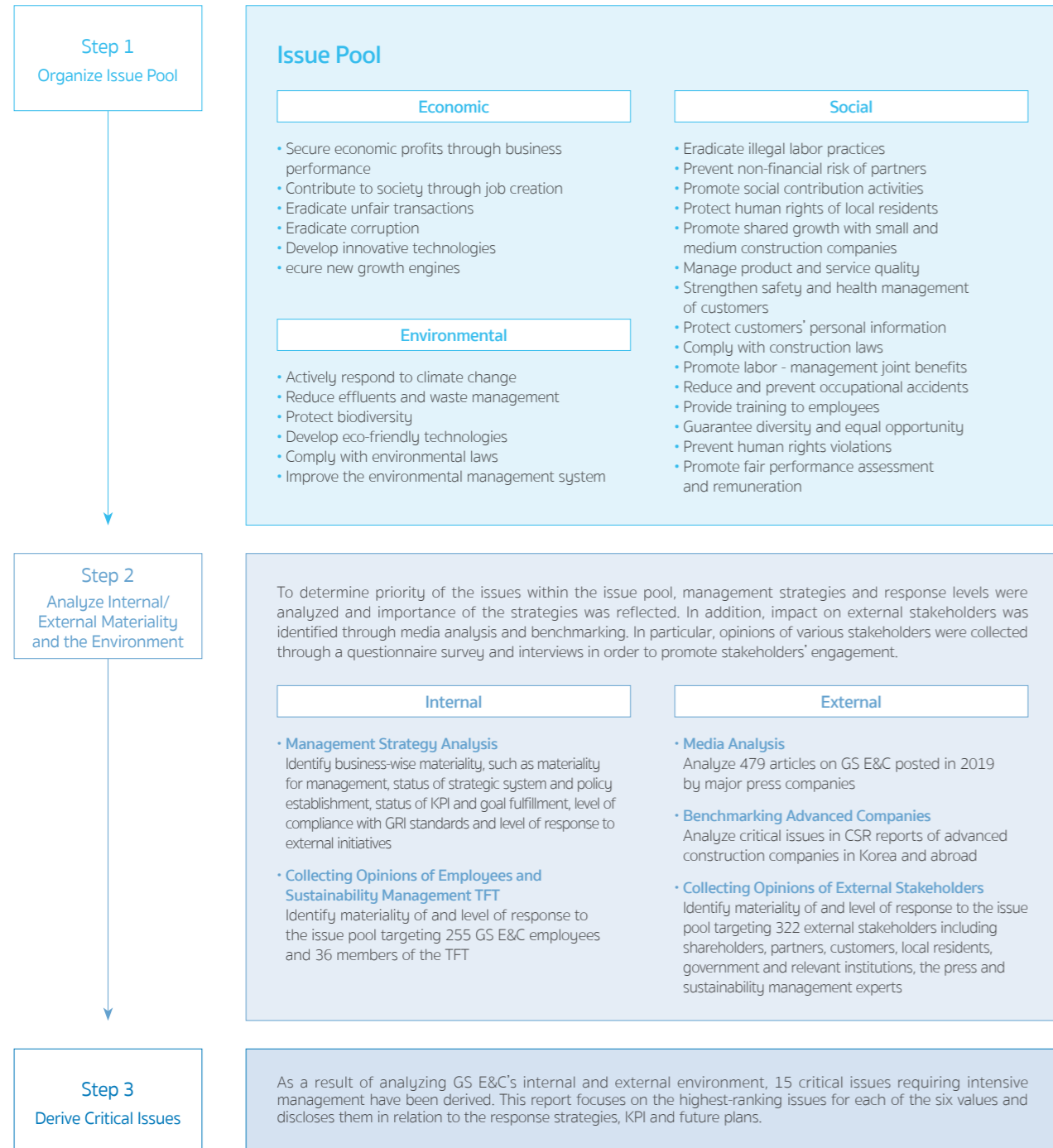
Dangjin Biomass Power Plant

환경 안전 전 세 일 품 질 객 보

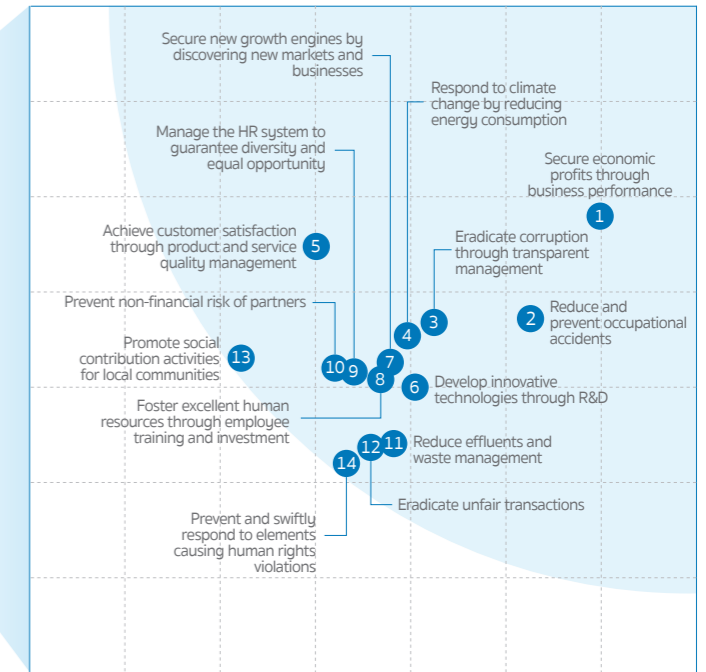
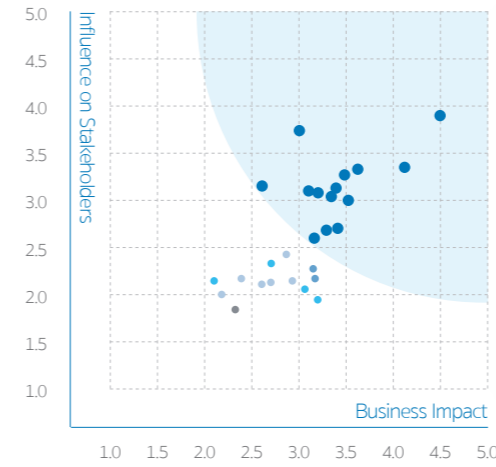
Materiality Assessment & Issues

To achieve sustainable growth, it is important to identify the strategic priority of economic, environmental and social issues that are related to the company's business activities and intensively manage the issues. GS E&C selects critical issues each year by comprehensively analyzing the value creation elements and internal and external business environments. The 2019 Integrated Report introduces GS E&C's activities and performance in relation to the issues that can affect the company's management and business. For the issues of high importance, the backgrounds for management of the issues are reported in detail through a link to the management approach and highlights.

Materiality Test Process



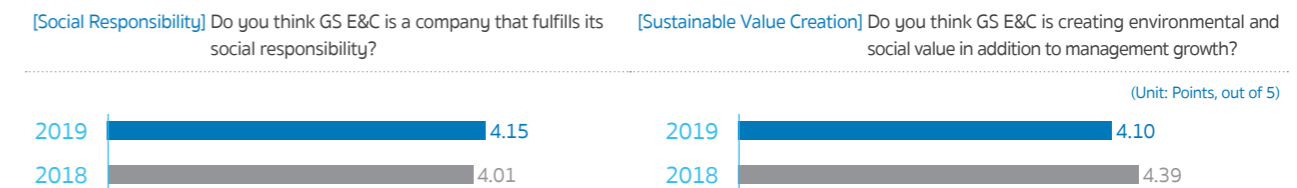
Materiality Test Results(MATRIX)



Top 14 Material Issues

Importance	Critical Issues	Response Activities (Pg)	GRI Standards
1	Secure economic profits through business performance	33-35	201-1
2	Reduce and prevent occupational accidents	55-57	403-2
3	Eradicate corruption through transparent management	22-23	205-2
4	Respond to climate change by reducing energy consumption	46	302-1, 305-1~3
5	Achieve customer satisfaction through product and service quality management	61-62	-
6	Develop innovative technologies through R&D	41-43	-
7	Secure new growth engines by discovering new markets and businesses	37-39	-
8	Foster excellent human resources through employee training and investment	51-52	404-1~3
9	Manage the HR system to guarantee diversity and equal opportunity	54	405-1
10	Prevent non-financial risk of partners	59	414-2
11	Reduce effluents and waste management	47-49	306-1~2
12	Eradicate unfair transactions	22-23	206-1
13	Promote social contribution activities for local communities	64-65	413-1
14	Prevent and swiftly respond to elements causing human rights violations	54	412-2

GS E&C Stakeholders' Recognition of Sustainability Management



Management Approach

GS E&S has derived seven critical issues of strategic priority by reflecting the business-wise approach that include industrial and market trends, organizational characteristics and business strategies, and the expectations of key stakeholders. GS E&C intends to comprehensively manage its execution tasks and key performance by analyzing the impact of each issue on the business and strengthen its responsibility for long-term management by reporting the mid- to long-term goals and the level of goal attainment.

Material Issues	Financial Stability Financial Value	Accident Prevention Human Value	Eradication of Corruption Ethics & Compliance
Business Relevance	GS E&C's business risks are increasing in line with the aggravation of competition in the global construction market and fluctuations in demand and investment trends as a result of falling oil prices and reinforcement of housing market regulations. Amid the rapidly changing and volatile management environment, GS E&C must secure a stable profit structure and continuously seek differentiated business opportunities by promoting development and management businesses in addition to construction.	In Korea, the number of deaths resulting from occupational accidents is displaying a downward trend. However, in 2019, 50.1% of the deaths occurred in the construction industry. In order to reduce accidents at construction sites that are exposed to danger, regulations to strengthen corporate responsibilities, such as to suspend construction projects, give disadvantages in bidding through point deductions, adjust the upper limit of penalties and review safety competency in subcontracting operations, have been successively introduced since the beginning of 2020. Accordingly, GS E&C must further strengthen its safety management.	In the construction industry where large-scale projects are executed, business is carried out through cooperation with a variety of stakeholders ranging from clients, subcontractors, suppliers and government organizations. Corruption and unethical practices arising from relationships based on interests are directly related to a company's existence and, upon occurrence of such issues, a company is required to make continuous efforts in ensuring sound business management and regaining of trust. As such as so, GS E&C must focus on strict control of these issues.
2019 GS E&C Action & Performance	Restructuring centering on housing improvements and public projects Sales: KRW 10.4166 trillion Orders: KRW 10.0725 trillion Securing of profitability through cost structure improvement and risk management Operating profits: KRW 767.3 billion	Increased responsibility for safety & health management Increased visits to worksites by executives CSO: 270 visits IT-based safety training and management Introduced CCTV monitoring system to CMS sites Safety Innovation School 5,905 participants (cumulative)	Inspection on the status of ethical management practices Conducted ethical management survey Strengthened ethical management awareness Ethics pledge signed by 100% Provided customized ethics education
Goals	Sales in 2020 KRW 11.5 trillion (▲10.4%) Orders in 2020 KRW 11.5 trillion (▲14.2%)	Zero critical accidents Strengthen training to prevent unsafe behaviors of workers in CMS	Zero corruption cases Expand ethics education target to partners and part-time workers
Disclosure	Pg. 33-35	Pg. 55-57	Pg. 22-23

Goals
 ○ Not started ● In Progress ● Completed

Response to Climate Change Environmental Value	Enhanced Customer Satisfaction Social Value	Innovative Technology Development Intellectual Value	New Market/Business Development Industrial Value
<p>Since the application of the national goal of GHG (greenhouse gas) reduction to the construction industry in 2014, responsibilities of construction and engineering companies for the reduction of GHGs have been strengthened. In addition, the government announced the Renewable Energy 3020 Plan in 2017 to keep pace with the global trend. As a result, petrochemical and coal-fired power generation businesses have decreased in Korea and abroad while renewable energy power generation businesses have increased, exerting direct impact on the construction industry.</p>	<p>In Korea's housing market where housing upgrade is being promoted competitively, what ultimately determines brand reliability and customer satisfaction are quality and the follow-up services. GS E&C must strive to provide customers with new and differentiated value in order to maintain its performance in the architecture & housing sectors, which account for the highest proportion of the company's sales, and expand its customer base.</p>	<p>In the past, R&D in the construction industry focused simply on productivity improvement. Recently, however, solutions to social issues, such as enhancement of customer value, reduction of environmental pollution and improvement of safety at worksites, is also being considered. GS E&C must focus on developing innovative technologies with which it can develop new businesses, at the same time develop technologies for sustainable operation of the existing construction business.</p>	<p>Changes in the trend of not only construction, but also digitalization and renewable energy industries are limiting the growth of companies. To flexibly respond to the changes, long-term investment is necessary to diversify the business portfolio through the development of new markets and businesses, such as overseas development and investment businesses, by surpassing innovative technology application to existing businesses.</p>
GHG Reduction Reduced GHGs by 8,550 tCO ₂ -e (Achieved 2019 GHG reduction goals) Entry to renewable energy market Won overseas photovoltaic power generation projects (India and Ukraine) Business agreement to activate agricultural photovoltaic power generation system distribution	Prompt service and quality management House preview application (Xi My House Visit App) 1st Ranking in GCSI (Global Customer Satisfaction Index) Smart house through AI application Established Xi Smart Home service system Established future-oriented housing management system (Space Scope) Established cybersecurity system	Continuous investment in innovative technology R&D cost: KRW 48.3 billion Smart Construction technology & construction operation system BIM/VDC system, drone mapping, etc.	Overseas development business promotion Embarked new town development project in Nha Be, Vietnam Entry to new business areas aligned with future industrial trends Promoted battery recycling project (investment in Pohang Regulation Free Zone) Acquired advanced overseas modular company
Reduce GHGs at worksites by 10.62% of BAU by 2030 Expand photovoltaic power generation business (Southeast Asia, Middle East, Africa)	Add joint quality inspection to preliminary quality control process Increase effectiveness of Xi AI platform (Space Scope improvement through big data accumulation)	Strengthen usability of Smart Construction system Expand worksites with IT-based safety structure application	Expand new town development business in Korea and abroad (U.S., Vietnam, Thailand, Indonesia) Expand investment in battery recycling project
Pg. 45-49	Pg. 61-62	Pg. 41-43	Pg. 37-39

01 Financial Value



GRAN SEJU

Material Topics



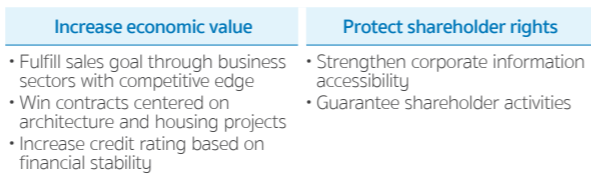
Financial Value Created



Risks & Opportunities



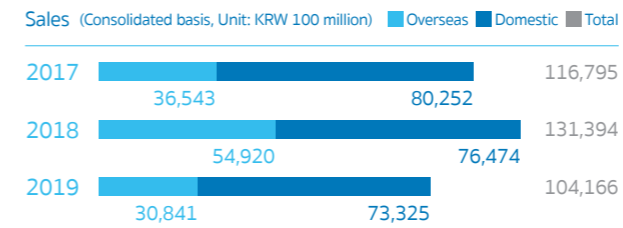
Action to Create



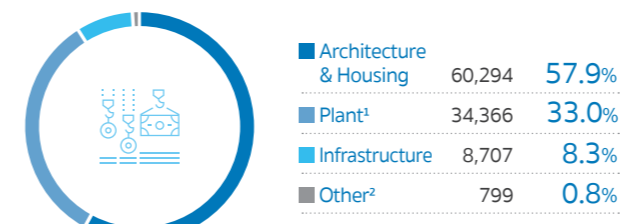
Increasing Economic Value

Fulfilling Sales Goal through Business Sectors with Competitive Edge

GS E&C recorded KRW 10,4166 in sales in 2019, which decreased by 20.7% from the previous year. Domestic sales (KRW 7,3325 trillion) and overseas sales (KRW 3,0841 trillion) represent approximately 70.4% and 29.6% of the total sales respectively. The results are largely due to the reduction of sales from plant and architecture and housing sectors in comparison to the previous year. In 2019, the architecture and housing sector, which has continuously displayed the highest ratio of the company's sales among all business sectors, recorded KRW 6,0294 trillion in sales. As domestic plant and housing sales are expected to increase in 2020, the sales goal for the year amounts to KRW 11.5 trillion, which is larger by approximately 10.4%. GS E&C will improve its financial performance in the future by strengthening the architecture and housing business and plant business, for which a competitive edge has been secured, and commencing promotion of new businesses.



Sales by and Ratio of Business Sectors in 2019 (Unit: KRW 100 million, %)



¹ Plant sector sales include distributed energy sector sales
² Other: Resort business, etc.

Improving Profitability by Increasing Profit Margin Ratio

GS E&C's operating profits in 2019 totaled KRW 767.3 billion and profit before income tax came to KRW 673.7 billion, which decreased by 27.9% and 19.3% from the previous year respectively. Sales from the plant and architecture and housing sectors exerted an impact on the results. However, our operating profit rate fell by 7.4%, which is relatively lower than 8.1% in 2018. The profit margin ratio of 2019 also increased from 12.4% in 2018 to 13.4%. This was largely the result of the stable profit rate displayed by the plant and architecture and housing sectors.

Operating Profits (Consolidated basis, Unit: KRW 100 million)



Distribution of Stakeholder Economic Value (Unit: KRW 100 million, %)

Category	Description	Amount	Ratio
Employees	Labor costs and welfare benefits	13,139	12.61
Shareholders	Dividends and interest paid	2,259	2.17
Government-affiliated Institutions ³	Corporate tax	3,705	3.56
Community	Donations and social contribution program Operating expenses	45	0.04
Partners	Purchase and outsourcing costs	65,186	62.58
Total sales²		104,166	100

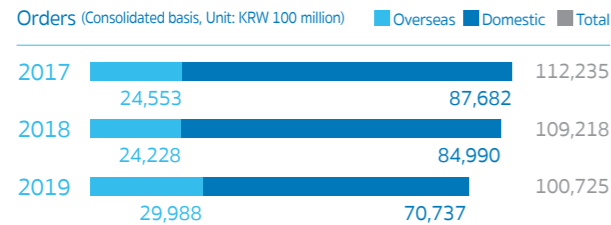
³ Profit share with the relevant government institutions in 2019 is the sum of corporate tax, other taxes and public imposts.
² 19.04% of sales, such as retained earnings, was excluded from the total amount.

Winning Contracts Centered on Architecture and Housing Projects

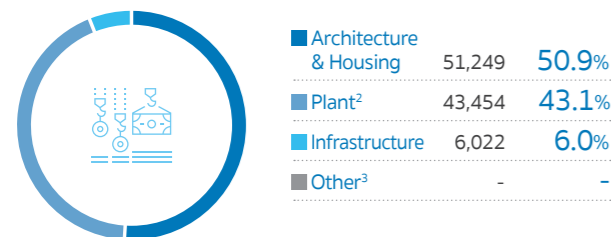
In 2019, GS E&C won contracts, particularly for architecture and housing projects, to a scale of KRW 10.0725 trillion in total. For the plant sector, we received orders to a scale of KRW 4.3454 trillion, which increased by 119% from the previous year, thanks to mega-scale domestic and overseas projects. However, company-wide orders decreased by 7.8% due to a delay in housing improvement and SOC development projects according to the government's real estate regulatory policy.

In 2020, GS E&C's goal is to receive orders to an amount of KRW 11.5 trillion, an increase by 14.2% from last year. To fulfill this goal, we will engage in promotion to increase orders for the housing sector by diversifying products and customers along with improving our brand value. In addition, for the infrastructure sector, we will increase orders accompanied with investment by strategically performing marketing activities at home and abroad. Moreover, we expect order expansion through plant improvement projects, photovoltaic IPP¹ power generation projects and small-scale housing improvement projects.

¹ Independent Power Plant: private development enterprise



Orders by and Ratio of Business Sectors in 2019 (Unit: KRW 100 million, %)



² Plant sector sales include distributed energy sector sales

³ Other: Resort business, etc.

Major Orders in 2019

<p>Architecture & Housing Gwangju Gosan 2 District KRW 272.5 billion Cheolsan Jugong 10, 11 Reconstruction KRW 298.3 billion</p>	<p>Plant GS Caltex MFC KRW 1.140 trillion Thailand HMC PP4 KRW 275.5 billion</p>
<p>Infrastructure Suwon Gwangmyeong Highway KRW 323.6 billion Busan Branch Global Industrial Complex Development KRW 72.6 billion</p>	<p>Distributed Energy Zakarpattia Solar Power Plant in Ukraine KRW 58.2 billion Oksan Ochang Expressway Solar Power Plant KRW 17.1 billion</p>

Improving Credit Rating based on Financial Stability and Stable Business Performance

GS E&C's credit rating for the 136th non-guaranteed bond was evaluated as A by NICE Investors Service, and thus increased from the previous year. This was largely a result of satisfactory housing sales performance and excellent profitability of the architecture and housing sector. In addition, as a result of project completion at worksites that produced losses, reduction in the scale of bonds and lowered possibility of additional loss occurrence in plant and distributed energy sectors, and financial stability indicators, such as cash flow and debt repayment, have improved. As the current financial stability and excellent performance of the architecture and housing sector are expected to continue on in the short-to mid-term, NICE Investors Service evaluated GS E&C's rating forecast as stable.

Credit Rating

	2017	2018	2019
Credit Rating	A-	A-	A

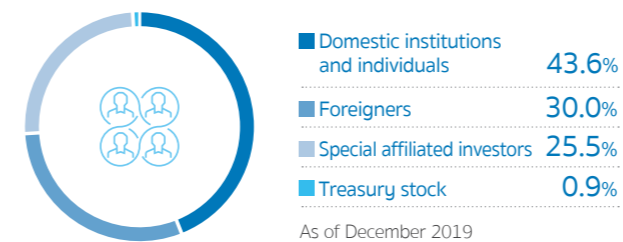
Source: NICE Investors Service

Protecting Shareholder Rights

Shareholders

The total number of shares issued by GS E&C as of December 2019 stands at 80,097,804 common shares and 79,405,209 of them come with voting rights (692,595 treasury shares excluded). All of the shares issued by GS E&C are common shares. GS has 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 66.01% 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.

Shareholding Ratio



Strengthening Corporate Information Accessibility

In the market, all institutions and individuals must be able to access investment information fairly and, in particular, a sufficient amount of management information must be provided in a timely manner. According to the internal information disclosure management regulations, GS E&C discloses quarterly performance data through the information system⁴ and the company website⁵. In addition, investment information on the website is provided in English to ensure accessibility of foreign investors. GS E&C also holds offline IR sessions on a regular basis and provides information about the company through one-on-one meetings with institutional investors. For quarterly performance announcements, we use various channels, such as wired and Q&A menu on the website, to strengthen communication with minority shareholders.

In 2019, GS E&C held 146 one-on-one meetings with institutional investors and attended the Korea Conference hosted by major securities companies in Korea and abroad five times to explain the company's performance and answer questions. Moreover, Non-deal Roadshow, an investment seminar that does not involve transactions, was held every quarter to improve accessibility to the company's quarterly performance information.

Effort 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 in advance. Shareholders exercise their voting rights by participating in the meetings in person or through proxy solicitation. Although the voting in writing and electronic voting system are currently not available, GS E&C will examine various plans to facilitate the exercise of shareholders' voting rights. In addition, according to Article 363-2 (Shareholders' Right to Make Proposals) of the Commercial Act, GS E&C does not limit shareholders' proposals so as to ensure shareholders' convenient proposals of agendas at shareholders' meetings. To promote convenience of shareholder proposals, we will continue dedicating efforts to establishing shareholder proposal procedure guidelines and internal agenda handling process.

⁴ DART: www.dart.fss.or.kr, KIND (www.kind.krx.co.kr)

⁵ Website (www.gsenc.com)



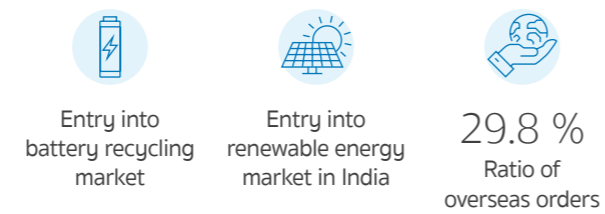
Industrial Value

Doha Link (Kuwait)

Material Topics



Industrial Value Created



Risks & Opportunities

Necessity to secure competitive bidding power due to intensification of competition in domestic and overseas construction markets	Shift in the global energy market as a result of continuous increase in renewable energy market demand	Demand in coal-fired and thermal energy markets decreasing, scale of thermal power plant business reducing	Construction completion delayed due to extension of project period at domestic and overseas construction sites
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Strategic Financial Regulatory/Politic Operational

Action to Create

Secure Global Competitiveness	Secure new markets by business sector
<ul style="list-style-type: none"> Expand plant investment in the Middle East and North Africa improve capacity to implement overseas projects Develop smart construction technologies 	<ul style="list-style-type: none"> Target the global modular market Expand business using ICT Establish new town in Nha Be, Vietnam Enter the renewable energy market

Securing Global Competitiveness

Expanding New Market Entry by Strengthening Bidding Competitiveness

GS E&C participates in bidding by placing the highest priority on discovering projects with significant profit potentials. In this process, we strive to win high-quality projects where we can utilize our technological capabilities rather than engaging in bidding wars. Particularly in 2019, we moved beyond simple construction projects and expanded our businesses to plant T/A, solar energy plant projects and expanded profit-centered businesses promoted plant T/A, photovoltaic IPP Independent power project and small-scale housing improvement projects. GS E&C plans to expand profit-centered orders, as such, in the future. In 2020, the government's strict regulations are expected to continue in the domestic housing market. However, we will further diversify our customer base and products. As for our infrastructure business, we will perform strategic marketing activities in Korea and abroad, including Australia and Southeast Asia, with a focus on projects with profit potentials and those accompanied with investment. Based on strategies to improve bidding competitiveness for overseas projects by each sector, we will preemptively respond to changes in the market environment.

Strategies for Bidding Competitiveness Improvement by Sector

Sector	Strategy
Architecture & Housing	Promote real estate development projects in Vietnam and Indonesia
Infrastructure	Intensively promote PPPs and projects accompanied with investment in developing countries
Plant	Promote FEED ¹ and O&M ² projects to expand the value chain Discover new business models
Distributed Energy	Promote renewable energy development and overseas IPP development projects

¹ FEED: Front-end engineering design

² O&M: Operation and maintenance

Enhancing Overseas Project Implementation Competency by Strengthening the Global Network

Based on extensive experience of overseas projects, GS E&C is strengthening competitive power in all areas of project implementation ranging from design and construction to operations. We have prepared action plans in order to minimize the impact of elements that can pose as risks during the course of overseas project promotion. In addition, to strengthen design capabilities for overseas projects, we have employed professional personnel. At the same time, we established a global design execution system by bolstering our network with domestic and international partners including a design firm in India. GS E&C enhanced its on-site execution capabilities and established a direct construction system through the Architecture Execution Headquarters and Infrastructure Execution Headquarters, while assigning outstanding human resources to overseas project sites to ensure efficient HR operations and management.

Improving Business Process through PCS

GS E&C provides PCS **Pre-Construction Service**, a smart construction system using 3D simulation design techniques. With PCS, the customer, designer and constructor create an optimal design by working as a team from the project planning stage. The entire process is also inspected through 3D simulation to eliminate possible risks that may occur during the construction process in advance. Keeping design errors and change to a minimum, this system guarantees optimal quality and also prevents an increase in construction costs. Having applied PCS as the first in Korea, GS E&C completed a number of projects including integrated data center establishment for Hana Financial Group, DGB innovation center development for Daegu Bank and apartment housing development in Block S4 of Eungye, Siheung. We also secured the contract for and are currently working on the Hana Dream Town project by applying the PCS. Based on outstanding PCS performance, GS E&C is building competitive power for project bidding and execution.

Overseas Orders by Sector (Unit: KRW 100 million)

Category	2017	2018	2019
Architecture & Housing	5,376	7,402	3,528
Infrastructure	72	8,351	45
Plant ³	19,105	8,476	26,415
Total	24,553	24,229	29,988

³ Performance of the distributed energy sector is included in the plant orders

Discovering New Growth Engine

Securing New Markets by Sector

The architecture and housing sector is an integral part of GS E&C, one that has led to the overall sales and profit growth in terms of stable profit generation. Identification of profitable markets and businesses suitable for long-term profit generation is on the top of GS E&C's agenda, rather than focusing solely on large-scale overseas projects. Accordingly, we are promoting additional development projects in the U.S., Vietnam and Indonesia, our existing markets, and discovering new projects in new markets including Saudi Arabia and Thailand.

The infrastructure sector, which promotes large-scale overseas infrastructure projects, is a key business that enables GS E&C to maintain its industrial value. Investments in infrastructure are expected to continue based on the economic development policies of emerging countries and the Middle East. GS E&C additionally discovers PPP and financial arrangement (EPC + F) projects in the existing Myanmar and Tanzania markets and is also venturing into hydroelectric IPP (private power generation) and port business fields.

The plant sector is GS E&C's major business area that accounts for 28.5% of the company's sales. GS E&C intends to identify new business opportunities in the form of limited competition and investment development, such as L (licensing) + EPC¹ and FEED+EPC² beyond the mere EPC business format. We are also securing new markets through plant facility improvement, environmental waste treatment and PPP projects.

¹ L+EPC: Plant technology + EPC

² FEED + EPC: Connected design + EPC

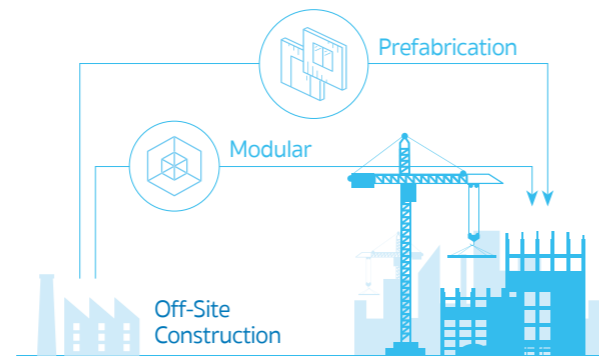
Establishing New Town in Nha Be, Vietnam

With the experience of new town development in Korea, GS E&C embarked on the Nha Be new town development project in Vietnam in December 2019. The total cost of this project, which is to establish a new town measuring 3.5km² in area housing around 68,000 residents, amounts to approximately KRW 4 trillion based on the current market value and is expected to generate sales of approximately KRW 7 trillion. In addition to premium apartment buildings, residential complexes and villas for around 17,000 households, a large-scale commercial facility will be established over the period of next 15 years. Through this project, we will improve our management performance by gaining recognition on our capabilities as a developer in overseas markets.

Targeting Global Modular Market

GS E&C is seeking new business opportunities for effective response to changes in the construction industry environment and also as mid- to long-term growth engines. Following the preparation for acquisition of modular construction companies in 2019, GS E&C became Korea's first construction and engineering company to take over two advanced overseas modular companies in January 2020. Modular construction is an innovative building technology to produce a considerable number of building elements, such as the basic frame, finish, electrical wiring and facilities, in a plant and only assemble the pre-made parts at the construction site. This construction technique has a number of advantages, such as to enable diverse designs, reduce the construction period and save costs through manufacturing process automation. By using technologies and networks of the acquired modular construction companies, GS E&C will dominate the global modular construction market and actively target the overseas architecture and housing markets.

Modular Construction



Module building of Danwood S.A., which has been taken over by GS E&C

Entering Renewable Energy Market with Photovoltaic Power Business

In December 2019, GS E&C commenced with a photovoltaic power plant development project to a scale of approximately KRW 220 billion in India with a goal to prepare a foundation for stable entry into India's renewable energy market and, at the same time, venture into neighboring countries. GS E&C, which participates in the project as a private project implementer, is building a 300MW photovoltaic power plant in Rajasthan in the northwestern part of India. Supported by India's renewable energy promotion policy³, GS E&C is implementing the project to commence with commercial plant operations in April 2021. GS E&C's competitive power and status in the global renewable energy market will be

further strengthened as we pursue collaboration with advanced developers in the Southeast Asian, Middle Eastern and African regions.

Since October 2019, we have been entering into agreements for the activation of agricultural photovoltaic power generation system distribution in Korea and abroad to promote a new model of the renewable energy development business. This project uses existing farmland, which is supplied by farmers, the land owners, in the form of leases, without damaging nature. With the site rental and proceeds from the sale of electricity, this project is forecast to contribute to increasing the income level of farmhouses in Korea.

³ Renewable Energy Promotion Policy: A policy aiming to expand renewable energy generation to 175GW by 2022

Interview

Securing New Growth Frame by Entering Electric Battery Recycling Market

GS E&C will secure a new growth engine by investing in the next-generation battery recycling business. Through an interview, New Business Team 1, which is participating in a battery recycling project, explained about the strategies for entry into the battery recycling market.

Q. What was the reason for GS E&C's recent venture into the battery recycling business?

According to Bloomberg, more than half the new cars and about one-third of automobiles around the world will be electric vehicles by 2040. The battery recycling market is also forecast to growth to a scale of approximately KRW 600 trillion by 2050. In addition, a survey on electric vehicle distribution and battery replacement cycle in Korea indicates that, by 2040, approximately 5.76 million secondary cell batteries will be generated for around 690,000 electric vehicles per year. As the cost of key materials represents around 40% of the total battery manufacturing cost, the feasibility of the battery recycling business is estimated to be very high.

Q. Which efforts are being made for entry into the battery recycling market? Please introduce the projects GS E&C is working on at the moment.

As the battery market is forecast to expand, GS E&C successfully started the secondary cell recycling business by investing in the Pohang Regulation Free Zone in January 2020. We plan on building facilities to produce 4,500 tons of precious metal per year from secondary cells through a primary investment of approximately KRW 100 billion by 2022. Then, through the secondary investment, we will expand the scale of this business to 10,000 tons per year. We are also planning entry into forward and backward industries. The success of this business depends on the purity of the metal recovered from secondary cells. GS E&C, which is equipped with top-level chemical plant construction experience and expertise, will also be able to secure the highest technological power in this field.

Q. What are the expected benefits from the battery recycling business?

Considering the trend of increased electric vehicle distribution in Korea, we expect that the secondary cell battery recycling business will be GS E&C's new growth engine in the future. By recycling batteries, we can recover and use key materials including nickel, manganese and lithium. This will not only provide an effect to replace the import of resources, but also prevent environmental pollution, which will contribute to building an eco-friendly company image for GS E&C. In addition, as the investment expansion will lead to increased employment, we will be able to contribute to local economy revitalization.



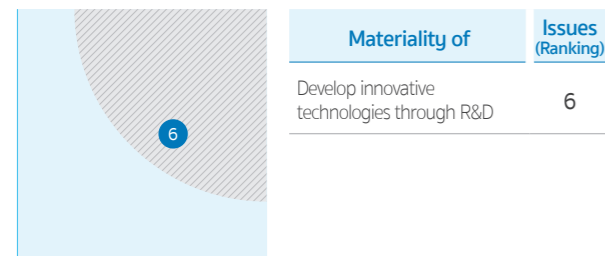
Signing ceremony for lithium ion battery recycling business



Alexa-Interlinked Smart Home Demonstration Booth of Amazon

03 Intellectual Value

Material Topics



Risks & Opportunities

Increased necessity to improve productivity and implementation efficiency of projects in labor-intensive industries

Digital construction environment in line with the Fourth Industrial Revolution

Architecture and housing customers demanding new value

Legend: Strategic (Blue), Financial (Orange), Regulatory/Politic (Green), Operational (Grey)

Intellectual Value Created

KRW 48.3 billion R&D investment

Development of air purification system (Sysclein)

Water reduction using Smart Water Solution (21%▼, Aracatuba, Brazil)

Action to Create

Promote innovation investment	Develop eco-friendly technologies	Expand IT application
<ul style="list-style-type: none"> Develop smart construction technology Establish drone mapping technology system Conduct studies on IT-based structures 	<ul style="list-style-type: none"> Develop eco-friendly wastewater treatment facilities Develop ventilating and pollutant removing dust collector Develop eco-friendly and energy-saving new process technology for saltwater desalination plant Develop smart water supply solution 	<ul style="list-style-type: none"> Introduce AI smart home system Develop IoT-based air purification system Develop smart energy city platform Develop energy storage simulator

Innovating Smart Technology

Developing Innovative Technologies for Future Growth

GS E&C establishes strategies for technology development considering domestic and overseas construction market environment and future business trends. Securing core technologies for new projects to fuel future growth engines, develop specialized technologies and improved productivity, as well as to develop technologies for differentiation of core businesses.

Innovative Technology Development Performance (Unit: KRW 100 million, cases)

Category	2017	2018	2019
R&D Investment	541	527	483
Sites Applied	61	87	92
Technologies Developed	24	33	28

Developing Smart Construction Technology

Secure Smart Survey Technology

GS E&C develops and applies smart construction techniques that incorporate advanced technologies of the fourth industrial technology to construction sites. Using smart equipment such as drones, laser scanners, and GPR¹, we are able to obtain field information quickly and accurately, and further use it for investigation and survey. Drone and laser scanners survey sites with vast coverage or limited personnel access, and the GPR¹ systematizes 3D digital field utilization procedures by providing information of underground and urban construction sites during the design stages.

¹ GPR : Ground Penetrating Radar
⁴ USV : Unmanned Surface Vehicle
⁵ MC/MG: Machine Control, Machine Guidance
⁶ VR/AR/MR: Virtual Reality, Augmented Reality, Mixed Reality

Drive Productivity with BIM/VDC

GS E&C has established the BIM²/VDC³ system and has expanded smart technology by applying them throughout the entire project stages to establish a digital construction environment. We have dramatically improved project production by increasing efficiency, reducing project periods, and reducing costs through the BIM². We will continue to invest in the development of smart technologies in the future to create new value in all business sectors.

² BIM: Building information modeling. A process to virtually model a facility
³ VDC(Virtual Design & Construction)

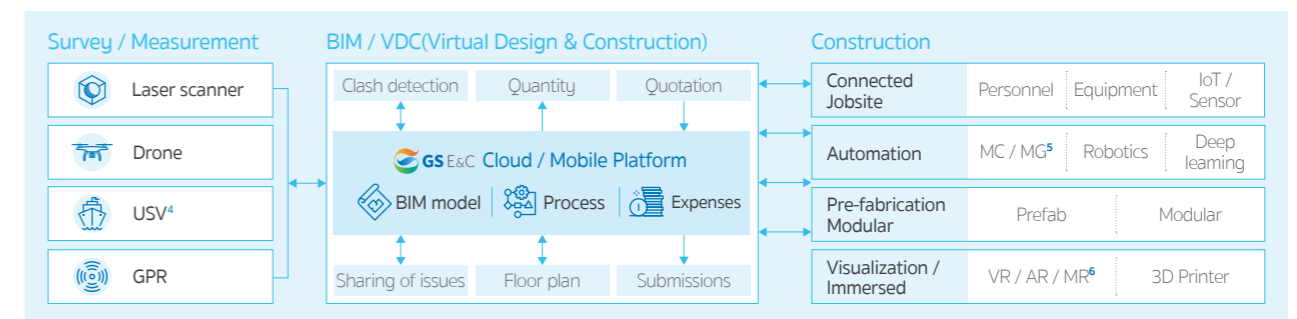
Introduce ICT Technology (Machine Control)

GS E&C introduced ICT technology (Machine Control) to various heavy equipment (excavator, dozer, grinder, and roller) to establish a precise and safe construction environment without any additional survey support. Productivity, quality, and safety have all improved by minimizing time loss due to construction errors and manpower surveys.

Smart Safety Management

GS E&C introduces and applies IT-based safety management technology to the site for the safe construction environment. A field resource management system was established using the RTLS ^{Real Time Location System} to maximize manpower and equipment operation, and an AI face recognition management system saved time and manpower by automating safety monitoring. GS E&C intends to secure the safety within the construction environment by expanding IT-based safety technology to more sites.

Smart Construction Technology



Developing Eco-friendly Technology

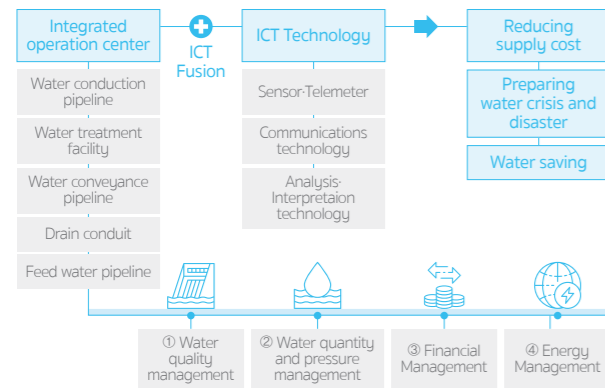
Safe Wastewater Treatment with Alkali Wastewater Treatment System

GS E&C developed an alkali wastewater treatment system, which replaces strongly acidic chemicals (sulfuric acid, nitric acid) harmful to workers and the surrounding environment with carbonic acid gas. Compared to the previous system, this eco-friendly and economic system produces faster reaction speeds and incurs lower chemical costs. In addition, it enhances the convenience of workers during wastewater treatment and contributes to creating a safe workplace without the risk of exposure to corrosive substances.

Reducing Pollutants Generated from Construction Sites by Improving Ventilation System

In long tunnels that extend over 1 kilometer, dust generated from construction remain stagnant inside, which may lead to on-site safety hazards and even health issues of local residents if leaked. In response, GS E&C developed rapid ventilation and portable dust collection technology for the health and safety of construction workers and residents in the area. Dust sucked into the dust collector is mixed with water and sinks down to the bottom. When building up to a set level, dust is discharged from the collector. This system not only provides an air purification effect, but also contributes to reducing filter maintenance costs. This system is applied to a number of long tunnel construction sites, reducing the generation of pollutants.

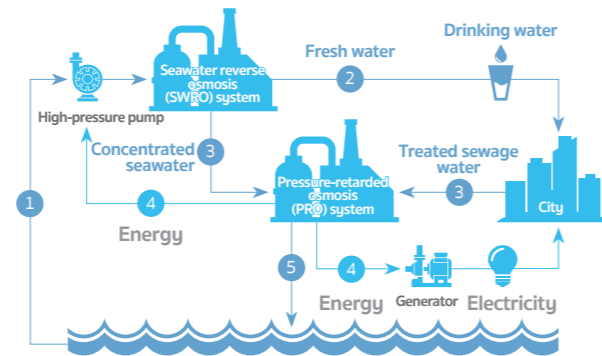
Advanced Intelligent Integrated Water Management System



Developing Eco-friendly and Energy-saving New Process Technology for Saltwater Desalination Plant

GS E&C developed pressure retarded osmosis (PRO), a new concept renewable energy technology, to recover osmotic energy using enriched water discharged from seawater reverse osmosis (SWRO) plants and sewage treated effluent. This technology, developed as the world's first by GS E&C through collaboration with GS Inima, our subsidiary and a global-standard seawater desalination company, increased our business competitiveness. Using energy produced with PRO technology, we reduced the amount of energy consumed by seawater desalination plants and lowered marine pollution through the eco-friendly treatment of enriched water that exerts negative impact on the marine ecosystem. In 2019, GS E&C reduced the amount of energy required for a seawater desalination plant by 15% through a pilot plant operation at the Busan Southern Sewage Treatment Plant. We are also promoting technology commercialization with Public Utilities Board (PUB) of Singapore, which will hopefully lead to our overseas market entry.

Next-generation Saltwater Desalination Plant Process



Smart Water Supply System for Efficient Water Use

GS E&C developed a smart water supply solution (with optimal design and operation management) for real-time measurement and simulation as well as efficient integrated management of the water supply design and operation factors (water quantity, pressure, quality and energy). This system based on ICT, IoT Internet of things and big data stabilized water supply and reduced operating costs by improving water supply ratio, reducing leakage, minimizing impact of water cutoffs, and improving asset management efficiency. In 2019, we applied GSWaterS to a project site in Aracatuba, San Paulo, Brazil and reduced the amount of water leakage and operating costs by 21% and 12% respectively. Additional system application is being promoted to three regions in Brazil (Ouro Preto, Paraibuna and Santa Rita).

Focus Page

Intelligent Life in AI Smart House

Innovating Residential Space through IT Application

Convergence of state-of-the-art ICT, such as IoT-based sensors, has become a growing trend in the construction industry. GS E&C developed the Xi AI Platform using artificial intelligence (AI) and other advanced technologies in order to provide customers with a convenient residential environment. Based on the Xi AI Platform, the company is introducing a wide range of services designed to improve the convenience of customers.

Introducing Xi AI Platform

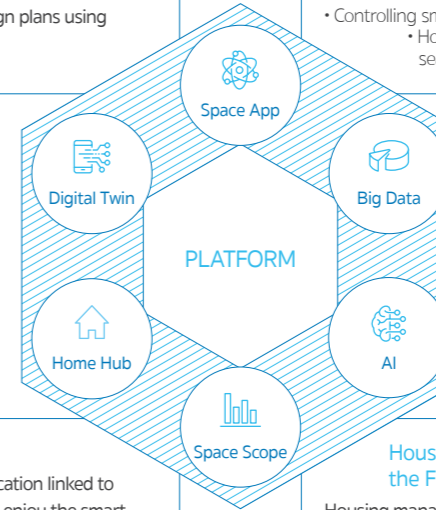
Controlling Home Appliances through IoT

With digital twin, technology to create a "twin" of an object from the real world in a virtual world, applied, Space App helps customers control IoT devices in their homes and create virtual interior design plans using personal smartphones.

Service Link with AI

Xi AI Platform is linked to major artificial intelligence speakers of all wireless carriers, such as Naver's Clova and Amazon's Alexa.

- Controlling smart home system with voice
- Home assistant functions, such as to list and search helpful information



Cyber Security

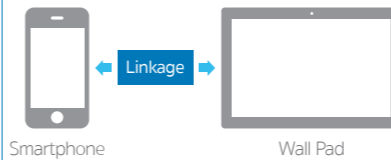
Security issues have been preemptively responded to with the highest-level integrated security system.

- Communication line in complex encrypted
- Device authentication process strengthened
- Residents DB encrypted

Xi Smart Home Service

Using the Xi App, a smartphone application linked to home network systems, residents can enjoy the smart home service with convenience anytime, anywhere.

- Remote control of lighting, gas supply and indoor temperature inside the home
- Service customized to the lifestyle patterns of residents



Housing Management System of the Future (Space Scope)

Housing management system developed on the basis of predictions through big data analysis maximizes the convenience of residents.

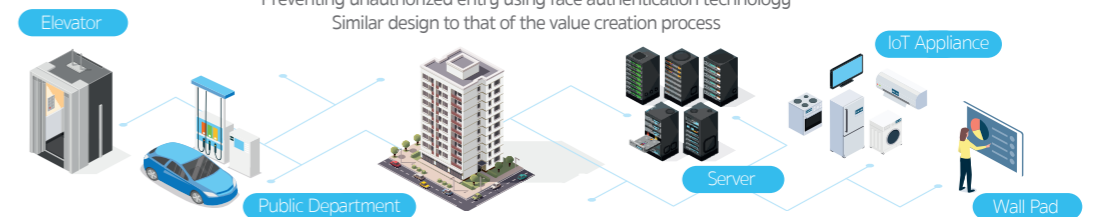
- Preventing device failure through real-time monitoring
- Xi Energy Saving, technology to set the optimal temperature and air quality in each space, to be commercialized



Physical Space

Security in Real Space

Preventing unauthorized entry using face authentication technology
Similar design to that of the value creation process



04 Environmental Value

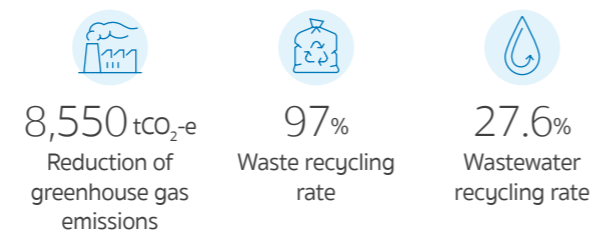


Modernizing Environmental Fundamental Facilities and Creating Parks in Hanam City

Material Topics

Materiality of	Issues (Ranking)
Respond to climate change by reducing energy consumption	4
Reduce effluents and waste management	11

Environmental Value Created



Action to Create

Promote green management	Respond to climate change	Manage environmental efficiency
<ul style="list-style-type: none"> Establish greenhouse reduction goal for 2050 and develop strategies Comply with environmental regulations Prevent environmental accidents through internal inspections at worksites 	<ul style="list-style-type: none"> Use green concrete Construct high energy efficient buildings Cooperate in climate change response through green procurement 	<ul style="list-style-type: none"> Systematically manage wastewater and wastes Strengthen construction waste recycling Fulfill environmental responsibilities for wastes generated Preserve the water ecosystem by applying underwater barrier technology

Risks & Opportunities

Compliance with greenhouse gas and energy target management scheme (goal fulfillment in 2030)	Strengthened regulations for fine dust generation at construction sites
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■ Strategic ■ Financial ■ Regulatory/Politic ■ Operational

Environmental Management Promotion

Strategic Environmental Management Practice

GS E&C implements environmental management strategies with the Green Environment Team, an organization in charge of systematic environmental management promotion, at the lead. We have established long-term environmental management goals and strategies until 2050 and are committed to fulfilling long-term environmental response goals. Three major strategic directions and ten strategic tasks were established to create eco-friendly business sites, strengthen the environmental management system and reduce greenhouse gas and energy consumption.

Long-term Environmental Management Goals and Strategies

Strategy	Eco Global Top Tier
Goal	Reduce GHG emissions by 31.86% by 2050 (compared to BAU)

Strategic Direction	Strategic Task
Strategic Direction 1 Create an eco-friendly worksite	<ul style="list-style-type: none"> Strengthen fine dust voluntary agreement tasks Achieve zero pollution Respond voluntarily to environmental regulations Establish a life cycle evaluation system
Strategic Direction 2 Enhance the environmental management system	<ul style="list-style-type: none"> Reinforce global environmental management Strengthen environmental communication Cultivate TFTs and experts
Strategic Direction 3 Reduce GHG emissions and energy consumption	<ul style="list-style-type: none"> Strengthen company-wide and partner GHG reduction activities Develop GHG reduction projects and related technologies Secure GHG and energy consumption diagnostic capabilities

Energy Management Committee for Company-wide Energy Savings

Since 2015, GS E&C has been actively responding to environmental regulations by operating the Energy Management Committee. Under the supervision of a person in charge of quality and environment management, this committee is operated as a full-time consultative body that develops energy reduction items for application to construction sites and buildings. As the items are applied to each business sector, effective energy savings activities are promoted. In addition, through a quarterly meeting, the committee shares the results of activities performed and, if necessary, reports the results to the Management Committee.

Complying with Environmental Regulations

GS E&C takes into consideration the environmental impacts of a project throughout its life cycle and strictly complies with environmental regulations. For the entire process of a project from planning to design, construction and service, we obtain various environment-related permits and authorizations and comply with the relevant regulations, such as the Environmental Impact Assessment Act, Clean Air Conservation Act, Water Environment Conservation Act and Wastes Control Act. GS E&C is also performing fine dust reduction activities at each project site by participating in the "Voluntary Agreement for High-concentration Fine Dust Reduction" led by the Ministry of Environment in accordance with the recent amendment of the Special Act on the Reduction and Management of Fine Dust along with internal inspections and improvement activities at worksites using the "Internal Inspection of Mandatory Environmental Rules" system in the mobile application.

Violation of Environmental Regulations (Unit: Cases, KRW 1,000)

	2017	2018	2019
Violations	8	10	8
Fines	7,700	9,480	8,480

Preventing Environmental Accidents through Reinforced Internal Inspections at Worksites

GS E&C has established and enforced the "Mandatory Environmental Rules" to prevent environmental violations that are likely to occur at project sites. In 2018, a mobile application was developed and distributed in order to ensure convenient and regular inspections at worksites. The internal inspection data were collected and compiled as big data. Big data analysis was also conducted in relation to environmental violations by construction site and process. Using the analysis results, improvement plans suitable for each site were proposed. The inspection results in 2019 indicated a total of 386 cases requiring improvement. By business sector, the largest number of cases (149) were detected at infrastructure business sites and, by the mandatory environmental rule, the largest number of cases (80) were attributed to failure to use dust-proof covers.

Response to Climate Change

GHG Reduction through Company-wide Eco-friendly Activities

GS E&C is promoting continuous eco-friendly activities with a long-term goal to reduce greenhouse gas emissions by 31.86% by 2050. In 2019, we reduced greenhouse gas emissions by a total of 8,550tCO₂-e through the use of green concrete, video conferencing, LED lighting and other eco-friendly activities.

GHG Reductions (Unit: tCO₂-e, KRW million)

	2017	2018	2019
Total Emissions	285,234	291,233	244,959
Reductions	37,586	9,014	8,550
Estimated Cost Reductions	8,487	2,392	5,125

*Reductions and estimated cost reductions include temporary LED lighting, green concrete and video conferencing performances.

GHG Emissions (Unit: tCO₂-e)

Scope 1 (Direct)

2017		63,959
2018		71,547
2019		58,994

Scope 2 (Indirect)

2017		79,473
2018		84,631
2019		76,226

Scope 3 (Other forms of indirect emission)

2017		141,802
2018		135,055
2019		109,739

GHG Reduction with Green Concrete

About 7% of global greenhouse emissions come from the production course of cement, the main material of concrete that is used in construction works. In this regard, GS E&C developed green concrete, which reduces the amount of cement used in its production. By decreasing the amount of cement use and replacing it with slag and fly ash, the amount of carbon generation was reduced. In addition, using a pre-mix facility, high-strength and high-quality concrete was secured. In 2019, green concrete was applied to two sites, resulting in cost savings of KRW 810 million and GHG reduction by 8,019tCO₂-e.

GHG Reduction Effect of Green Concrete (Unit: tCO₂-e, KRW 100 million)

	2017	2018	2019
GHG Reduction	34,088	7,466	8,019
Cost Saved	64.5	12.5	8.1

High Energy Efficient Buildings with Eco-friendly Design Technology

GS E&C developed optimal energy-efficient building design technology with a goal to disseminate green buildings and green homes with reduced energy consumption. The energy consumption of a building is analyzed and optimized so as to efficiently save energy considering the product life cycle from the stage of design to production and consumption. GS E&C is expanding the application of this technology. In 2019, 15 projects including DMC Eco Zi and Pyeongtaek Central Zi Complex 3 were completed and certified as energy-efficiency buildings. The overall high-efficiency building ratio is as high as 50%. The number of households in the newly supplied apartment complexes totaled 13,947.

Cooperating in Climate Change Response through Green Procurement

GS E&C established the green procurement system to monitor the internal green procurement performance. With this system, we are managing suppliers that are to be certified for eco-friendly materials according to their eco-friendly materials and certification information. Additional points are rewarded to the suppliers as an incentive to encourage them to obtain green certification.

Green Procurement Costs (Unit: KRW 100 million)

	2017	2018	2019
Green Procurement Costs	740.0	952.9	576.0

Manage environmental efficiency

Waste Management

Managing Waste through Real-time Monitoring

GS E&C systematically manages wastes generated from construction sites. GS E&C manages the status of waste generation in real-time by connecting the legal waste disposal system with the in-house construction waste management system. In addition, we are monitoring the wastes generated by dividing them according to the "Enforcement Decree of the Construction Waste Recycling Promotion Act."

Waste Generation and Disposal (Unit: ton)

	2017	2018	2019
Total Generation	259,329	664,663	450,870
Recycling	241,777	649,890	436,765
Landfill and Incineration	17,553	14,773	14,105

Strengthening Construction Waste Recycling

GS E&C is committed to achieving waste recycling rate of 90% in 2020 by reducing the amount of wastes generated. To fulfill this goal, we have established internal recycling procedures for construction waste (sludge) and set up management guidelines. In 2019, GS E&C recycled 177.6 tons of sewage sludge generated from the sites of Gwangju Beltway Expressway Construction Package 2 and Saemangeum East-West Road Line (#1). The recycled sludge was used as filling material and refilling soil.

Fulfilling Environmental Responsibilities for Wastes Generated

In line with the national efforts for transformation into a resource-recycling society, GS E&C pays its share of the waste charge imposed on incineration and burial of wastes causing air and soil pollution. In 2019, the waste generation volume decreased as a whole and, as a result, the waste recycling rate decreased by 32% from 2018. However, we maintained a high recycling rate of 97%. We paid approximately KRW 320 million for 11,215 tons of wastes incinerated and buried, excluding the recycled wastes. Compared to 2018, our share of waste charge decreased by KRW 560 million and the waste landfill and incineration volume also decreased by 64%.

Generating Energy with Waste Treatment Technology

GS E&C is equipped with waste-to-energy technology to produce electricity and energy by indicating domestic wastes. This technology is effective in reducing environmental impact as it enables electricity and steam production while resolving the waste-related issues. We have completed 21 cases of waste-to-energy facility construction and 20 cases of the facility operation in Korea by using its waste-to-energy technologies including the automatic waste collection system, Mechanical Biological Treatment (MBT) technology and stoker incineration technology.

Developing Eco-sand Production System Using Rock Debris from Tunnel Construction

GS E&C experienced difficulties in collecting natural aggregates and securing sand and pebbles due to public opinion against sea sand collection. To overcome the difficulties, we installed an eco-friendly crusher plant² at the construction site for Changnyeong-Miryang section of National Highway No. 14 in order to recycle rock debris¹ generated from tunnel blasting. In particular, we operated all conveyor belts as a wet type in order to reduce fly ash generated in the process of aggregate and sand production at the crusher plant. The wastewater generated in this process was also not discharged, but recycled on-site to keep environmental pollution to a minimum. In addition, as the process of aggregate transportation was omitted, the amount of diesel used in the transportation was lowered by 250,000 liters and the greenhouse gas generated in the process was reduced by 667tCO₂-e.

¹ Rock Debris: Debris of rock crushed in the course of excavation

² Crusher Plant: A plant where a parent rock excavated from a highway construction site is crushed

Management of Endangered Wildlife

Protecting Ecosystem Near Project Sites by Establishing Habitats for Endangered Wildlife

GS E&C is dedicating efforts to minimizing the impact on endangered wildlife that can occur during the construction process. The result of an environmental impact assessment conducted in 2019 on a construction site in Paju indicated that the area was inhabited by kestrels, a natural monument, and Chinese sparrow hawks, an endangered species. Although the construction work was found not to directly exert physical impacts, GS E&C is setting up plans to protect the wildlife. We plan to prevent reckless hunting and capturing of wild animals by providing education on wildlife protection to the field workers and also to ban night work for the nocturnal Chinese sparrow hawks. In addition, we will create a habitat for the birds by installing artificial nests within the park site. Through such efforts, GS E&C will minimize the environmental impact generated from our construction sites.

Water Consumption Management

Protecting Water Resources through Wastewater Recycling

In 2019, the overall amount of wastewater discharge increased rapidly in line with an increase in the wastewater discharge as the construction of a tunnel for the Seobu Arterial Road project began full scale. Accordingly, GS E&C established plans to recycle wastewater in order to reduce the amount of wastewater discharge. We reduced the amount of wastewater discharge by purifying wastewater through treatment facilities and reusing it for cleaning the wheels of vehicles and roads. As a result, our wastewater recycling rate in 2019 increased considerably by 9.8% from 2018 to 27.6%.

Preserving Water Ecosystem by Applying Underwater Barrier Technology

The use of raw water for an offshore construction project or a water intake facility of a power generation plant installed on a coastline is affected by aquatic organisms and foreign substances. As the first construction company in Korea, GS E&C developed a barrier technology using air bubbles to prevent the inflow of aquatic organisms and reduce underwater noise that can be generated during construction work. The air bubble barrier is a device blocking the inflow of marine organisms with the high-pressure air bubbles generated underwater. So, it stably prevents the inflow of organisms at all water depths. Using eco-friendly technologies, as such, GS E&C not only preserves the aquatic ecosystem, but also develops eco-friendly construction and plant operation capabilities.

Amount of Water Used by Source (Unit: m³)

Service Water



Ground Water



River Water



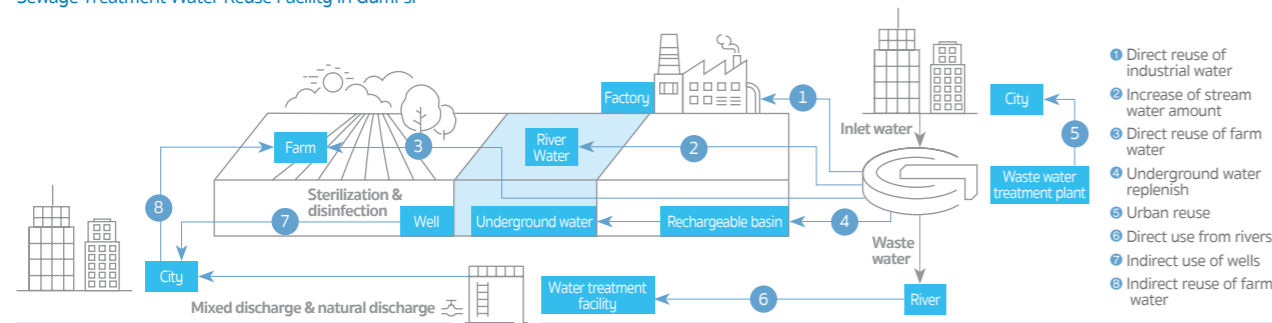
Wastewater Treatment and Recycling Volume (Unit: ton)

	2017	2018	2019
Amount of Wastewater Discharge	221,585	164,362	655,509
Amount of Wastewater Recycling	-	16,149	173,798

Strengthening Water Circulation through Sewage Treatment Water Reuse

GS E&C implemented a project to build a sewage treatment water reuse facility in Gumi-si in order to establish a sustainable water circulation system. The sewage treatment water reuse facility will be operated for 20 years since its completion in October 2018. With the application of the state-of-the-art reverse osmotic sewage reuse technology, this facility supplies 90,000 tons of recycled water a day. With this, GS E&C reduces the amount of water consumption, and thus contributes to resolving the issue of water insufficiency in Gumi National Industrial Complex and lowering pollution of the rivers.

Sewage Treatment Water Reuse Facility in Gumi-si



Focus Page

Protecting Environment of Construction Sites and Local Residents' Health through Fine Dust Reduction

The regulations for air pollutants are gradually strengthened.

Most construction sites are located near people's living sphere. As much as so, a stricter response to and management of fine dust is required. In 2019, the Public Procurement Service established comprehensive measures for fine dust reduction in facility construction sites covering from the process of bidding to construction and contract management. With this as a starting point, the government intensively inspects the status of implementation of fine dust reduction measures by checking on fly ash and fine dust generation in construction sites.

GS E&C reduces the amount of fine dust by controlling fly ash generation from construction sites.

In 2019, GS E&C joined the "Voluntary Agreement for High-concentration Fine Dust Reduction" led by the Ministry of Environment. Based on the agreement, GS E&C is actively identifying the processes of construction sites where a large amount of fly ash is generated (coating, grinding, spray-painting, cutting/embankment and demolition), and thus performing the following improvement activities to protect people's health by improving air quality

- Outdoor grinding**
When we work on wall structures, we use portable suspension-type dust collector and installed a movable dust collecting facility and dust protection net to reduce the amount of flying dust.
- Outdoor painting**
We developed a robot printer P-Bot2 based on a painting machine Art-Bot1 in order to reduce the occurrence of flying dust during a spray work of external painting
- Outdoor cutting**
When we do outdoor cutting work, we install a wood processing plant to block the spreading of flying dust and use sprinkler-attached cutter.
- Field storage**
We install dust protection cover when storing materials (soil, aggregate, rock debris, waste matter, etc.) for longer than one day to prevent the occurrence of dust and we install a water-sprinkling facility if we do frequent storing work.
- Digging & collecting**
When we do breaker (crushing) work during digging and collecting process, we execute water sprinkling. We also install dust-proof cover around the 오지 equipment and we install sprinkler and operate moveable dust collecting vehicles when blasting tunnels.
- Transport & transfer**
We installed wheeling facility when doing transporting and transferring work to reduce dust scattering and we practice onsite external environment management such as sprinkling water over temporary roads within the site and the assignment and operation of dedicated environment managers.
- Other processing**
When an emergent fine dust reduction measure is issued, we execute a flying dust controlling measure such as the closure of construction site entrance and the stopping of transport vehicle operation and we measure onsite fine dust and keep records.

¹ Art-Bot: A robot developed to apply painting as if printing a photo or picture
² P-Bot: A robot developed for application to the exterior of apartment buildings with a focus on productivity
 Similar design to that of the value creation process



Lobby of GRAN SEOUL

Material Topics

Materiality of	Issues (Ranking)
Reduce and prevent occupational accidents	2
Expand employee training and investment	8
Manage the HR system to guarantee diversity and equal opportunity	9
Prevent and swiftly respond to elements causing human rights violations	14

Risks & Opportunities

Continuous occurrence of accidents at construction sites	Agility of business process and organization required due to volatility and increased competition in domestic and overseas construction market	Increase in employees' demand for work and life balance according to social change
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Strategic Financial Regulatory/Politic Operational

Human Value Created



Action to Create

Strengthen human resources management	Establish organizational culture	Guarantee employees' rights	Strengthen workplace safety
<ul style="list-style-type: none"> Systematically management of talent development Operate performance-cultivating management and assessment system 	<ul style="list-style-type: none"> Increase employees' participation through organizational competency management Improve working method and activate communication Establish self-learning culture 	<ul style="list-style-type: none"> Respect diversity by implementing inclusive systems Provide family-friendly benefits Establish transparent labor-management relationship 	<ul style="list-style-type: none"> Establish and implement safety and health management system Activate accident prevention programs

Strengthening Human Resources Management

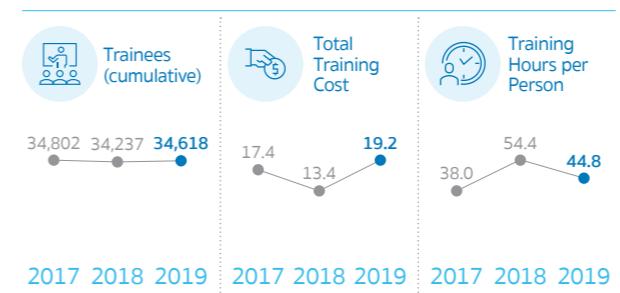
Strategic Talent Fostering

With a goal to foster global talents, GS E&C operates human resources development system consisting of "leadership," "job specialization" and "global" courses. The courses target executives/team leaders, employees and both executives and employees respectively, and thus are operated with the goals and curricula suitable for each position. In 2019, GS E&C continued on the effort for helping employees develop their professional competencies by installing a new curriculum for identification of business items, such as education on financial models, and a discussion-type program based on the "Lessons Learned," which are areas requiring improvement that were detected in the course of operation.

Talent Development System

Cultivation System	Curriculum	Trainees
Leadership Cultivating Excellent Leaders	<ul style="list-style-type: none"> Targeting executives and team leaders Leadership diagnosis and training Encouraging change in leadership behaviors Expanding education to lower-level employees (scheduled) 	1,260 persons
Job Expertise Cultivating Competent Talents	<ul style="list-style-type: none"> Targeting employees Improving on-site performance competencies Training according to job level Training to transferred employees Education in relation to new businesses Education based on "Lessons Learned" 	30,298 persons
Global Cultivating Global Talents	<ul style="list-style-type: none"> Targeting employees and executives Enhancing overseas projects operational capacity Language education Education on cooperation for Korean employees working abroad 	3,060 persons

Talent Development Performance (Unit: Persons, KRW 100 million, hours)



Expanding Accessibility to Global-standard Language Education

GS E&C, which is expanding a range of projects in the overseas market, promotes GST¹, a global-standard English education program. Equipped with in-house native foreign language instructors, GS E&C develops and provides specialized educational courses (BC, BS) to the employees by analyzing the employees' foreign language competencies and devising plans for improvement. In addition to offline training, such as group training, GS E&C also helps employees conveniently access English learning opportunities, such as by providing them with the VOCA program to learn one English sentence a day, using a range of online platforms including GS E&C English Podcast and KakaoTalk messaging.

¹ GST, which stands for GS E&C Speaking Test, is an English speaking test internally developed by GS E&C.

Operating Performance-cultivating Management and Assessment System

GS E&C operates a performance-cultivating management system to help employees increase their individual performance levels and improve expertise. By escaping from the existing performance management paradigm, we assess and manage employees' performance by dividing it into achievement and competency categories. To ensure fair assessment, a number of methods are used including MBO² assessment, multi-faceted evaluation and relative performance evaluation. The evaluation grade is determined through the evaluating coordination meeting where all executives from each business division and headquarters attending and the results are verified through HR monitoring to enhance the objectivity of the evaluation. A variety of assessment tools, as such, are used in developing employees' competencies at the same time as enhancing fairness of assessment.

² MBO (Management by Objectives) Assessment: A performance assessment system to assess individual performances in terms of the level of fulfillment of objectives

Employee Performance Evaluation



Performance-based Personnel Management System and Compensation

GS E&C operates a system to ensure reasonable compensation according to the organizational and individual performances and provides fair compensation and rewards without any discrimination based on gender or race. Individual performance is reflected in employees' salaries and possible promotions to keep them motivated, while feedback is provided as an opportunity to help the employees complement any skills in need of improvement.

Establishing Organizational Culture

Continuous Increase in Employee Engagement through Organizational Competency Management

GS E&C continuously identifies and improves the company-wide organizational culture so as to ensure that the employees' maximum competencies are utilized in a positive way within the organization. The survey on organizational competency, which is conducted once a year, diagnoses nine elements that are essential to management activities; strategies, value and culture, business processes, individual and team competencies, human resources management, organizational structure, compensation and recognition, leadership and performance. Based on the result, which is shared with the top management, improvement activities are promoted all year round by organization and team and changes are internalized through a campaign. GS E&C's employee engagement is increasing each year and this, according to our analysis, is an outcome of the continuous operating efficiency improvement and competency building activities. GS E&C's flexible and responsible organizational culture will bring positive changes to the company-wide management performance in addition to strengthening individual employees' competencies.

Survey on Employee Engagement*



*Rate of positive responses in survey on organizational competency

Promoting Improvement Programs Specialized to Each Organization through Communication

GS E&C operates the CA(Change Agent) system to activate communication between the CEO and employees. As a change manager, CA is in charge of organizational competency improvement activity planning and execution by division, headquarters and office. It also collects employees' opinions through a survey, supports communication leadership improvement and participates in company-wide social contribution activities. GS E&C organizes CA workshops and external training programs to activate the CA system and continuously strives to promote employees' communication by providing financial support for their engagement activities and end-of-year volunteer activities.

Improving Work Efficiency by Changing Working Practices

In 2019, GS E&C changed the way we work on the basis of the result of the organization competency survey conducted in 2018. We have created an organizational culture that can maximize work efficiency through various campaigns and institutional changes, such as the liberalization of attire, implementation of intensive working hours, and the activation of the culture of leaving work on time. GS E&C also promoted 'Stress Zero Program' annually to relieve stress from work weight providing personal counseling, on-site counseling, special lecture and online mental health examination. As 3,987 employees participated in this program, we plan to expand it further in 2020.

Establishing Self-learning Culture

In 2019, GS E&C started "Study with ME" program with a goal to establish the autonomous learning culture and activate cooperation among employees through mutual exchange. This program is operated according to the schedules and curricula planned by employees themselves. GS E&C provides support based on the employees' learning plans. Also, we support the cost of lecturers and operating expenses for the learning groups selected through a review by a person in charge of the Study with Me program management. In 2019, we operated this program twice each season and provided our employees with education in various fields according to their needs. In 2020, the program will be expanded with a range of high-quality educational curricula for self-development in addition to job training to focus on strengthening the operating competencies of employees.

Study with ME Curriculum in 2019

Category	Educational Contents
On-the-job training	Basic welding training and practice, Basic UT training and practice, accounting, financial model
Qualification Courses	Professional engineer of construction equipment, professional engineer of water quality management, engineer of firefighting facilities, enterprise disaster manager
New Technologies	New power and energy businesses, programming, AI, VBA, drone mapping
Language	English conversation, Vietnamese language and culture
Other	Negotiation skills, HR trend, presentation speech

Guaranteeing Employees' Rights

Employee Support

Providing Equal Opportunities through Inclusive Employment and Support

While it is true that female employee and manager ratios are not as high due to the nature of the construction industry, GS E&C provides support to cultivate female leadership and aims to secure more women in senior management positions in the long term by selecting talented women with excellent managerial skills. In addition, persons with disabilities and veterans are given preference in recruitment and, especially, for the recruitment of persons with disabilities to work in construction sites, a focus is placed on ensuring a safe working environment. Through the efforts, GS E&C complies with the government's mandatory recruitment system to employ persons with disabilities by 3.1%.

Employing People from All Walks of Life (Unit: Persons)

Female ²	Disabled	Veterans
1,152	127	97

² Both full and part-time employees

Support for Foreign Workers

With the exception of wages, all foreign workers at GS E&C are given the same rights and responsibilities as their Korean full-time counterparts. Foreign workers in part-time positions are changed to full-time positions according to their individual performances. In 2019, one foreign worker qualified to become a full-time employee. GS E&C implements an integrated HR policy established in 2015 for GP (global permanent) workers to comply with the regulations on employment, service and HR management of foreign workers. We also provide foreign workers with an orientation program and consultation services to assist in their life in Korea. In 2018, GS E&C began publishing eNews, an e-newsletter, in English to share its corporate activities with foreign workers, and thus enhance their sense of belonging to the company.

Status of Foreign Workers



Creating Synergy with Human Resources from Design Branches in India

In 2019, GS E&C selected engineers with excellent competencies verified from design branches located in Mumbai and Delhi, India and sent them work at the head office in Korea in order to improve the corporate competency and strengthen project competitiveness. To ensure stable personnel dispatch, GS E&C provided the engineers with support in terms of visa, alien registration and overseas medical insurance in addition to the accommodation, transportation to and from work, food according to the Indian culture and air tickets. We also organized an orientation program and "Buddy Program" to help them successfully settle down in Korea. The Indian engineers assigned to the respective project teams in the head office created synergy by exchanging with Korean employees.

Providing Family-friendly Benefits

The constant reduction in birth rate has surfaced as a national issue. In addition, the imbalanced use of parental leave leads to the social issues of gender inequality at the workplace and women's career disruption. Facing these issues, GS E&C strives to create a family-friendly environment and implement related systems. GS E&C offers childbirth and childcare support to all employees by providing financial support to cover the childbirth expenses, operating in-house daycare facilities, providing an infertility leave system and expanding childbirth and parental protection support. The number of employees using maternity leave is on the steady rise and 94.5% of employees return to work after their parental leave and stay with the company for at least 12 months. As for the parental leave, the rate of use by male employees is increasing, which is considered a positive change. In 2010, GS E&C, as the first in the industry, opened an in-house daycare center in order to help employees achieve a balance between work and their personal life. At the "GS E&C Nursery of Hopes & Dreams" toddlers from the age of 8 months to those of preschool age receive education customized to each age group.

Status of Welfare Support (Unit: Persons, %)

	2017	2018	2019
Maternity leave users	32	27	34
Parental leave users	60	51	55
Male employee users of parental leave	29	21	29
Female employee users of parental leave	31	30	26
Return rate after parental leave	97.0	98.0	94.5

Establishing Transparent Labor-Management Relationship

Labor-Management Cooperation

GS E&C operates a labor union that consists of 814 full-time employees (36.5%) in positions below division manager, excluding those in positions subordinate to management divisions (financial administration, planning, human resources management and general affairs management). GS E&C respects and ensures the three basic labor rights by renewing the wage agreement each year through labor-management negotiation and also concluding a collective agreement every other year. We notify and consult with the labor union about any matters deemed important for the company management without delay.

Labor Union Membership Status (Unit: Persons, %)

	2017	2018	2019
Union members	970	910	814
Union membership rate	41.4	43.7	36.5

Preemptive Human Rights Protection

Improving Awareness of Human Rights through Education

GS E&C provides human rights education on a regular basis in order to help all employees develop proper awareness of human rights. We prevent human rights violations by internalizing the culture to respect human rights. In 2019, 6,177 employees completed the one-hour sexual harassment prevention training and 6,002 employees completed the one-hour training session to improve awareness of the rights of the people with disabilities.

Preventing Human Rights Risks through Human Rights Assessment

GS E&C conducts the human rights assessment annually in order to accurately understand the level of human rights protection within the company's supply chain in addition to the head office. In 2018, the scope of the assessment was expanded to include partners, joint ventures and subsidiaries in order to identify not only the status, but also the possibility of human rights violations and grievances, and thus preemptively eliminate human rights risks. In 2019, we conducted the assessment on 12 items including discrimination in employment and negligence in industrial safety management targeting 419 internal and external stakeholders and the result indicated that there was almost no possibility of the risk occurrence (2.2 points on an average). Although the level of human rights protection within our supply chain is satisfactory, we plan to continuously strengthen human rights education based on the necessity to improve awareness and internalize the culture of mutual respect.

Human Rights Risks in Supply Chain



Employee Grievance Resolution

GS E&C makes regular visits to the domestic and overseas worksites to directly listen to and handle grievances, and thus alleviate the employees' difficulties experienced at work and in their residential environment. In 2019, improvements were made ranging from simple assistance to systematic changes, such as extended operation of parental leave, labor union task force's system improvement, and on-site mobile phone assistance.

Visiting Worksites to Handle Employee Grievance (Unit: Cases)

	2017	2018	2019
Korea (Domestic)	8	7	23
Overseas	5	3	6
Total	13	10	29

Online Grievance Bulletin

GS E&C operates the VOE (Voice of Employee), an online grievance bulletin, to listen to the employees' difficulties and address them promptly. When an employee posts an inquiry on the bulletin, a person in charge leaves a reply within two weeks. Then, the response is rated by the inquirer.

Strengthening Workplace Safety

Safety & Health Management System

Core Value of Safety and Health

GS E&C put "safety" at the forefront as its core organizational value for 2019. Under the slogan, "Do not work unless safe," we preferentially shared the safety issues with the Management Committee and the Q-HSE Operations Committee. According to the safety and health policy, "Plan, Inform and Act," we have been promoting a safety and health culture that centers on workers. As accidents in construction sites can cause fatalities, GS E&C's all worksites are committed to preventing accidents with a goal of zero critical accidents.

Global-standard Safety and Health Training System

On August 2019, GS E&C's Safety Innovation School won the education and training management system certification (ISO299993:2017), which is recognized by the International Standard Organization (ISO), for the second time following the previous year as the first in Korea's construction industry. With this accomplishment, GS E&C secured international trust about its safety and health training service. To provide practical safety training applicable to the rapidly changing business environments, GS E&C operates the Curriculum Development Deliberation Committee, which consists of on-site employees and experts, and develops an optimized curriculum centered on the trainees.

Accident Prevention Programs

Safety and Health Management Activities of the Executives

GS E&C's CEO and executives make regular visits to the worksites in order to raise safety awareness of employees and encourage their efforts. Through the visits, the CEO and executives deliver safety and health policies of the government and company to the employees and emphasize accident prevention. In 2019, the scope of executives to make worksite visits was expanded from executives of relevant departments to all executives in order to enhance the level of the management's responsibility for safety management in worksites.

Worksite Visits by Executives (Unit: Visits)

	2017	2018	2019
CEO	10	10	10
CSO ¹	118	262	270

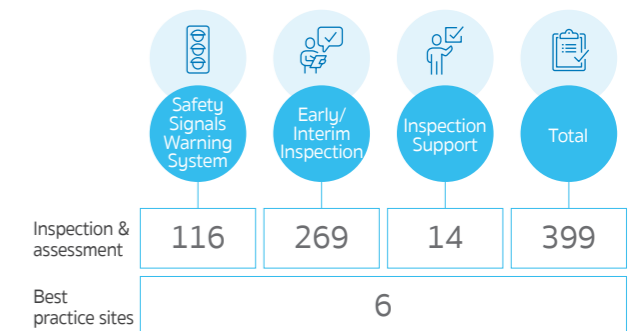
¹ CSO: Chief Safety Officer

Safety Traffic Signal System

GS E&C has been operating the Safety Traffic Signal System for five years in a row, aiming to fulfill the goal of zero critical accidents. This is a system to differentially manage safety levels in worksites by establishing the assessment criteria for "green," "yellow" and "red" levels. By supporting the establishment of a safety management system in worksites that are at an earlier phase of a project involving high-risk operations and use of special techniques and checking on the system implementation as frequently as necessary, we increased the level of tension in the worksites while eliminating risk factors in advance.

For the worksites that produced low assessment results, we provide active support and guidance, such as on building plans for improvement, and organize on-site workshops. In 2019, intensive management was administered on the risk of fall and equipment use that could lead to critical accidents. As for the high-risk operations, the head office prepared a framework for safety and health guidelines. To motivate the employees, best practice sites that received the "Green" level from three consecutive assessments are granted the right of autonomous safety activities for one year and awarded with a certificate plaque and prize money.

Safety Traffic Signal System Implementation in 2019



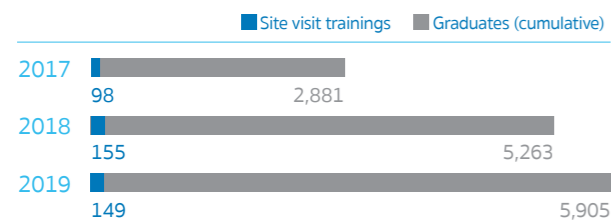
Osan City Zi Complex 2 selected as the "Best Practice Site"

Expanding Safety Innovation School Operation

Since 2015, GS E&C has been strengthening and expanding worksite-visit training services through the Safety Innovation School. Targeting on-site workers, safety awareness improvement training and special safety training programs centering on experience and functional practices are developed and provided. In addition, safety and health manager training programs, which are required by law, are incorporated into the Safety Innovation School curriculum, but adjusted to meet the company's specific needs. In 2019, GS E&C developed eight safety and health training programs based on VR (virtual reality) in order to enhance the level of safety management in worksites using IT. At the same time, 8 training programs were secured through business agreements, and thus a system comprising of a total of 16 VR experience-type health and safety training programs was established.

GS E&C's Safety Innovation School is also operated in Singapore. It contributed to achieving zero accidents for 20 million man-hours at the T301 construction site, which is the first in the history of Singapore's Land Transport Authority. Safety Innovation School was operated targeting the workers of the T301 site with the same programs as those of the Safety Innovation School in Yongin, Korea. It was made mandatory for new workers to complete the training for four hours a day, three times a week. Based on the strict safety management, GS E&C's construction competency is of the highest level in Singapore. Accordingly, GS E&C's T203 site won prizes in three categories at the Safety Contest of Singapore's Land Transport Authority.

Safety Innovation School (Unit: Persons, visits)



Customized Support Training Programs

• Safety-conscious mindset	• Safety management of temporarily installed electric wires
• Safety management in confined spaces	• Keeping worksites clean and tidy (5S/3C) ¹
• T/C signal operator training	• Practical risk assessment
• First aid (CPR)	• Construction safety with temporarily installed scaffolds
• Understanding GS E&C's basic safety rules	• Fire prevention and safety management
• Safety training through VR experience	• Emergency simulations

¹ 5S: Sort, set in order, shine, standardize and sustain
³C: Consistency, capability, cultivation

Strengthening Construction Machinery Safety Management

Accidents caused by construction machinery and equipment result in critical damages and numerous casualties. Therefore, strict prevention activities are a must. In 2019, GS E&C strengthened machinery-related accident prevention activities by fully supporting pre-inspection of four high-risk construction machines (tower crane, construction lift, mobile crane and pile driving machine) through equipment experts. In addition, we supported the improvement of construction machinery management competencies in worksites by providing safety training on a regular basis to persons in charge of construction and safety management through the Safety Innovation School. In the construction sites where tower cranes are operated and large-scale plant construction sites where a large number of construction machines are used, we assigned persons in charge of equipment management and arranged for equipment experts to continuously provide support and feedback in order to preemptively respond to accidents caused by the machinery.

Status of Equipment Inspection by Experts in 2019

Inspection Activity	Details	Count (Inspections)
Intensive management of tower crane	Supervision of installation and dismantling works	169
	Supervision of ascending and descending works	104
Preliminary inspection of construction machinery	Tower crane, construction lift	146
	Pile driving machine, mobile crane	142

Safety Management for Foreign Workers

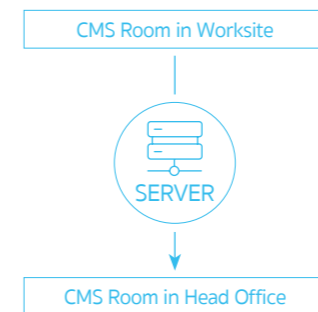
GS E&C has been striving to protect the safety of foreign workers in domestic and overseas worksites. Since 2016, we have been providing safety and health training to Chinese workers that account for the majority of foreign workers at construction sites in Korea by employing persons in charge of training material development in Chinese language and Chinese interpretation within the Safety and Health Team. In 2019, we developed 21 safety and health training materials targeting Chinese workers and distributed them to 26 worksites in order to support Chinese interpreters. In addition, we produced safety and health training data in 12 languages including China and distributed them to foreign workers so as to provide safety and health training to foreign workers from various countries.

In the overseas sites, we conducted quarterly inspections on high-risk worksites selected through an environmental analysis by country. When selecting overseas partners, we encourage their autonomous safety management activities by reflecting the results of safety assessment conducted on the companies. Moreover, key risk factors and response plans derived from an analysis on the trends of accidents in overseas worksites over five years are shared with the overseas worksites and themed safety activities and video training programs are carried out monthly in order to encourage participation in safety management activities by local employees and workers.

CCTV Monitoring System (CMS) Establishment

GS E&C introduced the CMS (CCTV monitoring system) to dangerous work areas and those exposed to safety risks in construction sites by using the intelligent CCTV technology. CMS enables real-time monitoring on and analysis of the instability of temporary facilities and unsafe behaviors of workers, and thus emergency broadcasting upon detection of dangerous situations or unsafe practices. As such, this system has contributed considerably to swift responsiveness to and prevention of accidents. The videos and photos recorded through the CMS are used in the daily safety training and inspection and regular safety training at least once a month so as to provide realistic training content to workers, and thus improve safety awareness of the employees and workers in construction sites.

Real-time Safety Monitoring with CMS



Accident Management

Status of Workplace Fatalities

Having experienced three to four fatalities consistently in the last five years, GS E&C carefully analyzed the patterns of accidents and made an effort to prevent disasters with high mortality rates. In 2019, we witnessed one occupational accident and four technological accidents. However, the critical accidents occurred mostly in the first half of the year and, as a result of intensive safety management and inspection to prevent safety accidents, no accidents occurred in the second half. GS E&C will strive further to achieve "zero critical accidents" by strengthening safety management in the areas where the intensity and frequency of accident occurrence are high along with activities to prevent unsafe conduct of workers.

Critical Injuries in Partners (Unit: Persons)

	2017	2018	2019
Occupational accidents	4	2	1
Work & technological accidents	0	1	4
Total fatalities	4	3	5

Management of Loss Caused by Occupational Injuries of Employees and Partners

GS E&C strives to prevent occupational injuries of the employees and partners on the basis of the management philosophy to place the highest priority on safety within the supply chain. Putting safety as one of the three management policies, we are eliminating the causes of accidents to achieve the fundamental prevention of accidents in the workplace. GS E&C will establish the safety and health management culture to always put safety first.

Occupational Injuries of Employees and Partners (Unit: Persons, %)

	2017	2018	2019
Employee LTIFR ²	0	0.06	0
Partner LTIFR	1.15	1.31	2.11
Employee OIFR ³	4.18	3.94	3.54

² LTIFR: Lost-time injuries frequency rate, Number of lost time injuries/annual working hours x 1,000,000

³ OIFR: Occupational illness frequency rate, number of occupational illnesses (number of occupational illness reports or cases)/total working hours x 1,000,000

06 Social Value



GS Computer Class

Material Topics

Materiality of	Issues (Ranking)
Improve customer satisfaction through quality management	5
Prevent non-financial risk of partners	10
Promote social contribution activities for local communities	13

Risks & Opportunities

Financial and non-financial risks of partners	Creating opportunities for cooperation by strengthening partner competency	strengthening new market and business promotion strategies through activities for local community development
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■ Strategic
 ■ Financial
 ■ Regulatory/Politic
 ■ Operational

Social Value Created

KRW
19.5
billion

Funds for shared growth with partners

Highest level in shared growth assessment & Collaboration Evaluation Score 99.5

KRW
5.545
billion

Investment for Social contribution

Action to Create

Lead shared growth	Increase customer value	Contribute to local development
<ul style="list-style-type: none"> Enter into agreement for shared growth with partners Strengthen and expand a range of support programs Manage CSR of partners 	<ul style="list-style-type: none"> Strengthen systematic quality inspection Manage customer satisfaction Protect corporate and customer information 	<ul style="list-style-type: none"> Promote social contribution activities with characteristics of construction industry reflected Promote company-wide social contribution activities

Leading Shared Growth

Supply Chain Management

Partner Risk Management through Inspection and Support

GS E&C manages financial and non-financial risks of partners in order to achieve stable project implementation. We inspect non-financial elements of our partners participating in projects on a regular basis, such as safety management and environmental accidents, with a focus on financial stability. In addition, we minimize risks in the long term by providing management, financial and safety-related supports to our partners. By concurrently promoting strict inspection and support, GS E&C sets the directivity for responsible project implementation.

CSR Risk Management for Partners

Category	Key Indicators
Financial stability	<ul style="list-style-type: none"> Number of CEO forums held Amount of financial support
Environmental management	<ul style="list-style-type: none"> Number of environmental accidents
On-wide safety management	<ul style="list-style-type: none"> Number of personnel receiving safety training Number of occupational injuries

*Overall and on-site evaluation, Including evaluation items such as Issue Monitoring

Fair Bidding through Automatic Selection System

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 those falling under the categories of main focus, candidate status and verification are scored. Then, the higher-scoring companies are given an opportunity to participate in the bidding process. In 2019, 21 new companies were registered, adding to a total of 834 partners. With this system, GS E&C creates an environment of fair competition.

Partner Selection Score Index

Item	Points
Selection frequency	20
Profitability (total)	35
Quarterly assessment (Safety Score: 14 points)	40
Same area	5
Bonus points/deductions	±3
Partner selection score	100

Securing Stable Supply Chain through Key Partner Management

GS E&C manages economic, environmental and social risks of the key partners. The companies that have maintained a relationship with GS E&C for a long time or a large volume of transactions are managed as key partners. In 2019, 345 partners, which are 41.4% of all partners, were classified as key partners and managed accordingly.

Identification of Key Partners

2017	2018	2019
Number of partners 1,063	Number of partners 991	Number of partners 834
Number of critical partners 320	Number of critical partners 327	Number of critical partners 345
Sales ratio of critical partners 72.7%	Sales ratio of critical partners 66.8%	Sales ratio of critical partners 62.8%

*Total number of partners, including financial risks (15): 849

Regular Monitoring for Risk Management

The partners' financial and non-financial risks need to be managed actively as the risks can exert an enormous impact on GS E&C. Accordingly, GS E&C identifies, evaluates and monitors economic, environmental and social risks of its partners. Through regular monitoring, companies that fail to meet the internal requirements lose their qualifications as GS E&C's partners. GS E&C will reduce the ratio of high-risk partners to 0% by promoting continuous management.

High-risk Partners in 2019

Economic (including financial)	Environmental	Social
1.76% (15 companies)	0%	0%

Promoting Social Responsibility of Partners through Regular Assessment

GS E&C assesses partners on a regular basis to help them improve their competitive power in the long term. Upon detection of a partner's irresponsible operation, GS E&C takes disciplinary action to have the company remain on alert. As for a company that scored low points in the overall assessment of credit rating, safety and customer satisfaction, we issue a warning and permanently erase it off from the list of partners if the company fails to make improvements following the warning. In 2019, we sent a written warning to 20 partners. Through this process, GS E&C encourages its partners to fulfill their social responsibilities.

Improving Partners' Competitive Power through a Range of Support Programs

Promoting Systematic Shared Growth through Agreement with Partners

GS E&C is implementing the TCP (Triangle Cooperation Program), which is a system to promise fair transaction and cooperation by entering into an agreement with small and medium businesses.

Support for Shared Growth with Partner

Financial Support	Support for Technology Development
<ul style="list-style-type: none"> Direct Financial Support (Management Support Fund) Indirect Financial Support (Shared Growth Funds) Improvement of Payment Terms for Subcontracting 	<ul style="list-style-type: none"> Support for Joint Development of New Technologies and Patent Application Technical Workshops and Seminars with Partners Technology Protection System
Educational Support	Management Support
<ul style="list-style-type: none"> Safety Innovation School Xi Management Training Training of Site Directors and Field Workers of Partners 	<ul style="list-style-type: none"> Xi CEO Forum Shared Growth and Development Committee Subcon Board PMS (Project Management System) and GS Partner System

Expanding Financial Support for Stable Management

GS E&C expands financial support and improves payment terms to ensure the successful cash flow of partners. The cumulative amount of support funds provided in the form of prepayments through the management fund system implemented since 2010 stands at a total of KRW 120 billion. GS E&C also signed an agreement with banks to provide direct loans at low interest rates to the recommended partners. We have also increased the cash payment ratio to around 90% and set the payment period for subcontracting works as less than ten days so as to reduce the financial burden on our partners.

Financial Support for Shared Growth in 2019

Management support fund (based on average annual balance) KRW 26.6 billion		Shared growth funds KRW 19.5 billion
Cash payment ratio 92.6 %	Cash payment ratio retention rate 100 %	Payment period 10 days

Expanding Overseas Market for Partners through Joint Project Winning

To help partners improve their competitive power, GS E&C supports joint research for new technologies and development and assists in technology commercialization. In 2019, GS E&C won a project valued

at KRW 1.7 trillion from Singapore through continuous cooperation and support for the new technology development, patent registration and application, intellectual property right development and agreement for a performance sharing system with partners. This is recognized as a success case of overseas market entry through cooperation with small and medium businesses. With this contract winning, GS E&C's sales through joint market entry with domestic partners increased by 36%. GS E&C also awarded with the highest level at the shared growth assessment based on this performance.

Technological Support for Shared Growth in 2019

New technology joint development cost KRW 320 million	Patent and new technology registration 9 cases	Cost-reduction "PRECON" activities 15 cases
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Customized Training for Competency Building

GS E&C provides a range of training programs to help with partners' stable business management. The Xi management training program for partner CEOs provides information on construction market trends and leadership assistance to strengthen the competitiveness of our major partners during bidding and project implementation processes. At the same time, practical training on safety and quality management is provided to the site directors and field workers of our partners.

Educational Support for Shared Growth in 2019

Xi Management Training 60	Safety Innovation School 225	Site directors & field worker training 209
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Activating Communication with Partners through Various Channels

GS E&C continuously operates online and offline programs for communication with partners. At the Xi CEO Forum, which is held annually targeting the executives of GS E&C and CEOs of partners, the shared growth system performance is shared and partners displaying outstanding performance are awarded. Furthermore, through "Subcon Board," a conference, and "GS Partner," an online communication channel, we listen to the partners' difficulties and expectations and actively reflect them in our support operation.

Communication Support for Shared Growth in 2019

Number of CEOs of partners participating in the forum 100 people	Number of briefings-meetings held on outsourcing system 4 times	Number of internal review committee meetings held 17 times
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Increasing Customer Value

Supply Chain Management

Securing Reliability through Internal Quality Management

GS E&C strives to secure the reliability of material quality, which is the most important aspect in quality control. In particular, GS E&C executes 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-mix 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 stone and insulating materials as well as for indoor air quality, noise level and fire door installation.

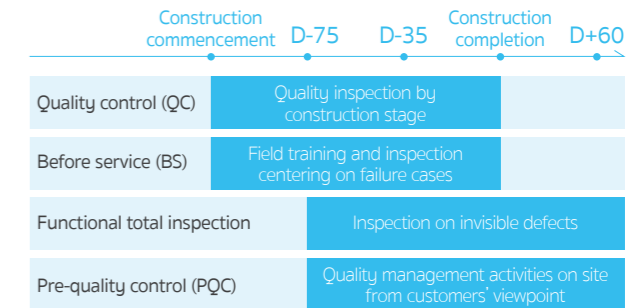
Strengthening Quality Management Efficiency

In line with the implementation of the 52-hour workweek system, prevention of quality management operation discontinuance and securing of the updated quality with a diversity of the latest materials and techniques reflected is being required. For systematic quality management, GS E&C has entered into an agreement for preliminary verification with over ten quality testing institutions across the country. Based on the agreement, we have secured reliability of quality testing and improved efficiency of quality management operation. In addition, we have improved the testing equipment supply system in order to place testing equipment in worksites at the required time and to keep the equipment in optimal conditions.

Preliminary Quality Inspection

From construction commencement to 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. In 2019, we again inspected quality through quality control (QC) and before service (BS) operations and performed pre-quality control (PQC) operation 75 days prior to the construction completion. A group consisting of a variety of stakeholders including partners, Xi S&D engineers and individual consumers participated in the preliminary quality inspection and checked on 30 items, such as architecture, facilities and electricity. Based on the result of quality inspection, we preemptively identify and respond to any inconveniences that residents might experience. In 2020, joint quality inspection before a preview by residents will be added to our quality management operations. Having the inspection 50 days before construction completion will contribute to reducing risks and enhancing customer satisfaction as employees of the relevant departments in the head office will directly check on the areas subject to significant defects.

Preliminary Quality Inspection Process



*D-50 joint quality inspection added to the process above in 2020

Activating Customer and Market Communication

Creative Platform for Customer Communication

GS E&C leads differentiated customer communication in the construction industry by using social media. Through eight social media channels including YouTube, KakaoTalk, Facebook and Instagram, GS E&C has been consistently uploading content according to customers' needs. In 2019, the number of subscribers to GS E&C's social media channels reached approximately 200,000. Our employees participate in content development and strive to provide customers with helpful information, such as on investment and real estate market trends, together with experts from various fields. As a result of the effort for communication at customers' eye level, GS E&C won the grand prize in the construction category of Korean Social Media Awards 2019, which contributed to the management of the Xi brand. We plan to develop Xi TV further, centering on "Xi Story," which shows videos on the construction of housing complexes.



Xi TV, GS E&C's Real Estate Broadcasting on Social Media Channels

Customer Satisfaction Management

Customer-First Service through Active Complaint Handling

It is important to identify and manage the satisfaction of residents in order to maintain competitive power in the housing market as architecture and housing represent the largest share among GS E&C's business sectors. To efficiently collect and handle customers' complaints, GS E&C has simplified complaint reception and handling channels to the company-wide VOC (Voice of Customer) system and the CRM system for housing customers. In addition, we are resolving complaints swiftly according to the principle of instant handling. The "Xi My House Visit App," an application for house previews developed in 2018, enables real-time sharing of the results of after-sale service request handling. Even after the after-sale service, we administer Happy Call monitoring on a daily basis as opposed to weekly in the past, in order to more carefully examine customers' responses. As the complaint process became more convenient, the number of complaints has increased rapidly since 2018. However, active management of customer complaints led to an improvement in customers' trust and operation efficiency.

Customer Complaints (Unit: Cases)

Housing complaints		VOC	
2017	896	2017	436
2018	4,304	2018	1,103
2019	5,845	2019	980

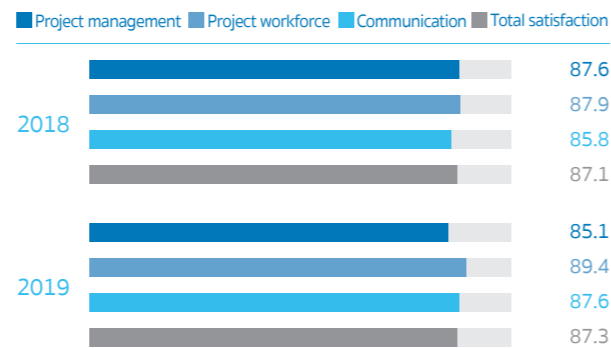
Upgrading Customer Service

Ranked No. 1 among apartment brands in Korea, GS E&C's Xi maintains a high level of resident customer satisfaction. We increased customer convenience by introducing state-of-the-art facilities including a home network system and communication system as the first in the industry. We also improved customer satisfaction by recently establishing the "Xi AI Platform." Using IoT technology, Xi AI Platform provides links to major sound engines in Korea provided by all web portals and network operators. GS E&C is preparing to commercialize the "Xi Energy Saving" system through the application of big data technology in order to provide customers with greater experiences.

Corporate Client Satisfaction Monitoring

GS E&C strives to provide high-quality services to not only resident customers, but also corporate clients. To accurately identify and manage satisfaction of corporate clients, GS E&C conducts a satisfaction survey each year targeting corporate clients that have ordered domestic and overseas architecture, housing, infrastructure and plant constructions that are in progress. In 2019, GS E&C recorded a total satisfaction score of 87.3 points (out of 100). While the points for project workforce and communication were higher than those in 2018, the point for project management decreased. Accordingly, we plan to accurately identify the cause and improve on this area. GS E&C will strengthen customer management across all sectors by conducting corporate client satisfaction survey on a regular basis.

Corporate Client Satisfaction Survey (Unit: Points, out of 100)



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

Maintaining High Customer Satisfaction with Brand Power

In 2019, GS E&C recorded a customer satisfaction score of 73.6 points, which increased from the previous year, and thus was ranked No. 1 in the GCSI (Global Customer Satisfaction Competency Index) for 15 years in a row. Xi, GS E&C's apartment brand, won the grand prize in the apartment category at the Korea First Brand Award for ten consecutive years and also won the grand prize at the Korea Prestige Brand Awards for nine years in a row. In 2019, GS E&C 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 six months.

Customer Satisfaction Survey (Unit: Points)



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

Protecting Corporate and Customer Information

Company-wide Information Security System

To ensure security for corporate information including information on new businesses and technologies, as well as personal information, GS E&C prepared a new information security system in 2019 based on the information protection management policy and guidelines. Information protection management guidelines specify the formation and duties of the information protection organization and explains about accident prevention and response, follow-up management, education and inspection activities. In addition, GS E&C ensures personal information protection through the security guidelines for each program, such as Unix and MSSQL. To promote more thorough information security, GS E&C installed Information Security Team in November 2019 and plans to increase the information protection level by acquiring ISMS¹ certification.

¹ ISMS: Information Security Management System

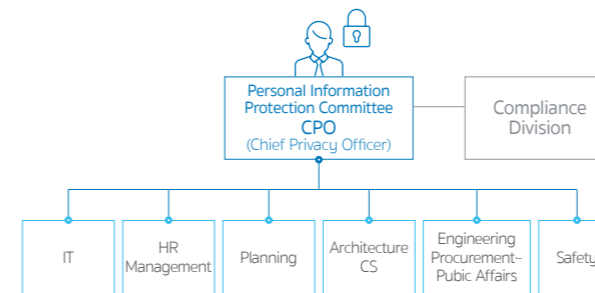
Strengthening Responsibility by Operating Personal Information Protection Committee

GS E&C started operating the Personal Information Protection Committee in 2012 to prevent social losses caused by personal information leakage. This committee comprises of executives from the relative organizations as members with the CPO², the chief privacy officer, at the lead. The committee meeting is held four times a year on a quarterly basis. If necessary, extraordinary meetings are convened or a meeting is held in writing. In 2019, the head of the Information Security Team was appointed as the CISO³ and the roles and responsibilities of the committee in relation to personal information protection activities and information security system introduction were specified.

² CPO: Chief Privacy Officer

³ CISO: Chief Information Security Officer

Personal Information Protection Committee



Customer Information Protection through Field Monitoring

GS E&C operates the personal information processing system to achieve more thorough protection of customers' personal information in addition to the information of the employees and partners. Personal information of all stakeholders that are engaged in business activities with the company is encrypted and, by managing the authority to access a personal information processing system, a high level of information security is maintained for customers and partners. In particular, to prevent customers' personal information from being exposed to the risk of leakage, Compliance Team inspects the PCs of employees working in the field. Upon detection, files containing customers' personal information that are unnecessary for operations are deleted immediately. If an employee downloads customers' personal information to an external storage or USB, the employee must submit a statement and, if the download is not relevant to any operation, the employee will be punished or dismissed. We also provided information protection training to and inspected PCs of employees working at the sales offices, which handle a large amount of customers' personal information. The inspection was carried out according to the sales office checklist comprising of 15 items on customer information use and technical protective measures. As a result of the efforts, the inspection on the status of personal information management conducted by the Ministry of Interior and Safety did not indicate any areas requiring improvement and not a single case of personal information loss has occurred.

Strengthening Employees' Security Awareness through "Security Practice Day" Event

With a goal to strengthen the employees' security awareness, GS E&C holds the "Security Practice Day" event to conduct autonomous security inspection under the supervision of a person in charge of security management at each team. On Friday of the third week of each month, Compliance Team, IT Team and Information Security Team jointly inspect computers of 10% sample size of teams through "Protect My PC" and "Security Self-inspection Program." GS E&C is also internalizing the autonomous security management culture by promoting self-inspection according to the "9 habits of security practice" in order to lower the risk of information leakage within the operation process from file storage to printing.

9 Habits of Security Practice

- Prevent company information leakage
- Comply with information security guidelines
- Delete unnecessary files saved in PC
- Minimize document printing
- Dispose of hard copies that have been reported
- Store important documents in a secure storage
- Maintain a pleasant office environment
- Check work environment once again before leaving office
- Friday on the third week of each month is "Security Practice Day"

Contributing to Local Development

Strategic Social Contribution Activities

Founded in 2006, Xi Share Love Volunteer Group has been performing major social contribution activities by dividing the members into head office and field teams. Under the core value to "respect, communicate and grow together," Xi Share Love Volunteer Group performs a wide range of social contribution activities with the characteristics of the construction industry reflected. In 2020, volunteer programs where employees' families can participate will be planned and promoted as a new driving force for GS E&C's social contribution activities. In addition, new activities, such as sanitary pad support for low-income families and environmental purification activities, will be introduced on the basis of accurate identification of the rapidly changing social needs.

Key Social Contribution Activity Partner & NGO

Partner Agencies	Social Contribution Activities
ChildFund Korea	Study Room of Dreams and Hopes, Playground of Dreams and Hopes, Joyful After-school Classroom, Kimchi Support
Save the Children	Scholarships and Support for Learning Expenses
Busan Economic Promotion Agency	Shared House for Young People in Busan
Happy People	Supporting Vietnamese School Facility
Good Neighbors*	Supporting Sanitary Pads for Low-income Families

*2019 New Partner Agency

Strategy for Social Contribution

Key Areas

UN SDGs Connectivity

Main Issues and Performance

	Education & Culture	Social welfare	Environment & Safety
UN SDGs Connectivity	<p>GS E&C is strengthening community-based education programs by expanding new towns and development projects in Korea and abroad. By building and managing educational facilities linked to our business, we want to secure a sound customer base, to establish a corporate culture of satisfaction, achievement, cooperation and responsibility with direct participation by employees in education management and to contribute global issues of quality education.</p> <p>4 QUALITY EDUCATION</p>	<p>Increasing trust and brand value through Housing and Infrastructure project is GS E&C's mission. We want to contribute to sustainable urban development through activities that can be part of solving social issues related to housing. These activities will enhance GS E&C's reputation and brand image for future customers.</p> <p>11 SUSTAINABLE CITIES AND COMMUNITIES</p>	<p>GS E&C values the safety of employees at construction site and partners, and the health and safety values of stakeholders. We focus not only technologies that incorporate eco-friendly technologies but also on activities that take into account hazardous materials and atmospheric environmental issues. GS E&C will continue to pursue programs that support health and well-being.</p> <p>3 GOOD HEALTH AND WELL-BEING</p>
Main Issues and Performance	<ul style="list-style-type: none"> Operating Education and Culture Program Education Beneficiary: 3,446 people Employee Participant: 621 employees College Student Employment Preference Rank(Construction Industry): 1st place 290th Dreams and Hopes Laboratory (cumulated) Joyful After-school Classroom No. 18 † 2019 Jobkorea 	<ul style="list-style-type: none"> Caring Underprivileged and Improving Their Quality of Life Press Exposure: 62times Social Welfare Program Beneficiaries: 7,653 people Shared House for Young man (5th beneficiaries) Supporting Military Base Sports Facility Supporting Kimchi for 1,004 households 	<ul style="list-style-type: none"> Supporting Eco-friendly Construction and Safety Activities Cultural Assistance Program Beneficiaries: 28,110 people 30th Dreams and Hopes Playground Completion and Renovation Supporting 19,890 pieces of Fine Dust Masks

Company-wide Social Contribution Activities

GS E&C manages the performance of social contribution activities by analyzing the cost of company-wide activities. In 2019, a total of KRW 5.545 billion was invested in social contribution activities. By relatively lowering the percentage of management cost and increasing that of monetary donations to 94.6%, we expanded the resources invested into local communities. GS E&C will continue to measure social contribution performance and impact based on the input costs, and thus effectively contribute to local community development.

2019 Social Contribution Costs (Unit: KRW 100 million)

	Monetary donation	Time donation	Merchandise donation	Management cost
Costs	52.44	1.50	0	1.50

Employee Social Contribution Activities (Unit: Cases, hours, persons)

	2017	2018	2019
Activities Performed	48	49	56
Participation Time	2,102	2,544	2,957
Number of Participants	391	524	621

Focus Page

Contributing to Development of Society through Social Contribution at Global Worksites

"Spreading the value of sharing by continuously performing social contribution activities at overseas sites"

GS E&C is promoting field-centered social contribution activities to meet the demands and expectations of local communities located around the overseas sites. We spread the value of shared growth by performing a wide range of activities including delivery of donations and provision of necessary items. In 2019, GS E&C employees visited a school near the Nha Be project site in Ho Chi Minh City, Vietnam and built the "GS Fun Computer Class." The employees painted murals with local Vietnamese workers and performed activities to improve educational environment, such as replacing old computers and installing window shades. In addition to the educational environment improvement in Vietnam, GS E&C will continue promoting social contribution activities in other global sites.

GS Computer Class Establishment

1	Sort out old computers		2	Paint murals to create a bright atmosphere	
3	Install new computers		4	Install mark and signboard	

"Promoting local community development through social contribution activities based on the characteristics of construction industry"

In addition to donations by construction site, GS E&C performs activities to build infrastructure with a goal to contribute to local development according to the demand of the local communities. In 2019, we improved the convenience of residents in Gumi-si by building a children's playground, sports facilities and an ecological pond near the sewage treatment plant. In Andong where a GS E&C's project site is located, we installed an observatory in order to contribute to revitalizing the local tourism industry. In addition, GS E&C is operating the Study Room/Playground of Dreams and Hopes project by reflecting the characteristics of the construction industry. We build eco-friendly and educational playgrounds and our employees create a pleasant environment in the rooms of children from low-income families. Furthermore, through the "After-school Classroom" project, GS E&C repairs local children's centers and provides learning supplies so as to help children study in a pleasant environment.



Playground near sewage treatment

- 67 Data Center
- 72 GRI Standards
- 75 Independent Auditor's Report
- 78 Statement of Greenhouse Gas Emissions Verification
- 80 Third Party Assurance Statement
- 82 UNGC Advanced Level
- 83 Membership Status and Awards

Data Center

Financial Value

FY 2019: January 1 to December 31, 2019

FY 2018: January 1 to December 31, 2018

FY 2017: January 1 to December 31, 2017

*Data Scope

A Headquarters	B 138 Domestic sites
C 1 Technology Research Center	D 10 Overseas Branches
E 52 Overseas Sites	F 14 Overseas Subsidiaries
G 834 Partners	

Category	Unit	FY 2019	FY 2018	FY 2017
Sales		104,166	131,394	116,795
Cost of Sales		90,187	115,118	108,762
Gross Profit		13,979	16,276	8,033
Sales and Administrative Expenses		6,306	5,631	4,846
Operating Profit		7,673	10,645	3,187
Other Operating Income		2,642	2,591	3,006
Other Operating Expenses	KRW 100 million	3,893	3,185	7,579
Investment Gain and Loss		(29)	65	(61)
Financial Income		2,604	1,064	2,888
Financial Costs		2,259	2,830	3,048
Profit before Income Tax		6,737	8,350	(1,607)
Income Tax Expenses		2,263	2,476	30
Net Income		4,475	5,874	(1,637)
Current Assets		73,289	78,282	95,823
Non-current Assets		58,423	42,051	41,143
Total Assets		131,712	120,333	136,966
Current Liabilities		58,009	63,597	85,813
Non-current Liabilities	KRW 100 million	32,2729	20,489	18,756
Total Liabilities		90,281	84,086	104,569
Issued Capital		4,005	3,972	3,584
Capital Surplus		8,023	8,118	6,272
Retained Earnings and Others		28,274	24,157	22,541
Total Equity		41,430	36,247	32,397

*Data covers GE E&C and 32 subsidiaries including Xi S&D

Industrial Value

Category	Unit	2017	2018	2019	Data Scope*
Proportion of Overseas Orders	%	21.9	22.2	29.8	A-F
New Overseas Markets	Countries	0	1	1*	

*Ukraine

Intellectual Value

Category	Unit	2017	2018	2019	Data Scope*
R&D Expenses	KRW 100 million	541	527	483	A, C
R&D Investment Rate	%	0.46	0.40	0.46	A, C
Sites Technology Applied	Sites	61	87	92	B, E
Technologies Developed	Sites	24	33	28	A, C

Environmental Value¹

Category	Unit	2017	2018	2019	Data Scope	
Amount of Construction Materials Used	Ready-mixed Concrete	m ³	6,034,855	4,154,240	4,154,637	A-C
	Cement	ton	128,306	89,789	100,175	
	Aggregates	m ³	313,313	187,926	702,486	
	Asphalt	ton	186,468	89,789	60,263	
	Sand	m ³	38,137	25,670	101,814	
	Steel	ton	556,349	346,283	377,168	
	Plaster boards	ton	44,564	53,199	40,061	
Improvement Rate of Raw Materials Consumption by Unit	%	-4	-2	-3		
Amount of Recycled Aggregates Used	m ³	82,735	24,707	58,820		
Amount of Water Used	Total	m ³	2,698,668	2,687,953	2,758,690	A-F
	Service Water		2,013,403	1,935,270	1,955,358	
	Groundwater		307,813	426,384	456,741	
	River Water		377,453	326,299	346,591	
Intensity of Building Water ²	m ³ /m ²	2.00	2.67	2.92		
Amount of Energy Used	Total	TJ	4,602	4,715	4,020	A-F
	LNG (City Gas, Natural Gas)		109	95	172	
	Kerosene		159	124	59	
	Diesel		2,560	2,653	2,153	
	Gasoline		111	80	44	
	Electricity		1,636	1,743	1,569	
	Other		28	20	23	
Intensity of Building Energy ³	MWh/m ²	0.13	0.13	0.13		
Amount of Waste Generated	Total	ton	259,329	664,663	450,870	A-C
	Concrete Waste		94,917	531,363	337,060	
	Asphalt Waste		16,905	21,891	8,788	
	Sand and Stone Waste		6,252	28,655	20,916	
	Mixed Construction Waste		123,703	67,981	70,001	
	Synthetic Resin Waste		10,156	11,628	6,832	
	Timber Waste		6,976	2,032	4,482	
Construction Sludge		421	1,113	2,791		
Waste Disposal	Recycling	ton	241,777	649,890	436,765	A-C
	Landfill		421	1,113	2,791	
	Incineration		17,132	13,660	11,314	
Amount of Waste Asbestos Treatment	ton	547	451	516		
Amount of Wastewater Discharge	ton	221,585	164,362	655,509		
Amount of Greenhouse Gas Emissions	Total	tCO ₂ -e	285,234	291,233	244,959	A-F
	Scope 1 (Direct emission)		63,959	71,547	58,994	
	Scope 2 (Indirect emission)		79,473	84,631	76,226	
	Scope 3 (Other forms of indirect emission)		141,802	135,055	109,739	
Greenhouse Gas Emissions Reductions	Total Reductions		37,586	9,014	8,550	
	Estimated Cost Reductions	KRW 100 million	8,487	2,392	5,125	
Intensity of Greenhouse Gas Emissions by Energy ⁴	tCO ₂ -e/m ²	0.08	0.08	0.08		
Amount of Greenhouse Gas Emissions by Unit	tCO ₂ -e/KRW 100 million	2.47	2.24	2.38		
Green Procurement Costs	Total	KRW 100 million	740.03	952.92	576.03	A-C
	HB Certification		202.3	81.18	123.02	
	High Energy-efficient Machinery		288.49	130.12	149	
	Energy Consumption Efficiency Grades 1 & 2		52.58	132.57	154.23	
	Environmental Certification		196.64	592.60	139.67	
Other		0	16.45	10.11		
Proportion of High Energy-efficient Buildings	%	39	47	50	A-C	
Number of Environmental Disputes	Cases	4	11	34	A-C	
Number of Environmental Accidents	Cases	8	10	8	A-C	
Environmental Dispute Settlement Costs	KRW 100 million	38.3	31.6	41.6	A-C	
Environmental Education Course Completion Status	Persons (cumulative)	944	247	738	A-C	

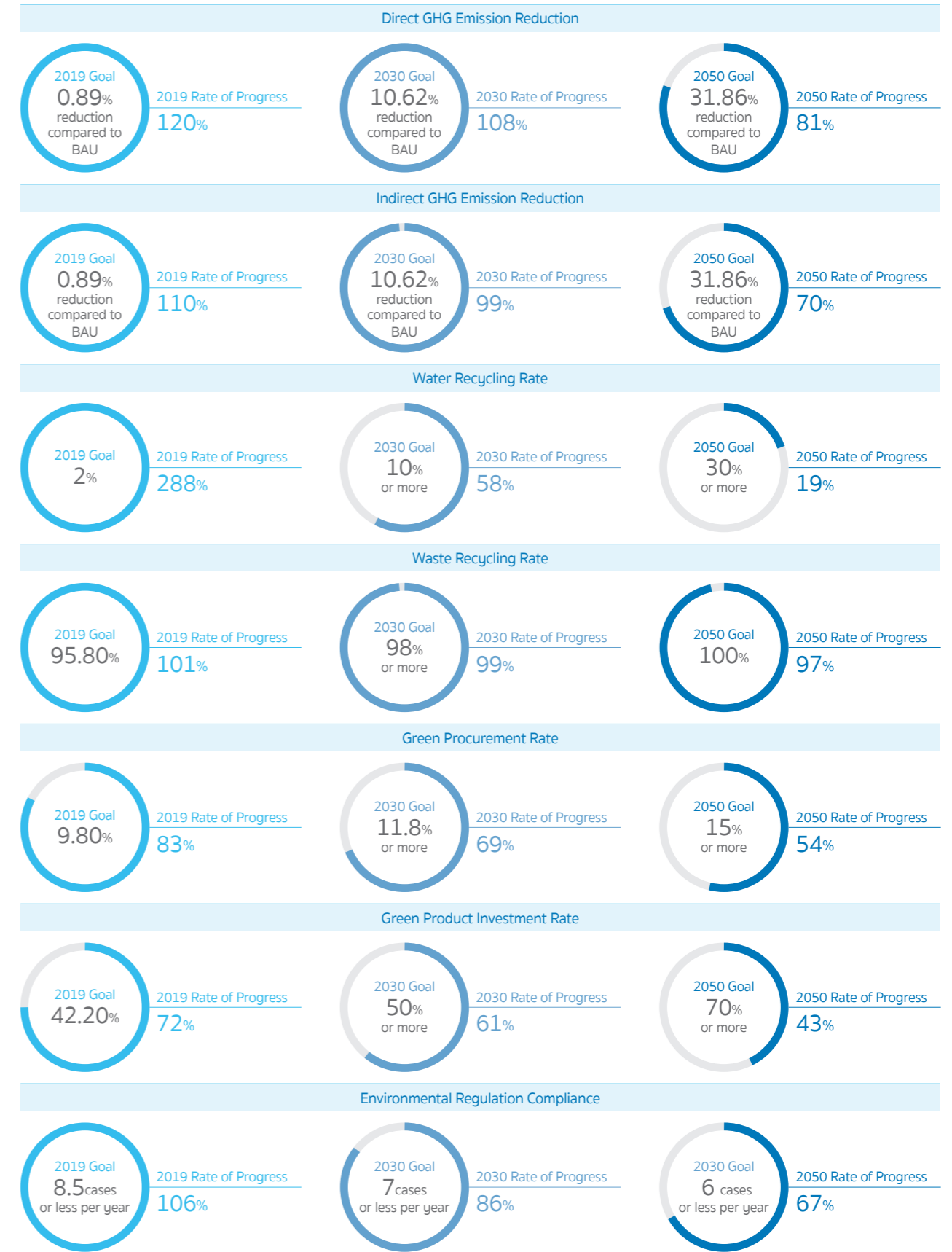
¹ Data covers 100% domestic and overseas sites and buildings

² Intensity of Building Water = Sum of annual water consumption/gross area of building (11 buildings including HQ)

³ Intensity of Building Energy = Sum of annual electricity use/gross area of building (11 buildings including HQ)

⁴ Intensity of Greenhouse Gas Emissions by Building = Sum of annual greenhouse gas emissions/gross area of building (11 buildings including HQ)

Environmental Management Performances



Human Value

Category	Unit	2017	2018	2019	Data Scope*	
Number of Employees	Total	Persons	5,961	6,822	6,672	
	Male	Persons	5,599	6,187	6,035	
	Female	Persons	362	635	637	
	Ratio of Female Employees	%	6.1	9.3	9.5	
	Ratio of Full-time Employees	%	87.5	73	72	
	Ratio of Contract Employees	%	12.5	27	28	
Employee Diversity	Female Ratio at All Management Levels	%	3.4	4.7	6.0	
	Employment Ratio of the Disabled	%	1.8	1.6	1.8	
	Disabled	Persons	112	110	120	
	Patriots and Veterans	Persons	95	97	97	
	Foreigners	Persons	86	52	48	
	Decommissioned Officers	Persons	216	211	298	
Equal Employee Compensation (Female to Male Ratio)	Management (base salary)	%	N/A	N/A	0.9	
	Management (base salary + bonus)	%	N/A	N/A	0.8	
	Non-management	%	N/A	N/A	0.8	
New Employee Retention Rate	%	100	60	N/A		
Retirement Rate	%	3.7	3.0	3.0		
Training Hours per Employee	Hours	38	54.4	44.8	A-F	
Employee Training Costs	KRW 100 million	17.4	13.4	19.2		
Employee Performance Evaluation	%	95.3	94.6	97.0		
Employee Engagement	%	58.4	58.9	60.4		
Organization Capacity Evaluation Response Rate	%	84.9	85.3	N/A		
Labor Union	Union Membership Rate	%	41.4	43.7	36.5	
	Union Members	Persons	970	910	814	
Maternity /Parental	Use of Maternity Leave	%	8.9	4.3	N/A	
	Employees Who Used Maternity Leave	Persons	32	27	34	
	Employees Who Used Parental Leave	Persons	60	51	55	
	Female Employees Who Used Parental Leave	Persons	31	30	26	
	Male Employees Who Used Parental Leave	Persons	29	21	29	
	Return Rate after Parental Leave	%	97.0	98.0	94.5	
	Total		13	10	29	
On-site Employee Grievance Resolution	Domestic	Cases	8	7	23	
	Overseas		5	3	6	
	Total		13	10	29	
Safety Innovation School	Graduates (cumulative)	Persons	2,881	5,263	5,905	A-G
	Training Visits		98	155	149	
Partner Critical Casualties	Total Fatalities		4	1	5	
	Occupational Accidents	Persons	4	0	1	G
	Work & Technological Accidents		0	1	4	
Occupational Injury & Illness	Employee LTIFR ¹	-	0	0.06	0	
	Partner LTIFR	-	1.15	1.31	2.11	A-G
	Employee OIFR ²	-	4.18	3.94	3.54	

¹ LTIFR: (Number of lost-time injuries x 1,000,000)/(Total hours worked in accounting period)

² OIFR: (Number of occupational injuries X 1,000,000)/(Total hours worked in accounting period)

Foreign Workers (Unit: Persons)

Nationality	India	Philippines	Nepal	Bangladesh	Egypt	Vietnam	Other	Total	Data Scope*
No. of Workers	1,137	1,020	140	503	183	181	422	3,586	A-F

Social Value

Item	Unit	2017	2018	2019	Data Scope*	
Partners	Companies	1,063	991	834	G	
Cash Donations for Social Contribution	KRW 100 million	36.2	53.1	52.4		
Social Contribution Employee Participation	Persons	391	524	621		
Type of Social Contribution	Charitable Donations	%	7.6	31.3	34.3	
	Community Investments	%	81.3	62.2	58.9	
	Commercial Initiatives	%	11.1	6.5	6.8	
Contribution Costs (Total)	KRW 100 million	3,976	5,685	5,545		
Media Exposure	Cases	31	62	62	A-F	
Benefit Recipients	Persons	3,674	3,948	7,653		
College Students' Favorite Workplace ³	Rank	4	3	1		
New Employee Retention Rate	%	100	60*	N/A ⁴		
Educational Benefit Recipients	Persons	243	259	3,446		
External Awards & Recognitions	Awards	1	1	1		
Cultural Support Beneficiaries	Persons	31,739	27,629	28,110		
Housing Customer Complaints	Cases	896	4,304	5,845		
VOC System Complaints	Cases	436	1,103	980	A-C	
Xi Brand GCSI Score	Points	73.3	73.4	73.6		
Association Funding	KRW 100 million	2,305	2,435	2,700	A-C	

³ Korean E&C company preference (Job Korea)

⁴ No new entry-level hires in 2019, only mid-level or above hires

Other

Item	Unit	2017	2018	2019	Data Scope*		
Ethics Management	Total		36	28	29		
	Dismissal		10	9	16		
	Individual Violations	Recommended Resignation	Cases	5	1	0	
		Suspension		7	10	0	
		Salary Deduction		14	8	1	
	Reported Case Investigations	Factual		7	24	26	A-F
		False Reports	Cases	24	31	37	
		On-site		307	324	396	
	Education	In-group	Persons	1,930	2,012	2,242	
		Online		6,554	6,231	6,292	

*Includes direct managers with joint responsibility

Sustainability Management Initiatives

UN Global Compact	DJSI (Dow Jones Sustainability Index)	Social Responsibility Standard ISO 26000	Carbon Disclosure Project (CDP)	Social Responsibility Investment Evaluation (ESG)
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Funding for Major Associations

Category	Unit	Support Amount	Membership Purpose
Construction Association of Korea		690.0	Amendment of construction-related systems in Korea
The Federation of Korean Industries		560.0	Improvement of rules and regulations related to the domestic construction industry
International Contractors Association of Korea	KRW million	368.2	Amendment of construction-related systems abroad
Korea Business Council for Sustainable Development		125.0	Study on sustainability development policies
Korea Chamber of Commerce and Industry		102.6	Improvement of rules and regulations related to the domestic construction industry

*GS E&C complies with the Korean Political Funding Law and our company's Ethics Standards, which prohibit companies from donating political funds. In addition, expenses related to policy impact are regarded as policy risks in the mid- to long-term, and thus related contributions and amounts are managed appropriately. Political donations in 2019 was KRW 0, total association costs were KRW 27 million.

GRI Standards

Universal Standards

GRI 102: General Disclosure							
Topic	Index	Disclosure	Page	Note	ISO 26000	Verification	SDGs
Organizational Profile	102-1	Name of organization	ABOUT THIS REPORT, 4			V	
	102-2	Activities, brands, products and services	6-13			V	
	102-3	Location of headquarters	ABOUT THIS REPORT, 4			V	
	102-4	Location of operations	ABOUT THIS REPORT, 4			V	
	102-5	Ownership and legal form	4			V	
	102-6	Market served	5			V	
	102-7	Scale of organization	4-5			V	
	102-8	Information on employees and other workers	53, 69			V	
	102-9	Supply chain	59-60			V	
	102-10	Significant changes to the organization and its supply chain	4-5			V	
	102-11	Precautionary principle or approach	24-25			V	
	102-12	External initiatives	70			V	
	102-13	Membership of associations	70, 83			V	
Strategy	102-14	Statement from senior decision-maker	3		4.7/6.2/7.4.2	V	
Ethics and Integrity	102-16	Values, principles, standards and norms of behavior	22-23			V	
Governance	102-18	Governance structure	20-21		6.2/7.4.3/7.7.5	V	
	102-40	List of stakeholder groups	28			V	
Stakeholder Engagement	102-41	Collective bargaining agreements	54			V	
	102-42	Identifying and selecting stakeholders	28		5.3	V	
	102-43	Approach to stakeholder engagement	28			V	
	102-44	Key topics and concerns raised	28-29			V	
Reporting Practice	102-45	Entities included in the consolidated financial statements	67			V	
	102-46	Defining report contents and topic boundaries	29, 73			V	
	102-47	List of material topics	29			V	
	102-48	Restatements of information	ABOUT THIS REPORT			V	
	102-49	Changes in reporting	29			V	
	102-50	Reporting period	ABOUT THIS REPORT			V	
	102-51	Date of most recent report	ABOUT THIS REPORT			V	
	102-52	Reporting cycle	ABOUT THIS REPORT			V	
	102-53	Contact point for questions regarding the report	ABOUT THIS REPORT			V	
	102-54	Claims of reporting in accordance with GRI Standards	ABOUT THIS REPORT			7.5.3/7.6.2	V
102-55	GRI Content Index	71-72				V	
102-56	External assurance	ABOUT THIS REPORT				V	

Topic Specific Standards

Topic	Index	Disclosure	Page	Note	ISO 26000	Verification	SDGs
GRI 200: Economic							
Economic Performance	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	32-35, 67, 73			V	
	201-1	Direct economic value generated and distributed	4-5, 33		6.8.1-6.8.2/6.8.3/6.8.7/6.8.9	V	
Anti-corruption	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	22-23, 73			V	
	205-2	Communication and training on anti-corruption policies and procedures	23		6.6.1-6.6.2/6.6.3	V	
Anti-competitive Behavior	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	59, 73			V	
	206-1	Legal actions for anti-competitive behavior, anti-trust and monopoly practices	71		6.6.1-6.6.2/6.6.5/6.6.7	V	
GRI 300: Environment							
Energy	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	44			V	
	302-1	Energy consumption within the organization	68		6.5.4	V	
Emissions	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	44, 46, 73			V	
	305-1	Direct (Scope 1) GHG emissions	46		6.5.5	V	
	305-2	Indirect (Scope 2) GHG emissions	46		6.5.5	V	
	305-3	Other indirect (Scope 3) GHG emissions	46		6.5.5	V	
Effluents and Waste	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	44, 47, 73			V	
	306-2	Waste by type and disposal method	47-48		6.5.3	V	
	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	44, 47, 73			V	
	306-4	Transport of hazardous waste	68		6.5.3	V	
GRI 400: Social							
Occupational Health and Safety	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary				V	
	403-2	Types and rates of injury, occupational diseases, etc.	50, 55-57, 73		6.4.6/6.8.8	V	
Training and Education	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	50, 73			V	
	404-1	Average hours of training per year per employee	51-52		6.4.7	V	
	404-2	Programs for upgrading employee skills and transition assistance programs	51-52		6.4.7/6.8.5	V	
Diversity and Equal Opportunity	404-3	Rate of employees regularly assessed for work performance and development	51-52			V	
	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	50, 73			V	
	405-1	Diversity of governance bodies and employees	53, 70		6.2.3/6.3.7/6.3.10/6.4.3	V	
Human Rights Assessment	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	54, 73			V	
	412-2	Employee training on human rights policies and procedures	54		6.3.5	V	
Local Communities	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	58-73			V	
	413-1	Operations with local community engagement, impact assessments, and development programs	64-65		6.3.9/6.5.1-6.5.2/6.5.3/6.8	V	
Socioeconomic Compliance	103-1-3	Explanation, management approach (MA) and evaluation of the material topic and its boundary	58, 73			V	
	419-1	Non-compliance with laws and regulations in the social and economic area	59	NA	4.6/6.7.1-6.7.2/6.7.6	V	

Boundary

○ : Topic Boundary (stakeholders that influence and/or are influenced by the relevant GRI Standards topic)

⊙ : Reporting Boundary (scope of data disclosed in this report according to GRI Standards topics)

Category	Internal Boundary						External Boundary		
	Headquarters	Domestic Sites (138)	Technology Research Center (1)	Overseas Subsidiaries (10)	Overseas Sites (52)	Overseas Branches (14)	Partners (834)	Customer	Local Community
GRI 200: Economics									
Economic Performance	○	○	○	○	○	○	○		○
Anti-corruption	○	○	○	○	○	○	○	○	○
Anti-competitive Behavior	○	○	○	○	○	○	○	○	○
GRI 300: Environmental									
Energy	○	○	○	○	○	○	○		○
Emissions	○	○	○		○				
Effluents and Waste	○	○	○	○	○	○	○		○
GRI 400: Social									
Occupational Health and Safety	○	○	○	○	○	○	○		
Training and Education	○	○	○		○		○		
Diversity and Equal Opportunity	○	○	○	○	○	○	○		
Human Rights Assessment	○	○	○	○	○	○	○		
Local Communities									○
Socioeconomic Compliance							○		

Independent Auditor's Report



The Shareholders and Board of Directors GS Engineering & Construction Corporation

Opinion

We have audited the consolidated financial statements of GS Engineering & Construction Corporation (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as of December 31, 2019 and 2018, and the consolidated statements of profit or loss, consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("KIFRS").

Basis for opinion

We conducted our audit in accordance with Korean Auditing Standards ("KGAAS"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in the Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key audit matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

A. Uncertainty in estimating total contract costs

A majority of the Group's construction contracts are performed over a long period of time, and total contract costs are estimated based on the future estimates of the components thereof.

Therefore, there may be additional costs incurred that were not estimable until before the prior period due to the following reasons:

- Changes in macroeconomic and microeconomic variables that are the basis of the total contract cost estimation during the construction period
- Various changes in circumstances in the domestic and overseas regions in which constructions are ongoing; and
- Extensions in construction period of some construction projects

For these reasons, there is an uncertainty in estimating total contract costs, and a change in the total contract cost estimation will affect profit or loss of the current or future period. Accordingly, we identified the uncertainty in estimating the total contract costs as a key audit matter. The major audit procedures we performed are as follows:

- Inquired and checked the related documents for projects with significant differences in total input costs and the estimated total contract costs of the construction contracts that were terminated during the current period
- Inquired the reasons for significant changes in total contract costs during the current period for major contracts and checked the supporting documents concerning such reasons for the changes
- Inquired and reviewed the related documents to verify whether the estimated total contract costs are properly reflected with respect to construction contracts for which there was a change in terms of the contract during the current period
- Reviewed the documents on whether the estimated total contract costs have been recognized with appropriate approval procedures as set by the Group
- Inquired of major contracts with possible changes in the estimated total contract costs due to delays and extensions in construction periods
- Inquired of the validity of total contract costs estimation on significant contracts in which there are no changes in total contract costs for a long period of time

GS E&C Corporation

Board of Directors and Shareholders

B. Calculation of the percentage-of-completion of a construction

A In the case of a construction contract where revenue is recognized based on the input method, the percentage-of-completion of a construction is a factor that directly affect the calculation of the contract revenue. In addition, the calculation of the percentage-of-completion of the construction is affected by the appropriateness of the estimated total contract costs and cumulative contract costs incurred, and accordingly, the effect of uncertainty in the estimated total contract costs, timeliness to reflect the estimated total contract costs, and reliability of the cumulative contract costs incurred are factors that may materially affect the current profit or loss. Therefore, we identified the calculation of the percentage-of-completion of a construction as a key audit matter.

The major audit procedures we performed are as follows:

- Inquired of how contract costs incurred are accumulated and whether there were any changes in the systems and controls in relation to accumulating the actual costs of individual construction contract and tested the related internal controls thereof
- Tested the approval list of the occurrence, amounts and accurate assignment on construction sites for contract costs incurred that are accumulated by major sites
- Inquired of construction contracts for which percentage-of-completion of the construction has significantly changed during the current period and reasons for such changes
- Inquired of occurrence of any costs excluded from the calculation of percentage-of-completion due to failure to reflect the progress of the contract and the related accounting treatment thereof
- Recalculated independently the percentage-of-completion on each construction contract in order to identify the appropriateness of the calculation process
- Compared the difference between the percentage-of-completion under accounting purpose and the percentage of completion by observing the information available to the auditors at the construction sites and reviewed the validity thereof

C. Recoverability of unbilled construction contracts

As described in Note 8 to the accompanying consolidated financial statements, unbilled construction contracts recorded in the consolidated statement of financial position amounts to \1,089,296 million as of December 31, 2019, which have been decreased by \638,010 million compared to the prior period and accounted for 31% of the total trade and other receivables. Generally, unbilled construction contracts can be claimed based on the conditions to claim as set forth in the contract, such as the completion of construction on a related process and the result of a project inspection conducted by the customer. Accordingly, considering these circumstances, we identified the recoverability of unbilled construction contracts as a key audit matter.

The major audit procedures we performed are as follows:

- Checked the payment terms of a construction contract with significant unbilled construction amounts and reviewed if there is any construction site with abnormally significant unbilled construction amounts based on conditions to claim as set forth in the contract
- Identified construction sites of which there exists significant difference between the percentage-of-completion and construction billing rate and inquired of the reasons therefrom
- Identified significant construction contracts with unbilled contracts, inquired of the possibility of financial risk over a customer, and checked other related information
- If there are significant construction sites in which unbilled construction has not changed for a long period of time, inquired as to the specific reasons such as lawsuits, etc.

D. Accounting treatment for modifications in construction contracts

A modification in a construction contract refers to an alteration to the scope of works in a construction contract by the request of a customer. As described in Note 8 to the consolidated financial statements, the changes in the estimated total construction revenue amounted to \2,872,006 million for the year ended December 31, 2019. As majority of the Group's construction contracts are performed over a long period of time, the possibility that modifications are likely to occur exists in such construction contracts, which could result in increase or decrease in contract revenue in accordance with modifications in the scope of works. Accounting treatment for modifications requires an estimate of possibility of changes in total revenue and management's judgment on a reliable measurement of the changes. In addition, the changes in the total construction revenue and costs due to modifications will affect profit or loss of the current or future period. Accordingly, we identified the accounting treatment for variations in construction contract as a key audit matter.

The major audit procedures we performed are as follows:

- Inquired of the reasons for the changes in construction contracts with significant changes in contract revenue
- Inquired regarding the possibility of occurrence of compensations on delayed projects for which are overdue or soon to be completed on the due date as set forth in the contract
- Inquired as to whether the estimation of additional contract costs is reflected in the calculation of estimated total contract costs and percentage-of-completion

Responsibilities of management and those charged with governance for the consolidated financial statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with KIFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's responsibilities for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KGAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KGAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Tae Gon Lee.

March 19, 2020

Ernst & Young Han Young

*This audit report is effective as of March 19, 2020, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditor's report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Statement of Greenhouse Gas Emissions Verification



Assurance Statement

This Assurance Statement has been prepared for GS E&C Corp..

Terms of Engagement

Lloyd's Register Quality Assurance Limited (hereafter referred to as "LR") was commissioned by GS E&C Corp. (hereafter referred to as "GS E&C") :

- to assure its GHG Emissions Inventory Report for the calendar year 2019 (hereafter referred to as "the Report") against "GHG Target Management Scheme for quantification and reporting of GHG emissions in Korea" using "Verification guideline for GHG Target Management System in Korea" for the GS E&C's domestic direct emissions (Scope 1) & energy indirect emission (Scope 2). The Report relates to direct GHG emissions and energy indirect GHG emissions.
- to assure its GHG Emissions Inventory Report for the calendar year 2019 (hereafter referred to as "the Inventory Report") against "ISO 14064-1:2006¹" using "ISO 14064-3:2006²" for the GS E&C's domestic other indirect emissions (Scope3), overseas direct emissions (Scope 1), overseas energy indirect emission (Scope 2) and overseas other indirect emissions (Scope3). The Inventory Report relates to direct GHG emissions and energy indirect GHG emissions.

Management Responsibility

GS E&C's management was responsible for preparing the Report/the Inventory Report and for maintaining effective internal controls over the data and information disclosed. LR's responsibility was to carry out an assurance engagement on the Report/the Inventory Report in accordance with our contract with GS E&C. Ultimately, the Report/the Inventory Report has been approved by, and remains the responsibility of GS E&C.

LR's Approach

Our verification has been conducted in accordance with :

- "Verification guideline for GHG Target Management System in Korea" to provide reasonable assurance that GHG data as presented in the Report have been prepared in accordance with "GHG Target Management Scheme for quantification and reporting of GHG emissions in Korea".
- ISO 14064-3:2006², "Specification with guidance for validation and verification of greenhouse gas assertions" to provide limited assurance that GHG data as presented in the Inventory Report have been prepared in accordance with ISO 14064-1:2006¹, "Specification with guidance at the organizational level for quantification and reporting of greenhouse gas emissions and removals".

¹ ISO 14064:2006 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

² ISO 14064:2006 Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions

To form our conclusions the assurance engagement was undertaken as a sampling exercise and covered the following activities :

- visited the Headquarter office & sites of GS E&C and reviewed processes related to the control of GHG emissions data and records;
- interviewed relevant staffs of the organization responsible for managing GHG emissions data and records;
- for the Report : Reviewing the historical data and information back to source for the calendar year 2019.
- for the Inventory Report : verified activity data, emission factors and calculations resulting in historical GHG emissions data at an aggregated level for the calendar year 2019.

Level of Assurance & Materiality

The opinion expressed in this Assurance Statement has been formed on the basis of :

- for the Report: a reasonable level of assurance, and at the materiality of the professional judgement of the verifier and at the materiality level of 5%.
- for the Inventory Report: a limited level of assurance and at a materiality of the professional judgment of the verifier.

LR's Opinion

Based on LR's approach, :

- for the Report: we believe that the report is prepared in accordance with "GHG Target Management Scheme for quantification and reporting of GHG emissions in Korea" and the GHG emissions data in the table is materially correct.
- for the Inventory Report : nothing has come to our attention that would cause us to believe that the total other indirect GHG emissions for domestic site and direct GHG emissions, energy indirect GHG emissions and other indirect GHG emissions for overseas site disclosed in the Inventory Report as summarized in table below are not materially correct and the Inventory Report has not been prepared in conformance with ISO 14064-1:2006.



Dated: 27 April 2020

IL-HYOUNG LEE

On behalf of Lloyd's Register Quality Assurance Ltd.
17th Floor, Singsong Building, 67 Yeouinaru-ro, Yeongdeungpo-gu, Seoul, 07327, Korea

LR Reference: SEO 00000614

Table. Summary of GS E&C's GHG Emissions 2019

	Scope of GHG emissions	Tonnes CO2e
GHG Report	Domestic - Direct GHG emissions (Scope 1)	34,861
	Domestic - Indirect Energy GHG emissions (Scope 2)	73,852
	Sub-Total GHG Emissions	108,713
GHG Inventory Report	Domestic - Other Indirect GHG emissions (Scope 3)	61,869
	Overseas - Direct GHG emissions (Scope 1)	24,132
	Overseas - Indirect Energy GHG emissions (Scope 2)	2,374
	Overseas - Other Indirect GHG emissions (Scope 3)	47,870
	Sub-Total GHG Emissions	136,245
Total GHG Emissions		244,958

※ The GHG Inventory Report has been verified by LR in accordance with ISO 14064-1:2006 and LR is accredited by UKAS for ISO 14065:2013.

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Third Party Assurance Statement

Dear GS E&C management and stakeholders,

THE CSR (hereinafter the Assurer) was requested by GS E&C to conduct independent assurance on GS E&C Integrated Report 2019 (hereinafter the Report). The Assurer hereby presents its overall assessment results regarding the company's report content and reporting process. GS E&C takes full responsibility for all the information contained in the Report, and it shall not be provided to other organizations or for purposes other than the enhancement of the company's reliability.

Assurance Standards

The Assurer undertook this assurance task in accordance with AA1000AS (2008) and GRI Standards Guidelines. We particularly checked reporting based on the criteria for publishing the integrated report.

- The principles of inclusivity, materiality, and responsiveness of AA1000AS (2008) and Impact that was added to AA1000AP (2018)
- The principles for determining report content and quality of the GRI Standards Guidelines
- Reporting standards in accordance to the GRI Standards Core option
- The appropriateness of the application of the IIRC IR Framework
- The propriety of the public information production for the Report

Assurance Level

The Assurer carried out a Moderate Assurance Level centered on the application of AA1000AS (2008) as a standard. The Assurer conducted a limited level of data sampling and interviews. Its main assurance activities included the following:

- Review of the reasonability of the materiality test processes involved in the selection of reporting issues
- Review of the agreement of the disclosed information in the Report with GS E&C's audited disclosure data
- Review of stakeholder engagement processes through interview with relevant managers
- Review of data production management systems and processes.

Assurance Limitations

The Assurer viewed the appropriateness of information production as a criterion and managed to secure a satisfactory level of reliability about the reported contents, although it does not mean a 100% reliability. As for financial performance, the Assurer confirmed the agreement of accounting auditors' audit reports and disclosure data. As for environmental performance, the Assurer checked a professional assurance institutions' assurance report.

Assurance Independence

The Assurer has no relations with GS E&C and presents this assurance statement having secured independence and ethics compliance as a third party assurance entity.

Assurance Conclusions

Through a series of processes designed to verify the company's compliance with the internationally recognized AA1000AS (2008) assurance standards and international guidelines, the Assurer presents its assurance opinions as follows:

The reporting aspects confirmed during the assurance process are as follows:

Review of AA1000AS (2008) Application

Through a series of processes designed to verify the company's compliance with the AA1000AS (2008) and AA1000AP (2018) assurance standards, the Assurer presents its assurance opinions as follows:

- **Inclusiveness** Are stakeholders engaged in the value creation processes of GS E&C?

The Assurer confirmed that GS E&C implements stakeholder engagement through diverse channels in its sustainable value creation processes with stakeholders, and that no stakeholder group was purposely excluded from the stakeholder engagement processes.

- **Materiality** Does GS E&C make reports on its important sustainable issues?

The Assurer confirmed that GS E&C identified its sustainability issues through the reasonable procedures and that the issues are reported without any omission. In addition, the Assurer could not find any problems in the application of materiality test procedures.

- **Responsiveness** Did GS E&C respond reasonably to its stakeholders' expectations?

The Assurer confirmed that GS E&C carried out activities to identify material aspects that affect stakeholders' performance and respond to the outcomes and that the contents are appropriately described in the Report.

- **Impact** Does GS E&C understand the impact of its management activities on the overall ecosystem?

The Assurer has identified and reported GS E&C's management activities and major achievements and the impact of the value generated by the project on society.

Review of GRI Standards Core Option and Reporting Principles Application

The Assurer has confirmed that the Report has complied with the GRI Standards Guidelines-Core Option, and properly covered a DMA (Disclosure on Management Approach), general standards disclosure and 12 aspects of specific standard disclosure. In addition, it has been confirmed that the quality determination principles of accuracy, balance, clarity, comparability, reliability, and timeliness are applied to the reporting contents of stakeholder inclusiveness, sustainability context, materiality and completeness.

Category	Topic	
Economic	• Economic Performance_201-1 • Anti-corruption_205-2	• Anti-competitive behavior_206-1
Environmental	• Energy_302-1 • Emissions_305-1~3	• Effluents and wastes_306-1
Social	• Occupational Health and Safety_403-2 • Training and Education_404-1~3 • Diversity and Equal Opportunity_405-1	• Human Rights Assessment_412-12 • Local Communities_413-1 • Supplier Social Assessment_414-2

Recommendations for Improvement

- The Assurer recommends that GS E&C establish an integrated management system for performance management and disclosure as ESG performance management becomes increasingly critical to investors, and to conduct systematic risk analyses and carry out active risk control measures accordingly.
- The Assurer recommends that GS E&C continuously identify and manage material issues through active engagement of management and stakeholders; in particular GS E&C should manage material issues through policies, strategies, tasks, key performance indicators, goals and progress and such performance.
- The Assurer recommends that GS E&C expand their efforts in establishing corporate-level management systems and managing performance regarding critical issues in the E&C industry at the global level, such as supply chain management, human rights, and social contribution.

Assurer Eligibility

THE CSR, requested to conduct assurance on the Report, is a global sustainability management agency. It has acquired an AA1000AS (2008) assurance certification accredited by Account Ability, UK and also obtained the status of gold community member at Global Reporting Initiative (GRI). THE CSR Expert Committees have full knowledge of sustainability and expertise in verification and are composed of global experts from Korea, as well as the US, UK and Germany, equipped with research achievements regarding CSR.



June 30, 2020

THECSR CEO

Se-woo, Jung

UNGC Advanced Level

Category	Principle	Page	GRI Topic	
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.	3	102-14	
2	Governance	This IR explains the company's decision-making processes and corporate governance to achieve its sustainability.	20-21	102-18,21
3		This IR describes the engagement of all of the company's major stakeholders.	28	102-43
4	UN Goals and Issues	This IR describes activities designed to support the comprehensive goals and issues of the United Nations.	14, 70	102-12
5		This IR describes the company's strong commitment, strategies and policies in the area of human rights.	50, 54	103-1
6	Human Rights	This IR describes an effective management system designed to integrate the company's human rights principle.	50, 54	103-2
7		This IR describes effective monitoring and evaluation mechanisms on human rights principles.	50, 54	412-2
8		This IR applies standardized performance indices (including GRI) on human rights.	50, 54	405-1
9	Labor	This IR describes the company's strong commitment, strategies and policies in the area of labor.	50	103-1
10		This IR describes an effective management system designed to integrate the company's labor principle.	50, 52-53	103-2
11		This IR describes effective monitoring and evaluation mechanisms on labor principles.	50, 51	103-3
12	Environment	This IR applies standardized performance indices (including GRI) on labor.	69	402-1, 403-2 405-1
13		This IR describes the company's strong commitment, strategies and policies in the area of environmental management.	44	103-1
14		This IR describes an effective management system designed to integrate the company's environmental principle.	44, 45	103-2
15	Anti-corruption	This IR describes effective monitoring and evaluation mechanisms on environmental principles.	44-48	103-3
16		This IR applies standardized performance indices on environmental management.	47-48, 68	302-1 306-2 307-1
17	Strategies, Governance and Engagement	This IR describes the company's strong commitment, strategies and policies in the area of anti-corruption efforts.	22	103-1
18		This IR describes an effective management system designed to integrate the company's anti-corruption principles.	22	103-2
19		This IR describes effective monitoring and evaluation mechanisms on anti-corruption efforts.	22-23	205-2
20	Assurance and Transparency	This IR applies standardized performance indices on anti-corruption efforts.	22-23	205-2
21		This IR explains the implementation of Global Compact Principles within the company's value chain.	64, 70	-
22		This IR offers information on the corporate profile and operational environments.	3, 4-15	102-1~10
23	Global	This IR includes a high level of transparency and disclosure.	ABOUT THIS REPORT, 3	102-50~56

Membership Status and 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
Power Plant, Environment, Distributed Energy	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
Civil Engineering	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
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
Management	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

Area	Award Description
Economic	<ul style="list-style-type: none"> 2019 Korea First Brand Award - Grand Prize in Apartment Category 2019 Overseas Construction Award - Grand Prize in Design Category - LPIC-2 (Mar. 22) 2019 Civil Engineering Day Award - Gold Prize in Engineering Structure of the Year - Noryangdaegyo Bridge (Mar. 29) 2019 Hankook Economy Housing Culture Awards - Grand Prize in Apartment Category - Shincheon Central Xi (Jun. 27) 2019 Korea Premium Housing Award - Grand Prize in Townhouse Category - Samsung Xi the Village (Aug. 22) 2019 Hankook Ilbo Green Housing Customer Satisfaction Award - Mudeungsan Xi (Nov. 27) 2019 Seoul Green Awards - Grand Prize in Plant Category - ERC PJT in Egypt (Dec. 5)
Environmental, Social	<ul style="list-style-type: none"> 2019 Landscape Day Ceremony - Environment Minister's Award 2019 Korea Land Development Award - Land, Infrastructure and Transport Minister's Award in Infrastructure Category - Noryangdaegyo Bridge 2019 Asia Construction Industry Awards - Grand Prize in Shared Growth Category - Noryangdaegyo Bridge 2019 Korea Landscape Award - Prime Minister's Award - Misa Riverside Central Xi 2019 Seoul Metropolitan City Environment Award - First Prize in Landscape Ecology Category - GS E&C 2019 Safety Management Award - Technology Award - Safety Innovation School 2019 KOSHA Safety Success Cases in Construction Industry - Top Prize - Shiheung Eungye S4BL Apartment Construction Site, Zone 7
Global	<ul style="list-style-type: none"> 2019 LTA, Project Partner - Downtown Line3 C937 TUCSS Project of the Year Award 2019 - Singapore DTL-3 C397 International Crossroads to Sustainability Congress South America - Caribbean Private Sector - GS Inima IFLA Award 2019, Honorable Mention - Misa Riverside Central Xi

GS E&C INTEGRATED REPORT 2019

GS E&C is entrusted to build our world's value through creativity and passion.

GS E&C's vision is to become a partner that is trusted by customers, employees, investors and society and a top-tier global company that creates value for prosperous lives through creativity and passion.

GS E&C will continue to create sustainable value with our stakeholders for both the company and society and build a brighter future by listening to everyone's voice.

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GRAN SEOUL, 33, Jong-ro, Jongno-gu, Seoul 03159

Tel. 02-2154-5122

www.gsenc.com